EUROPEAN
COMMISSION

Brussels, 28.11.2013
SWD(2013) 471 final

COMMISSION STAFF WORKING DOCUMENT

IMPACT ASSESSMENT

Accompanying the document

proposal for a Directive of the European Parliament and of the Council

on the protection of undisclosed know-how and business information (trade secrets) against their unlawful acquisition, use and disclosure

{COM(2013) 813 final}
{SWD(2013) 472 final}
{SWD(2013) 493 final}

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EXECUTIVE SUMMARY SHEET

Executive Summary Sheet
Impact assessment on a proposal for a Directive of the European Parliament and of the Council on the protection of undisclosed know-how and business information (trade secrets) against misappropriation.
A. Need for action
Why? What is the problem being addressed?
86% of companies and research institutes participating in a recent survey considered trade secrets as an important tool for business and research bodies in the EU to protect their valuable information. If not protected by formal intellectual property rights (IPR; e.g. patents), such information is only relatively weakly protected by national law against misappropriation by third parties in almost all Member States; in most cases this protection is not even clearly defined. In view of trends such as globalisation, increased outsourcing and use of ICT, the threat of misappropriation of trade secrets is expected to continue to increase in the future. Particularly vulnerable to this threat are SMEs and small research institutions which often can neither afford and effectively defend formal IPR nor inform themselves about trade secrets protection nor risk defending their trade secrets in court in view of the risks and uncertainties involved under current conditions. As a result of the poor legal protection and the increased risk of misappropriation of trade secrets, businesses' competitive advantages which are based on trade secrets are at risk and incentives for cross-border innovative activities within the EU are sub-optimal (e.g. owners of trade secrets are reluctant to share trade secrets with business partners or in research projects, and even less so in a cross-border context as knowledge about the level and form of protection in other Member States is scarce and expensive to buy from, e.g., law firms).
What is this initiative expected to achieve?
The initiative aims at improving the effectiveness of the legal protection of trade secrets against misappropriation within the Internal Market. It does so by - ensuring adequate and comparable scope and conditions of such legal protection; - providing access to a sufficient and comparable level of redress in cases of misappropriation; - preserving confidentiality of trade secrets during and after litigation; and – deterring third parties more effectively from misappropriating and dishonestly exploiting trade secrets within the EU. Such improved legal protection should enhance the competitiveness of European businesses and research bodies which is based on trade secrets and also improve the conditions/framework for the development and exploitation of innovation and for knowledge transfer within the Internal Market. These incentives should help to improve the EU's competitiveness in the global knowledge economy.
What is the value added of action at the EU level?
Member States have not taken unilateral actions to address this problem. Even if they would do so, while unilateral action could help to improve the level of protection at national level, it could not be expected to result in a sufficient harmonisation of the relevant national legal frameworks that would allow for a smooth functioning of the Internal Market in terms of enhanced cross-border business and research activities. Such cross-border activity is, however, crucial in particular for companies in smaller Member States which could otherwise not reach a market of sufficient size and specialisation for efficient research and sales once the marketing of the innovation is to be launched.
B. Solutions
What legislative and non-legislative policy options have been considered? Is there a preferred choice or not? Why?
Option 1: status quo ('do nothing'/Baseline Scenario). Option 2: provide information on and raise awareness of

the existing scope of protection of trade secrets, available redress tools at national level and arbitration/mediation procedures. Option 3: Legislative proposal defining the scope of protection of trade secrets against misappropriation by defining trade secrets in accordance with the WTO Agreement on Trade-related Aspects of Intellectual Property Rights and rendering certain acts of acquisition, use and disclosure of trade secrets unlawful. This also includes a general principle requiring Member States to take appropriate and proportionate measures to preserve the confidentiality of trade secrets during and after legal proceedings, while ensuring the conditions for a fair trial. Option 4: Harmonisation of national civil law remedies against misappropriation of trade secrets. This adds to option 3 requirements to establish harmonisation of civil law remedies and rules on the preservation of confidentiality during and after the litigation on misappropriation of trade secrets. This option would include anti-abuse safeguards to ensure that resulting remedies would be proportionate. Option 5: Harmonisation of national civil law and criminal law remedies against the misappropriation of trade secrets. This option consists of option 4 plus a requirement to criminalise certain acts of misappropriation of trade secrets and establishing minimum penalties.

Preferred option is 4, as options 1-3 would be unlikely to achieve the objectives to a satisfactory degree while option 5 might go further than needed at this stage. The preferred legal form would be a Directive.

Who supports which option?

Industry stakeholders, in general, support a legal initiative along the lines of the preferred option. Non-industry stakeholders, in their replies to the 2013 Public Consultation, are not favourable to an EU legislative initiative in this field. Stakeholders are generally against option 5.

C. Impacts of the preferred option

What are the benefits of the preferred option (if any, otherwise main ones)?

The proposal would provide trade secrets owners with an EU wide legal framework to stop third parties from exploiting misappropriated trade secrets. This would not only hold vis-à-vis misappropriators from within the EU, but also in cases where a trade secret had been 'stolen' in the EU and goods that had been produced with this knowledge were imported into the EU. Trade secret owners could rely on confidentiality during and after proceedings, and thus would be more inclined to seek legal redress against misappropriators. Enhanced protection against misappropriation and higher expectation to recover damages would increase the expected value of innovation or knowledge within the Internal Market. This, in turn, should provide innovators with a strong incentive to increase investments to innovate and to improve their competitiveness. This dynamic impact would hold in particular with regard to cross-border activities within the Internal Market and lead to an improvement of its smooth functioning. Increased (innovative) activity would not only benefit trade secrets owners but in turn the job market, the economy as a whole and consumers, as they would benefit from a larger choice of innovative products and services. Trade secret protection against misappropriation will have positive dynamic economic and social effects as regards the encouragement of innovative activities, more jobs and an increased competitiveness of the EU economy. There will be no direct environmental impacts. Due to the inherent nature of trade secrets hardly any (public) data exists, but extensive surveying and academic research supports this analysis.

What are the costs of the preferred option (if any, otherwise main ones)?

There are no direct costs involved other than the transposition of the proposed Directive into national law.

How will businesses, SMEs and micro-enterprises be affected?

Business and researchers as trade secrets owners would benefit from improved knowledge and certainty of what would be legally considered as trade secrets within the EU. They would also be reassured that they can protect and defend their trade secrets more effectively across the EU. Their (law-abiding) employee, business partners and competitors would also benefit from greater legal clarity. SMEs and micro-enterprises would be among the main beneficiaries of the proposal as the costs to find out about the national rules on trade secrets at home and in other Member States as well as for the enforcement of their rights are currently potentially prohibitive for them.

Economic studies highlight that SMEs rely more than large companies on trade secrets for protecting their competitive advantages.
Will there be significant impacts on national budgets and administrations?
No.
Will there be other significant impacts?
No.
D. Follow up
When will the policy be reviewed?
There will be a report on the application of the Directive five years after the transposition deadline and an evaluation eight years after the transposition deadline.

INTRODUCTION

It is widely agreed that "***knowledge is the currency of the new economy***"[1]. Every economic activity, and in particular those relying on innovation[2], requires a certain level of information and know-how. Acquiring, developing and improving information and knowledge requires time and money, and often also talent and creativity. If this investment allows a business[3] to have the potential to do something in an innovative way and to gain competitive advantage in its market, it will seek to optimise that potential, i.e. to "appropriate" the results of the innovation, and eventually to recuperate its investment. Appropriation of innovation may be done in different ways. In some cases a business may try to have its specific knowledge (e.g. inventions) protected by intellectual property rights created by law, which provide it with an exclusive right to use such knowledge: patents, design rights etc. However, it might take a long time before the intellectual property right is granted and, in other cases, recourse to intellectual property rights may not be possible. In these cases or during the 'waiting period' the only way for a business to protect its "proprietary" knowledge in view of its exploitation is to keep it secret and to prevent its accidental or unauthorised disclosure to third parties, notably by controlling by whom, when and in which circumstances it can be accessed. If companies or research institutions protect access to their knowledge, and if that knowledge is valuable and not widely known already, this 'undisclosed know-how and business information' becomes a 'trade secret'[4].

Contrary to a patent or other intellectual property rights, a trade secret does not provide its holder with an exclusive right on the knowledge protected. A competitor may discover in parallel the same knowledge and lawfully use it. However, a dishonest competitor may try to acquire the trade secret using dishonest practices (such as, theft, unauthorised copying, breach of confidentiality requirements etc.) with a view to subsequently exploit it. A number of trends (globalisation, outsourcing, longer supply chains, increased use of information and communication technology, etc.) suggest that businesses are increasingly vulnerable and exposed to such "misappropriation"[5] of their trade secrets, from within and outside the Union. The misappropriation of a trade secret compromises the original holder's ability to obtain the first mover returns from the exploitation of that secret (causing harm to businesses), while the inability or uncertainty to recover the investment in developing innovation undermines the incentive to engage in innovative activity in the first place (causing overall harm to society).

Legal protection of trade secrets mitigates the risks faced by innovative businesses, by providing them with mechanisms of redress against the unlawful appropriation of trade secrets by others. However, while trade secrets are the most used form of protection of innovative knowledge, they are at the same time the least securitised against unlawful appropriation within the EU. Protection offered by national rules against the misappropriation of trade secrets is uneven and uncertain, impairing the ability of businesses to take full advantage of the Internal Market (e.g. legal protection

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1 European Commission (July 2012a), p. 2. See also Annex 1 on the knowledge and innovation economy in a globalised world.

2 Innovation should be understood in the wider sense of the term, beyond technological developments.

3 'Business' should be understood as encompassing not only companies but also research institutions and bodies which may also develop and exploit innovation.

4 The term "trade secret" will be used in this impact assessment as short form of "undisclosed know-how and business information". Both expressions are meant to have the same meaning.

5 The term "misappropriation" will be used as short form for the acquisition of a trade secret using dishonest practices and/or the use or disclosure of an unlawfully appropriated trade secret.

of trade secrets is essential for cross-border collaborative research and open innovation which requires sharing of valuable information by multiple business and research partners). This Impact Assessment analyses if and why the legal protection of trade secrets in the EU is insufficient; what are the consequences of this deficiency and how this problem might be resolved.

This initiative integrates within the wider "Europe 2020" strategy[6], which aims at strengthening knowledge and innovation as drivers of economic growth in the EU. Under the flagship initiative "Innovation Union"[7], the Commission intends to improve the framework conditions for businesses to innovate through, *inter alia*, the optimisation of intellectual property. In this context, the Commission adopted in May 2011 a comprehensive strategy to revamp the legal framework which governs intellectual property in the Internal Market[8]. That strategy undertook to examine the question of misappropriation of trade secrets. The initiative covered by this Impact Assessment meets that latter undertaking, which was confirmed by the Commission in its 2012 Communication on industrial policy[9].

1. PROCEDURAL ISSUES AND CONSULTATION OF INTERESTED PARTIES

1.1. Procedural issues

This Impact Assessment was carried out by the Commission services, led by DG Internal Market and Services. It is part of the Commission Work Programme for 2013[10]. An initial Roadmap was published in October 2012[11]. The Impact Assessment work was formally launched in July 2012. The Impact Assessment Steering Group (IASG), comprising of the relevant departments within the Commission[12], met on 4 occasions: 12 September 2012, 30 November 2012, 1 February 2013 and 21 March 2013. The minutes of the last meeting were submitted to the Impact Assessment Board (IAB).

The IAB met on 24 April 2013 and provided a first opinion on the draft Impact Assessment Report on 26 April 2013. Following the IAB meeting and its first opinion, the following changes were made to the Impact Assessment Report: the problem description was improved to better show the differences between national legislation and the resulting fragmentation of the legal protection across the EU; the assessment of impacts was strengthened and the description of the impacts on innovation and labour mobility were reviewed; the effectiveness of the policy options has been more critically assessed and the arguments supporting the choice of legal instrument reinforced; and stakeholders' views have been presented in a more balanced and complete manner.

A revised version of the Impact Assessment Report was submitted to the IAB on 24 June 2013. The IAB issued a positive opinion on the revised draft Impact Assessment report on 31 July 2013. The main recommendations were (1) to further strengthen the problem definition with further factual

6 European Commission (March 2010), p. 12.
7 European Commission (October 2010).
8 European Commission (May 2011a).
9 European Commission (October 2012).
10 http://ec.europa.eu/atwork/key-documents/index_en.htm
11 http://ec.europa.eu/governance/impact/planned_ia/roadmaps_2013_en.htm#MARKT
12 The following Commission departments contributed to the work of the IASG: Secretariat-General, Legal Service, Bureau of European Policy Advisors, DG Enterprise and Industry, DG Competition, DG Employment, Social Affairs and Inclusion, DG Research and Innovation, DG Communication Networks, Content and Technology, the Joint Research Centre, DG Taxation and Customs Union, DG Health and Consumers, DG Home Affairs, DG Justice and DG Trade. In addition, DG Communication, DG Economic and Financial Affairs, DG Agriculture and Rural Development, DG Budget and the European Anti-Fraud Office were also invited to join the IASG.

evidence and (2) to further strengthen the analysis of the impacts and to better demonstrate the effectiveness of the retained measures. Changes were made to the text to account for that opinion by highlighting the reasons for a lack of quantitative data in this field and further reviewing the text on labour mobility impacts. Given the nature of the subject it was not possible to produce further factual evidence. However, some references to related subjects such as industrial espionage and data theft have been added. For the same reason it was not possible to produce a quantitative assessment of the expected impacts. If no quantitative evidence of the problem is available, it follows naturally that the expected changes cannot be quantified either. The argument that the options could impact the costs of protective measures of the trade secret owners was only mentioned for sake of completeness in the revised report and was not used in the discussion of the impacts and the comparison of options. Therefore, no further changes have been made in this respect.

1.2. External expertise and consultation of interested parties

The Commission services have used external expertise. A first external study[13] (published in January 2012) provided a snapshot of the EU national legal frameworks on the protection of trade secrets against misappropriation. A second external study[14] (published in [June] 2013) completed the analysis of the national legal frameworks and gathered economic evidence on the positive and negative effects of protecting against the misappropriation of trade secrets. An earlier external study in 2009 examined, *inter alia*, the protection granted by national laws to the transfer of technological know-how and the need for harmonisation in this area[15]. Additional academic literature has been used for this impact assessment (see References).

Interested parties have been consulted throughout the preparation of this Impact Assessment. A public hearing was held on 29 June 2012[16], with the attendance of a wide range of stakeholders. A public consultation (hereinafter the "2013 Public Consultation"), focusing on the possible policy options and their impacts, was carried out between 11 December 2012 and 8 March 2013. 386 replies were received, mostly from individual citizens (152 replies) and businesses (125 replies). The results of this consultation are summarised in Annex 2. The Commission's standards for consultation were respected[17]. Additional targeted consultations were carried out. An industry survey (hereinafter the "2012 Industry Survey") was undertaken in the context of the second external study[18]. 537 European companies active in 17 sectors replied to it and Small and Medium-Sized Enterprises (SMEs)[19] accounted for 60% of the sample (see Annex 3). Other surveys have also been considered and are cited, where appropriate. The drafting team involved in the preparation of this Impact Assessment Report also met with stakeholders' representatives. These included industry and non-industry (e.g. trade unions or consumer) representatives as well as academics and national administrations.

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13 Hogan Lovells (2012).

14 Baker & McKenzie (2013).

15 Van Eecke & al. (2009).

16 A summary of the conference proceedings as well as the full webcast transmission of the working sessions are available at: http://ec.europa.eu/internal_market/iprenforcement/conferences/index_en.htm.

17 It was an open consultation, so all interested parties have been able to participate, the questionnaire was available in all languages, the relevant target groups were invited to reply and sufficient time for participation was granted (13 weeks). The replies to the consultation and a summary have been published at the Commission's website: http://ec.europa.eu/internal_market/iprenforcement/trade_secrets/index_en.htm#maincontentSec1.

18 Cf. Baker & McKenzie (2013), cf. p. 117 and Annex 17 of that study.

19 SMEs were encouraged to reply to this survey via the Enterprise Europe Network.

In general, interested parties have split views on the problem and possible solutions to it. The majority of businesses, whether in the 2012 Industry Survey or in the 2013 Public Consultation, believe that the legal protection of trade secrets against misappropriation is weak in EU Member States, particularly in a cross-border context. They also think that such uneven legal protection increases their risk when doing business cross-border in those Member States with weaker protection and reduces the incentive to undertake cross-border innovation and research and development (R&D). The majority of businesses would support an EU initiative addressing the protection of trade secrets against misappropriation. On the contrary, many non-industry stakeholders (e.g. citizens and trade unions) replying to the 2013 Public Consultation did not see the need for an EU initiative in this field. Stakeholders' opinions are highlighted in the different chapters of this Impact Assessment Report.

2. POLICY CONTEXT, PROBLEM DEFINITION AND SUBSIDIARITY

2.1. Background and context

2.1.1. Trade secrets and their importance

What are trade secrets?[20] Whenever a business holds information of economic value[21] that is not generally known and treats it as confidential, this business owns[22] a trade secret. Secrecy or, rather, confidentiality is a business' innovation management tool, covering a diversified range of information, which extends beyond technological knowledge to business-related data (see Box 1). Trade secrets exist irrespective of legislation but they may benefit from legal protection against their misappropriation too (see Section 2.2).

> ***Box 1 - Information and knowledge covered by a trade secret.***
>
> A trade secret can consist of technical/scientific information (e.g. an invention or a manufacturing process) or information of a commercial nature (e.g. a customer or client list, new business solutions or marketing strategies). Such information can be of strategic importance for decades (e.g. a recipe, a chemical compound) or more or less ephemeral (the results of a marketing study, the name, price and date of launching of a new product, the price offered in a bidding procedure, etc.).

The competitive advantage(s) provided by trade secrets and their importance for appropriating the results of innovation. Trade secrets often grant their holders a competitive advantage (whether a first mover advantage or of other type) related to the use of the information and know-how (representing the result of R&D investments, creativity and business initiative) covered by such trade secret[23].

In addition, it is undisputed in the economics literature that trade secrets, like formal intellectual property rights (e.g. patents, design rights, copyright etc.) are important means for businesses to appropriate the results of their innovative activities and thus to benefit from first mover competitive

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20 Trade secrets are often referred to as "confidential business information", "(secret) know-how", "proprietary information/technology", "undisclosed information", "business secrets" etc. In this Impact Assessment Report the term "trade secrets" will be preferred. See Annex 4 for further discussion.

21 This information must have some actual or potential economic value to someone else than the owner of the secret to qualify as a trade secret. "Negative information" that certain applications or commercial strategies are technically or commercially unfeasible may also be of economic value.

22 The reference to ownership is used here purely for convenience; it does not imply that a proprietary right is involved. For a discussion on whether information and/or trade secrets can be treated as a form of property, see UK Law Commission (1997), p. 18 and seq.; and Bronckers & McNelis (2012).

23 "In today's economy, information and know-how have become key factors for developing and maintaining competitive advantage" (cf. Baker & McKenzie (2013), p.1).

advantages. In doing so, there are important differences between trade secrets and intellectual property rights (see Annex 5):

- **(1)** some of the formal legally recognised intellectual property rights require a formal registration and/or approval process, while trade secrets do not need legislation to exist;
- **(2)** intellectual property rights grant an exclusive right, and thereby a monopoly on the exploitation, to their holders over an innovation during a limited period of time. In contrast, trade secrets do not provide any exclusive or monopoly rights granted by a State authority on the information protected by secrecy or its use. Third parties may discover through honest means the same information covered by a trade secret. This can be achieved through parallel research or reverse engineering (i.e. discovering how something functions or is being built by analysing a copy produced by someone else). Such third parties are not prevented from innovating and developing their own competitive products, services, devices, recipes or methods, including similar or even identical ones;
- **(3)** the scope of application of trade secrets is broader as it includes information which is not protectable by intellectual property rights;
- **(4)** the term of protection is different. For trade secrets it is undetermined and it continues as long as the information can be kept secret. Intellectual property rights have a definite term of protection granted by law;
- **(5)** Intellectual property rights protection entails application (not for copyright) and monitoring costs to detect infringements. The costs of trade secret protection are essentially internal costs of protective measures (locks, IT security, etc.) and transaction costs (confidentiality agreements etc.).

Intellectual property rights and trade secrets also interact between themselves (trade secrets can be substitutes or complements to intellectual property rights, or the only option, see Annex 5):

- **(1)** when an innovation is protectable by intellectual property rights, trade secrets can be used as a substitute for such rights[24];
- **(2)** more frequently, trade secrets complement the protection offered by intellectual property rights, in particular patents: e.g. trade secrets often cover non-protectable know-how such as research in pre-patent stage, know-how collateral to patented inventions[25] and incremental improvements on patented inventions[26];
- **(3)** finally, trade secrets may include valuable information which cannot be protected by intellectual property rights, but still requires investment to be developed and is important for its competitiveness: e.g. new business solutions or marketing strategies.

This economics literature shows that seeking and obtaining competitive advantages is the underlying motivation for business to invest in and undertake innovative activity. Insufficient innovation

[24] It should be noted that there is free choice for the innovator: there is no obligation for him to file for a patent; nor is he obliged to keep the invention secret. He may also decide to release the relevant information to the public in which case it enters the public domain and becomes exploitable by anyone.

[25] Without the underlying collateral know-how, patent specifications are rarely sufficient for commercial use of patented technology.

[26] While, as explained *supra*, in certain cases they supplement the protection that companies get for their innovation through patents, trade secrets also allow companies to be ahead of their competitors even when using mature technologies. This is often achieved through continuous investment in research and development for more efficient processes.

appropriation makes it harder for companies to recuperate the investments made and, as a consequence, weakens their incentive and ability to raise new funds for further activity of this type (see Annex 6 for a review of the economic literature).

Trade secrets are important for businesses, in particular SMEs and start-ups, in all sectors. Trade secrets are valuable business assets to companies. In a knowledge and innovation economy, knowledge-based capital and intangible assets account for the largest share of most companies' assets. In some countries such as Sweden or the United Kingdom investment in knowledge-based capital matches or exceeds investment in physical capital. An estimation made in 2007 expressed that "*as much as 75 percent of most organizations' value and sources of revenue (or wealth) creation are in intangible assets, intellectual property and proprietary competitive advantages*."[27] Nevertheless, the value of trade secrets in absolute terms is not easy to estimate (largely because of the secrecy involved). In relative terms, a recent study based on US data suggests that: *"enterprises in highly knowledge-intensive industries like manufacturing, information services, professional, scientific and technical services, and transportation accrue between 70% and 80% of their information portfolio value from secrets*."[28]

Economic research (see Annex 7) confirms that businesses, irrespective of their size, value secrecy as equally important or more important than patents and other forms of intellectual property rights as a way to appropriate and exploit knowledge. A recent research paper[29] indeed shows that only about 10% of important industrial innovations are patented, suggesting that the remaining rely on secrecy or other type of competitive advantage. SMEs and start-ups seem to rely on trade secrets more intensively than larger companies, in particular as substitutes for intellectual property rights[30]. More than 50% of respondents to the 2013 Public Consultation find trade secrets highly important for R&D, exploitation of innovation (that is, turning an invention into a marketable product) and the competitive performance of SMEs[31]. 58% of the respondents (but 99% of the business and research bodies) also consider trade secrets to be an important tool for businesses and research bodies to protect their valuable information.

Trade secrets are important to all EU economic sectors[32], irrespective of their geographical origin, and including non-innovative industries[33]. They are considered particularly important for process innovation[34]. Trade secrets are also particularly important for (and largely used by) the services sector, notably business services (e.g. advertising, marketing, business consulting, financial services)

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27 See ASIS (2007).

28 Forrester Consulting (2010), p. 5.

29 Fontana et al. (2013). This research is based on the analysis of important industrial innovations which received the "R&D 100 awards" (prize awarded to the 100 most technologically significant new products available for sale or licencing in the year preceding the judgment) between 1977 and 2004.

30 SMEs may not have sufficient financial resources to seek, obtain and manage a portfolio of patents, or to monitor the market and litigate in order to defend that same portfolio.

31 More than 81% of the responding companies find trade secrets highly important for R&D and 78% of them highly important for the exploitation of innovation.

32 Trade secrecy plays a key role in a variety of innovation environments, including in markets where technology evolves quickly, where inventions occur simultaneously, where innovations occur in a cumulative manner, where combinations of trade secrets, patents, and other forms of intellectual property are embedded in complex products, or in circumstances where patent rights are considered weak. Cf. Baker & McKenzie (2013), p. 2.

33 Trade secrets can be important in non-innovative sectors for established businesses (e.g. marketing strategies and generally business-related information) seeking to keep their competitive advantage.

34 For example, they are largely used by the pharmaceutical and chemical industry, which have the highest innovation rates in Europe. Cf. CEFIC (2012), p. 6.

and information society services, where recourse to intellectual property rights is often not possible (see Annex 7). Empirical evidence also suggests that trade secrets are important both to wholesale and retail trade[35].

2.1.2. The misappropriation of trade secrets

Protective measures. Businesses ensure secrecy through different protective measures[36] (see Annex 8): e.g. use of safes/locks, firewalls in computers, confidentiality policies restricting the persons who can have access to the information, contractual protection (e.g. confidentiality or non-compete clauses[37] with employees or licensees)[38] etc. However efficient such measures might be, absolute secrecy can never be ensured: information may still be stolen or accidently disclosed.

Vulnerabilities, typologies and trends. Developments in recent years have made trade secrets increasingly vulnerable to misappropriation:

- **(1)** the economy is increasingly information-intensive and based on intangible assets and therefore trade secrets have grown in importance (knowledge economy – see Section 2.1.1 and Annex 1);
- **(2)** the economic playing field is now global (globalisation[39]) as better and faster transportation has shortened time and distance and manufacturing plants and service centres are transferred or set up in distant low cost locations, so trade secrets may be vulnerable across those various locations, while competition is fierce at global scale;
- **(3)** business models are network-based, as businesses tend to specialize in their core competitive competences and become more reliant on other players: they outsource many of their activities[40], interact with suppliers (establishing longer supply chains) and customers, use external expertise through consultancy, enter into business alliances and joint ventures, etc. Therefore, innovation is now increasingly the result of collaborative efforts and networking (in a recent innovation survey, 87% of respondents believe that their firm would innovate better by partnering than on their

35 Baker & McKenzie (2013), p. 2.

36 Protective measures are in principle voluntary, but trade secrets owners are *de facto* compelled to take them in order to keep the secrecy of information. Also, whenever a trade secret owner seeks judicial redress against another party who has allegedly misappropriated the trade secret, courts will normally examine – when assessing if a piece of information constitutes a trade secret worth being protected – whether the plaintiff took reasonable steps (depending of the nature and value of the information) to keep the relevant information confidential.
For examples of protective measures see IPR Helpdesk (July 2012) or CREATE (2012), p. 21 and seq.

37 Labour law or antitrust law may not allow for non-compete clauses in all circumstances.

38 In a recent survey among intellectual property specialists, 60% of the respondents who concluded more than 50 technology-related agreements in the past two years concluded non-disclosure agreements. This type of agreement was the category more often cited. WIPO (2013), p. 13.

39 International trade in goods and services accounted for 42% of EU 27 GDP (imports) and 43% (exports). This trade increasingly involved developing countries. According to the OECD, since 2000, there has been a steady decline in the share of OECD imports and exports coming from other OECD countries. In 2000, imports from OECD countries accounted for about 74% of total world imports; by 2010, this share had fallen to 62%. For exports, the share directed to other OECD countries also declined from 79% in 2000 to 68% in 2010. OECD imports from non-OECD countries have risen from 26% to 38% of the total over the same period, while exports to these countries have increased from 21% to 32%. Cf. OECD Factbook 2013.

40 See for instance Create (2012), p.11 and seq.

own[41]), where expertise and valuable information is shared[42] – thus, trade secrets are exposed to misappropriation by a larger number of players;

– **(4)** increased mobility of skilled labour, which opens more opportunities for unauthorised disclosure and use of confidential information by former employees in their new placements or as entrepreneurs[43];

– **(5)** shorter product cycles and associated importance of first-mover advantage[44]; and

– **(6)** the value and production chain is now heavily dependent on information and communication technology; the digital revolution has also made espionage *per se* simpler as large quantities of documents or data can easily be downloaded, copied and transmitted in a matter of seconds – physical presence is no longer necessarily required for misappropriation to take place[45].

This heightened risk is confirmed by stakeholders: 38% of the respondents to the 2012 Industry Survey believe that the risk of exposure to trade secrets misappropriation has increased either moderately or significantly in the past ten years[46]. Studies show that just as trade secrets are increasingly more open to espionage attacks *from the outside*, so they are also more and more threatened by misappropriation *from within* the company (e.g. employee theft of sensitive information[47]) or *from business partners* (such as licensees, suppliers/service providers, consultants, joint-venture associates etc.), including from third countries (see Annex 8 for further detail on vulnerabilities, typologies and misappropriation trends). A few cases described in Box 2 illustrate these trends.

Box 2- Selection of cases of misappropriation of trade secrets

15 selected cases are described in Annex 8. Three of them are summarised here.

Third party espionage impacting on R&D. A French tyre manufacturer was testing a (not-yet commercialised) prototype tyre in May 2005 during a rally in Japan. After the competition one of the tyres was stolen from their stand. Following the theft, the misappropriator accessed the secret compound and design (through reverse engineering) and caused serious damage to the company by depriving it of its first-mover advantage on the professional rally market.

Business partner unlawful disclosure, also impacting on R&D. A research partner of a start-up active in a high-technology market (nanotechnology) circulated a sample of a research outcome to a third party in another Member State, without the permission of the start-up. This allowed the third party to obtain valuable information and annulled the start-up's first-mover advantage. This information was not patentable, so secrecy had been the only means to protect the value of the research.

41 Cf. GE & Strategy One (2013), p. 5. Survey based on interviews with 3100 senior business executives in 25 countries, of which 6 EU Member States. The percentage of respondents in the 6 EU Member States who agreed with that statement were: Germany (84%), Ireland (83%), Netherlands (90%), Poland (89%), Sweden (93%) and the United Kingdom (85%).

42 Business transactions on technology-related agreements are perceived as increasingly complex, with the contractual framework often involving multiple parties from different jurisdictions and different types of organizations. Cf. WIPO (2013), p. 13.

43 Employees no longer spend their entire careers within the same firm and it is commonplace for professionals to move to other companies or to set up their own business.

44 Arguably, the long term protection provided by the patent option may in certain circumstances become relatively less attractive in view of the relatively long registration periods, its costs (registration and legal fees, market monitoring and legal enforcement and legal disputes) and risks (dubious eligibility, disclosure of invention followed by patent invalidation, patent infringement).

45 This makes espionage *per se* simpler. See for instance CEFIC (2012), p.14 or Create (2012), p. 6.

46 The perception of a significant increase is particularly strong in the chemical (29%) and pharmaceutical (29%) industries.

47 According to a joint Symantec Corp. and Ponemon Institute survey in January 2009, polling nearly 1,000 adult participants located in the United States who left an employer within the past 12 months, 59% of ex-employees admit to stealing confidential company information.

Insider espionage. A German insider was convicted of economic espionage in 2008 for passing helicopter technology to Russian individuals in exchange for USD 10000.

Collecting data on the total number of cases of trade secrets misappropriation within the EU is a quasi-impossible task. For reputational reasons[48], EU businesses are often reluctant to disclose that they have been the victims of trade secret misappropriation and/or are also reluctant to openly litigate trade secret cases. Even when they do litigate, national judicial statistics do not necessarily identify them as trade secret cases. Even Member States intelligence services recognise that they are "*groping in the dark*" as regards the cases of economic espionage[49]. However, the existing evidence and the results of the 2012 Industry Survey and the 2013 Public Consultation show that the number of companies affected is high:

20% of the businesses replying to the 2012 Industry Survey reported to have suffered attempts or acts of misappropriation within the EU in the last 10 years[50].

Anecdotal national data also support these findings: e.g. in France, according to economic intelligence official sources, 1000 economic attacks took place in 2010, of which a quarter qualified as trade secret misappropriation[51]; in a survey on security breaches (including trade secrets misappropriation) in the UK[52], the vast majority of respondents reported incidents: 93% of large organisations reported malicious breaches and two-thirds of them had a serious incident; while 76% of small businesses reported a breach and half of these were deemed to be serious.

Harm caused. The misappropriation of trade secrets causes harm both to businesses, as it destroys trade secrets owners' competitive advantages, and to society at large, as it affects innovation. Arguably the most severe adverse impacts are of a dynamic nature, caused by the sub-optimal incentives to innovate (see Sections 2.2.3 and 2.2.4). For instance, estimations suggest that industrial espionage (part of trade secrets misappropriation) could cost the German economy between € 20 and 50 billion per year; while cyber-attacks, including industrial espionage, could cost USD 34 billion annually to the private sector in the UK, of which more than 40% represents theft of intellectual property and company trade secrets[53]. The harmful effects on society explain the public interest in providing trade secret owners with the right to protect their valuable information against their misappropriation (see next Section).

2.1.3. The legal protection against misappropriation of trade secrets: overview

The importance of the legal protection of trade secrets for their owners to obtain redress in cases of misappropriation. The nature of trade secrets is such that, in cases of their misappropriation, trade secrets owner's access to rapid and effective injunctive relief against third parties is essential to guarantee that the information protected as a trade secret remains valuable to him and that he can exploit it: e.g. in the event that a misappropriated trade secret was publicly disclosed (i.e. entering the public domain), it would be impossible to revert to the situation prior to the loss of the secrecy, which could have devastating effects on the trade secret owner; thus, the importance of cease and

48 US research using event data shows that, on average, a listed company's public disclosure of a loss from economic espionage is associated with a negative stock market response that is statistically and economically significant. Cf. Carr & Gorman (2001).

49 US UNCIX (2011), p. B-1, referring to a European intelligence service.

50 75 respondents to the 2013 Public Consultation reported their trade secrets stolen from their company at least once. This corresponds to 34% of the 223 respondents who recognised holding trade secrets.

51 Carayon (2012), p.9.

52 PWC (April 2012), p.10. In total, 447 organisations completed this survey.

53 See Section A8.7 of Annex 8.

desist orders in protecting trade secrets is evident[54]. In addition, obtaining compensation for any prejudice suffered from the misappropriation of a trade secret is important to ensure that a trade secret remains valuable.

Limited protection offered by contract. Once misappropriation has occurred, enforcing contractual (non-disclosure or non-compete) obligations before courts can be a reaction to a misappropriation committed by an employee or a licensee. However, contractual protection is not available when the trade secret is further transmitted to or was originally misappropriated by a third party.

Extra-contractual legal protection against acts of misappropriation of trade secrets. The limitations of the contractual protection explain why most, but not all, legal frameworks, whether in the EU or in third countries[55], provide for some sort of statutory protection against trade secret misappropriation by third parties. This legal protection is, in principle, an international obligation[56]. For the most part, this type of legal protection aims at preventing the person who misappropriated the trade secret from taking advantage of his dishonest act (e.g. the judge will order him to stop using the trade secret) and/or at compensating the trade secret owner for any prejudice caused. In some cases, trade secrets misappropriation may also be a crime and prosecuted as such. However, criminal law aims at punishing the offender rather than at providing redress to the victim of the misappropriation. The legal protection against the adverse consequences of acts of misappropriation coexists with the businesses' own protective measures and it is also expected to have a certain deterrent effect. However, the current level of this legal protection within the Member States of the EU presents deficiencies (see Section 2.2).

2.2. Problem definition

2.2.1. Summary

The problem definition is summarised in the problem tree depicted in Figure 1 below.

54 A definitive loss of secrecy would not be easily compensated by the award of damages.

55 Major trading partners, such as the US, Japan or Switzerland, have legislation on the protection of trade secrets against misappropriation (see Annex 11 for further detail).

56 Cf. Article 39 and 41 and seq. of the Agreement on Trade-Related Aspects of Intellectual Property Rights (TRIPS Agreement). See Annex 9 for more information.

Figure 1: Problem tree

2.2.2. *The regulatory failure: uneven and fragmented legal protection of trade secrets against misappropriation within the Internal Market*

The legislative framework in the EU and its Member States. The *TRIPS Agreement* requires its signatories (i.e. all WTO members) to make fair and equitable *civil judicial procedures* available to combat dishonest practices that infringe trade secrets, as defined in that Agreement. Pursuant to the TRIPS Agreement courts must have the authority to issue injunctions ordering the termination of the infringement[57], to order the infringer to pay damages to the holder of trade secrets and to order that infringing goods be confiscated or destroyed without any compensation to the infringer (see Annex 9). There is, however, no specific *EU law* directly[58] dealing with the legal protection of trade secrets against misappropriation. *Civil law* protection of trade secrets has therefore, to date, been addressed by Member States[59] laws independently. They use different types of legal instruments: a trade secret specific law (Sweden); Intellectual Property Codes (Portugal and Italy); unfair competition laws (several Member States); a few Member States only rely on general tort law (or breach of confidence law for common law Member States) or contract law only. Labour laws of most Member States are partially addressing the issue in so far as they may impose on employees a duty of loyalty towards their employers, including explicitly (or implicitly) the duty not to disclose their employers' trade

57 Provisional measures should also be possible under the TRIPS Agreement.

58 There are rules dealing with the specific cases where trade secrets (often referred to as "business secrets") are disclosed to public authorities, including EU authorities. This specific issue is, however, outside the scope of this Impact Assessment. See Section A4.1 of Annex 4 for further detail. In contrast, there is ample EU legislation on intellectual property rights (see Annex 5).

59 Croatia is not included in this analysis.

secrets[60]. In addition, as illustrated in Figure 2, most Member States also protect trade secrets, at least partially, through their criminal laws: whether sanctioning conduct specifically related to a trade secret misappropriation or by applying general offences (e.g. theft). See Annex 9 for further detail.

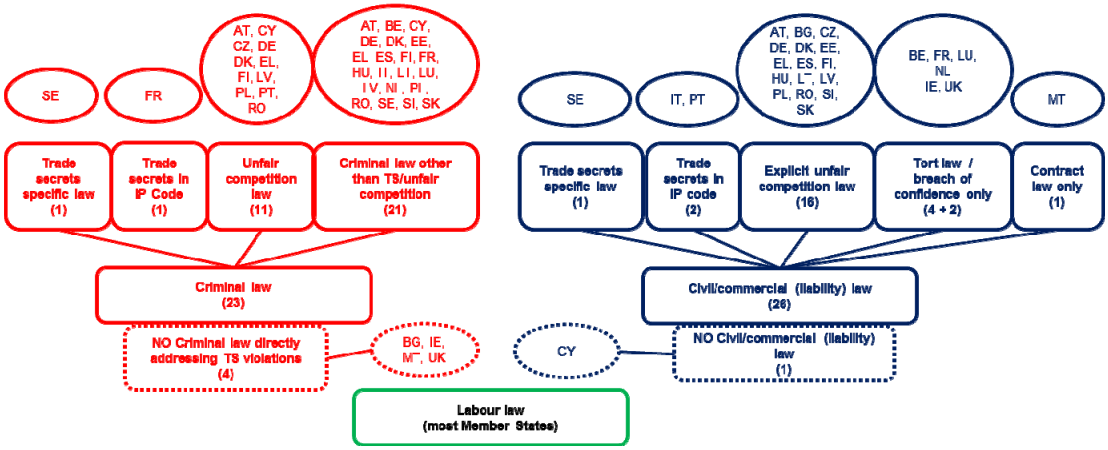


Figure 2 – Member States laws protecting trade secrets

Uneven national protection (differences across national laws). These national rules differ significantly, so the legal protection within the Member States is uneven (and arguably insufficient in some cases). These differences are explained in points (i) to (v).

(i) Civil law: uncertain scope of legal protection of trade secrets against misappropriation[61]. Civil law protection is the first defence line against third party misappropriation of trade secrets (see Annex 9). However, the scope of protection (what a trade secret is and when it is misappropriated) differs depending on the Member State. Six Member States have no legislation directly addressing trade secrets misappropriation. The scope of protection is not guaranteed by law but left to the discretion of judges' interpretation of general principles. Belgium, France, Luxembourg and the Netherlands provide legal protection against the misappropriation of trade secrets indirectly through the (complex to apply) combination of tort law (general liability for non-contractual responsibility) and its judicial interpretation as regards unfair competition. For instance, French civil law protection depends on the courts' interpretation of Article 1382 of the French civil code, drafted in 1804: "*Tout fait quelconque de l'homme, qui cause à autrui un dommage, oblige celui par la faute duquel il est arrivé, à le réparer*."[62] The precise protection offered can only be found by detailed analysis of the jurisprudence, which is itself limited. In the case of Ireland and the United Kingdom (common law countries), no legislation is addressing this issue; legal protection against misappropriation of trade secrets is granted, in certain cases, on the basis of case-law development on the "breach of confidence" doctrine, which has limitations where no duty of confidence exists. The uncertainty associated with litigation in this field is, as a consequence, very high. In addition, Malta exclusively relies on contract law (which does not protect trade secrets against misappropriation by third parties) and in Cyprus there is no civil liability arising from trade secret misappropriation[63].

60 Post-employment protection is not necessarily addressed by labour law in all Member States. Cf. Baker & McKenzie (2013), p. 18.

61 It is assumed that intellectual property rights are not available or are not optimal to protect the valuable information in question.

62 Exactly the same wording is included in Article 1382 of the Belgian Civil Code and Article 1382 of the Luxembourg's Civil Code. In the Netherlands, Article 162 of the Sixth Book of the Civil Code (*Burgerlijk Wetboek*) also has a similar wording.

63 Baker & McKenzie (2013), p. 19 and seq.

This situation contrasts with that of the remaining Member States. Their civil law specifically addresses trade secret misappropriation, but to different degrees: Sweden stands out as the only Member State having an Act specifically designed against the misappropriation of trade secrets (see Annex 10); Italy and Portugal have specific provisions on trade secrets misappropriation in their intellectual property codes; and the majority of Member States deal with trade secret misappropriation through unfair competition laws (Austria, Bulgaria, Czech Republic, Germany, Denmark, Estonia, Greece, Spain, Finland, Hungary, Latvia, Lithuania, Poland, Romania, Slovak Republic and Slovenia). However, out of these nineteen Member States, only ten define trade secrets as subject of protection in their laws[64]. These definitions of trade secrets, despite their common grounds and the TRIPS Agreement, differ significantly in national law. They make use of different eligibility criteria and concepts, thus failing to ensure comparable coverage (Box 3 provides a comparison against the TRIPS Agreement definition and Annex 12 further detail).

Box 3 – Definition of trade secrets – comparison with the main requirements of Article 39(2) of TRIPS Agreement

- (1) Type of protectable information. The TRIPS Agreement does not limit the type of information that can be protected. In principle, any type of information, whether technical or commercial, is potentially capable of being protected as a trade secret. Existing national definitions do not seem to restrict the type of protectable information either, although the expressions used are not necessarily similar and may result in divergent interpretations.
- (2) Secrecy requirement. The TRIPS Agreement requires that the information is not generally known among, or easily accessible to, persons within the circles that normally deal with the kind of information in question. This is a relative secrecy requirement. Several of the national definitions appear to follow the TRIPS Agreement in that regard. However, the Bulgarian, Hungarian, Lithuanian and Swedish definitions may be read as requiring absolute secrecy. It is unclear which criterion is followed by the Slovenian definition.
- (3) Commercial value. The TRIPS Agreement requires that the information has commercial value (because it is secret), *in abstracto*. The idea behind this criterion is generally addressed by most national definitions (referring to commercial or economic value, or to potential, tangible or intangible). However, in some cases, the eligibility standard used is different (e.g. by reference to the interests of the trade secret owner) and the scope of protection seems different (e.g. based on subjective, rather than objective criteria): the Bulgarian definition requires that the secrecy serves the "*interests of the undertakings concerned*", while in Hungary, publication, acquisition or use of a trade secret by an authorised person is prohibited if this violates or imperils "*the financial, economic or market interests of the owner of such secret*"; the Swedish definition requires "*damage to the business proprietor from a competition point of view*". In Slovenia any information, the disclosure of which would clearly cause substantial damage, is protected as a trade secret.
- (4) Reasonable steps to keep the information secret. The TRIPS Agreement requires the person lawfully in control of the trade secret to take reasonable steps to keep the information secret. These reasonable efforts are generally required by national legislations too, although this does not directly result from the Swedish definition. In Slovenia, information is treated as a trade secret as long the company has adopted a written resolution to that effect without any apparent additional requirement.

Concerning the question of when a trade secret is considered to be misappropriated, there are also significant divergences among national laws. An important issue concerns the possibility, for a victim of a trade secret misappropriation, to launch a legal action against a third party who in principle obtained the trade secret in good faith, ignoring the unlawful origin of the information (e.g. a misappropriator may have provided the trade secret in question to a good faith third party under a licence agreement). Such a possibility is particularly important to prevent the further disclosure of a

[64] Bulgaria, Czech Republic, Greece, Hungary, Italy, Lithuania, Poland, Portugal, Sweden and Slovakia. Cf. Baker & McKenzie (2013), p. 24, 25.

misappropriated trade secret and to avoid the circumvention of the legal protection[65]. In some countries (Austria, Czech Republic, Denmark, Estonia, Finland, Germany, Ireland, Latvia, Lithuania, Portugal), but not in all, injunctions are potentially available against anyone who obtained the misappropriated information, regardless of his bad or good faith[66].

As a result, in a substantial part of the EU, for a trade secret owner, it is unclear and unpredictable what would qualify as a trade secret for legal protection. As outlined by the external study, these legal differences create the risk of inconsistent practices across the EU as to what is protectable as trade secret and under which circumstances[67]. The resulting inconsistent level of protection is confirmed by stakeholders: 38% of respondents to the 2013 Public Consultation are convinced that the scope of protection in the EU Member States is different for objectively similar misappropriation acts.

(ii) Civil law: differences and shortcomings concerning remedies (level of redress not comparable).
There is no consistency across Member States as regards the remedies a trade secret owner can seek when bringing before a court a case against the misappropriation of trade secrets by third parties with no contractual relationship with such an owner. The main differences are as follows[68]:

– (1) Cease and desist orders (injunctions). This type of orders is an available remedy in all Member States[69]. However, the possibility to request cease and desist orders against the (mis)use of misappropriated trade secrets by third parties (e.g. to block the commercialisation of "resulting goods") varies from Member State to Member State and in certain Member States such orders are not available: (a) when trade secrets are protected under unfair competition rules[70], the trade secret owner cannot always sue a person who is not a direct competitor but may still have unlawfully acquired the secret (e.g. with a view to sell it to another third party); (b) solutions diverge across Member States regarding the possibility to obtain a cease and desist order against negligent third parties or third parties who obtained the misappropriated trade secrets in good faith before the trade secret has reached the public domain (see above); and (c) cease and desist orders may be limited in time in certain Member States even if the trade secret has not yet reached the public domain (Belgium, Cyprus, Denmark, Greece, the Netherlands, Poland and Slovenia). Thus, there is no guarantee that third parties using misappropriated trade secrets and the "resulting goods" could be stopped from being placed in the market throughout the EU. This also leads to differences across Member States in being able to stop "resulting goods" originating from third countries[71].

– (2) Corrective measures (see Figure 3). Rules in seven Member States (Bulgaria, Cyprus, Estonia, Greece, Finland, Luxembourg, Malta) do not guarantee to trade secret owners that "resulting goods" will be destroyed or that the misappropriator

65 E.g. a dishonest player may pretend to be receiving the trade secret in good faith in order to exploit it.

66 However, in the latter case, damage compensation is hardly awarded. Cf. Baker & McKenzie (2013), p. 27.

67 Baker & McKenzie (2013), p. 26, 46. It also creates the risk of different practices by courts: e.g., in Germany, reverse engineering (examination or disassembling of a product to find the method by which it was developed) a lawfully acquired good to discover the trade secret may be considered unfair (see Ohly (2009)).

68 Cf. Baker & McKenzie (2013), p. 28.

69 They would not be available as interim measures in Estonia and Malta. See Table A12.1 in Annex 12.

70 I.e. in certain Member States, see Figure 3

71 There is no EU legislation in the customs field addressing the imports of "resulting goods" from third countries (see Annex 13).

will have to destroy or return the documents, files or materials containing or implementing the misappropriated trade secret. The possibility to seize "resulting goods" would not be allowed in Austria, Bulgaria, Cyprus, Germany, Estonia, Finland, Ireland, Luxembourg, Latvia and Romania. The possibility to request the withdrawal of resulting goods from the market would not be possible in Austria, Bulgaria, Cyprus, Germany, Estonia, Finland, Ireland, Luxembourg, Latvia, Slovenia, Slovakia and the United Kingdom (see Annex 12 for details). In any case, this type of measures seems to be rarely awarded by courts[72].

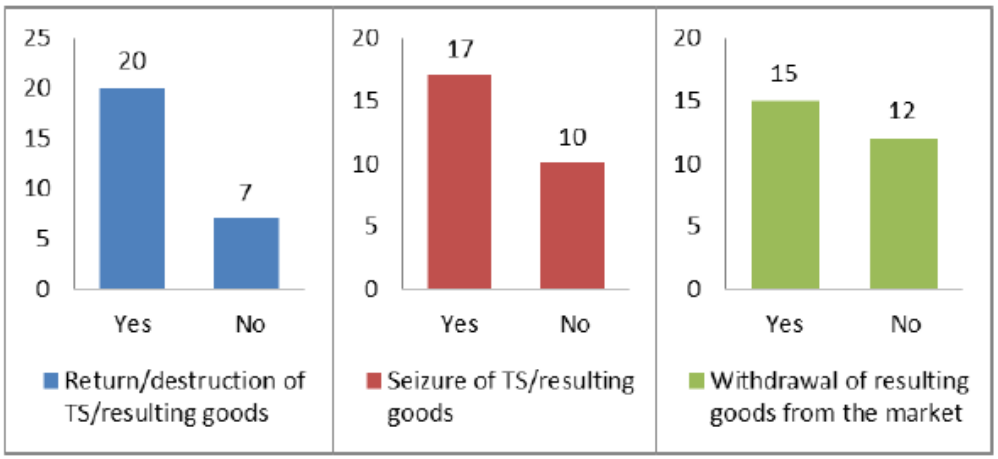


Figure 3 – Differences in corrective measures (source: Baker and McKenzie (2013), p.29).

– (3) Methods for the calculation of damages[73]. Traditional methods in many Member States are inadequate for trade secret cases, as proving the actual prejudice to the victim (e.g. accruing damage, lost profits etc.) or the unjust enrichment of the defendant is often difficult since there is usually no identifiable market value for the intangible assets at stake. This explains the difficulty for trade secrets owners in justifying the damages suffered (and could help explain why compensation obtained is often low). A minority of Member States (Austria, Denmark, Germany, Greece, Hungary, Italy, Netherlands and the United Kingdom) use the abstract calculation of damages (i.e. calculated on the basis of reasonable royalties which could have been due should a licence have existed), which is a recognised criterion to calculate damages when intangible assets, as protected subject matter, may be licenced (cf. Article 13(1)(b) of Directive 2004/48/EC)[74]. Thus, national laws do not guarantee in all circumstances that the trade secret owner be adequately compensated for any prejudice suffered from such misappropriation.

The fact that a third party cannot always be prevented from using a misappropriated trade secret and that no fair compensation is granted for the prejudice suffered are identified by respondents to the 2013 Public Consultation as the most important weaknesses of national laws (see Section A9.4 of Annex 9).

(iii) Civil law: the applicable law to the misappropriation of trade secrets in cross-border cases – why differences in national rules matter in a cross-border context. Beyond insufficient legal protection in some Member States, national differences have a particular impact in the cross-border context. In the case of a cross-border dispute concerning the misappropriation of a trade secret within the

72 Baker & McKenzie (2013), p. 6.

73 The possibility to obtain damages exists in all Member States.

74 See Searle (2010a), p. 132 and seq. for damages valuation methods of trade secrets. This author argues that the reasonable royalty method is the most appropriate for trade secret cases. *Ibid*. p. 188.

Internal Market, EU rules on the applicable (civil) law to the dispute stipulate that such a dispute should normally be governed by the "*law of the country in which the damage occurs irrespective of the country in which the event giving rise to the damage occurred and irrespective of the country or countries in which the indirect consequences of that event occur*"[75]. As a result, more than one national law could be potentially applicable, at the same time, to a trade secret misappropriation case if damages are caused in more than one Member State. Thus, when engaging in cross-border economic activities, a trade secret owner will be confronted with a different extent (and probably uncertain to him) of civil law protection of his trade secret from that which he is familiar with in his Member State, without being in a position to avoid the application of less protective laws[76] (see an example in Box 4).

Box 4 – Theoretical example on the effect of the applicable law

A company manufactures a product in Member States A and B using a trade secret and this company also sells its product in Member State C (the company does not produce in that Member State because of the perceived lower level of protection of trade secrets against misappropriation in that Member State); the company in question becomes the victim of a trade secret misappropriation by a third party who then exploits the trade secret in country C. While Member States A and B offer a good level of protection, Member State C does not. The applicable law to the dispute concerning the damages in Member State C could be that of Member State C: the law into which the trade secret owner did not have trust[77].

Therefore, given that national rules on the legal protection of trade secrets against misappropriation show important divergences, different cases based on objectively similar facts would not necessarily lead to identical or similar outcomes when the applicable law differs[78]. This fragmentation of the legal protection within the Internal Market weakens the overall protection offered to trade secret owners[79]. When more than one legal system is involved, the protection of a trade secret is ultimately no stronger than the weakest link in the chain[80]: e.g. if a secret has been made public following an unsuccessful court case in a Member State offering relatively narrow protection, the information will no longer be protectable elsewhere within the Internal Market as it will no longer be secret[81]. This means that the goods produced by the misappropriator in that Member State will, thanks to the Internal Market, freely circulate into other Member States. This further results in a poor protection

75 Article 4(1) of Regulation (EC) 864/2007 (Rome II Regulation). See Section A16.1 of Annex 16 for further detail.

76 Since we are dealing with third party misappropriation, without a contractual relationship, no contractual choice of law would be possible.

77 See for instance Case 5 in Section A8.6 of Annex 8. The misappropriation of the trade secret took originally place in Denmark, but the trade secret owner ended up litigating in the UK, under UK rules, because the trade secret was exploited there.

78 This issue should be distinguished from the recognition and enforcement of a domestic judgment (e.g. a cross-border injunction against a misappropriator of a trade secret or a judgment granting damages to the trade secret owner) in another Member State. Such recognition should be straightforward pursuant to Article 39 of Regulation (EU) No 1215/2012. This Regulation has abolished the need to obtain a declaration of enforceability (exequatur) as of 10 January 2015, thus removing an obstacle to cross-border enforcement. See Section A16.4 of Annex 16 for more detail on this issue.

79 Who, as noted above, must resort to cross-border networking and activities to remain competitive in the modern knowledge economy.

80 Cf. Wadlow (2008), p. 314.

81 Trade secrets differ from patents in this case. Under the current legal framework, if a patent owner loses its patent case in one Member State, this revocation has no direct effects in other Member States.

of EU businesses against goods produced in third countries with the use of their stolen trade secrets. Trade secret protection in the Union is ultimately no stronger than the weakest link in the chain[82].

(iv) Civil procedure law: differences and shortcomings in litigation rules[83]. Procedural rules in national law do not always guarantee the preservation of secrecy in legal proceedings related to trade secrets misappropriation: except for a few Member States[84], there are no specific rules protecting secrecy of confidential information during litigation. Thus, trade secrets subject to litigation may end up being disclosed to the other party or to the public (see Box 5), and the trade secret owner could lose his market advantage[85]. This could also lead to the paradoxical result that an alleged misappropriator, who was in fact not in possession of the trade secret before the trial and therefore innocent, would nevertheless get to know the trade secret during the trial and this appropriation would not be an unlawful one, so that he could make full use of the knowledge. The trade secret may also be misused or further disclosed by other persons having access to the hearing or the court documentation. This will have a chilling effect on litigating to seek redress[86].

Box 5 – Risks of disclosure of trade secrets in the course of litigation.

(1) the need to describe the misappropriated trade secret in the application, so that the judge can understand it, could imply that, if the plaintiff does not know exactly the extent of the information misappropriated by the defendant, he could disclose to the defendant (since the application is served to him) more confidential information than actually needed to defend his case;

(2) the general rules on the production of evidence[87] could require the disclosure of information otherwise considered confidential[88];

(3) the inherent publicity of judicial proceedings could also result in the disclosure of trade secrets, in this case to the public: e.g. hearings are often public; judicial decisions may describe in full the misappropriated trade secret when explaining the reasons for the decision; and in some countries other judicial documents (including applications) may be accessed by third parties.

(v) Criminal law protection: different scope of protection and limitations of criminal law. Criminal law protection (see Annex 9) cannot compensate for the described shortcomings in the protection provided by civil rules against the misappropriation of trade secrets within the EU internal market. Firstly, the advantage of criminal law protection is its, *a priori*, stronger deterrent effect. If penal sanctions were sufficient to deter such activity, and only then would it result in less cases of misappropriation, the need to use civil law to stop the exploitation of misappropriated trade secrets and to obtain damages for the prejudice suffered might be reduced. All the evidence suggests that existing criminal rules in the EU that can be applied in this field (see Annex 14) do not offer anything like the deterrent effect that would be required to meet this condition: (a) only 12 Member States (Austria, Cyprus, the Czech Republic, Denmark, Finland, France, Germany, Greece, Portugal, Romania, Spain and Sweden) provide for an extensive criminal framework specifically devoted to trade secrets

82 When intending to have access to the Internal Market from a third country, the misappropriator has an incentive to target the weakest link as an entry point to the whole of the Internal Market.

83 See generally Annex 15.

84 According to the external study, only Hungary, Germany and the United Kingdom seem to have in place effective procedural measures to prevent disclosure of trade secrets during civil proceedings. Cf. Baker & McKenzie (2013), p. 7, 45.

85 Cf. Searle (2010a), p. 58-59

86 This effect was for instance observed by Nasheri (2005).

87 In common law countries, the disclosure rule applies; in continental countries, the defendant may ask for certain documents/evidence to be presented by the other party when such evidence lies in the control of that party – which could imply further disclosure of trade secrets.

88 It should be noted that this plays both ways. Bad faith plaintiffs could try this method (and therefore abusing the litigation rules) to obtain confidential information from defendants.

violations[89], including against disclosure, misappropriation, use or other infringement; (b) the scope of protection provided by national law varies depending on the aims pursued by the different criminal law provisions which could address trade secret misappropriation (industrial espionage etc.); (c) in four Member States (Bulgaria, Ireland, Malta and the United Kingdom) there are no specific criminal law provisions with respect to trade secret misappropriation (although related offences such as fraud may partially cover such conduct).

Secondly, prosecution in the criminal law area is more difficult than in civil law. On the one hand, given *inter alia* the higher level of proof required compared to civil law, it is more difficult to build a case under criminal law for claims requesting that third parties stop using misappropriated trade secrets or pay damages for the prejudice caused[90]. On the other hand, the territorial nature of criminal law contrasts with the misappropriation act that typically will increasingly have a cross-border dimension: e.g. in an industrial espionage case affecting a French company, the alleged misappropriator moved from France to the United Kingdom, where no specific criminal law framework for trade secret violations exists, with a view to trying to escape prosecution[91]. Results in this area are not encouraging: by way of example, Germany's Federal Prosecutor General initiated 31 preliminary proceedings on espionage in 2007, resulting in only one arrest and one conviction[92].

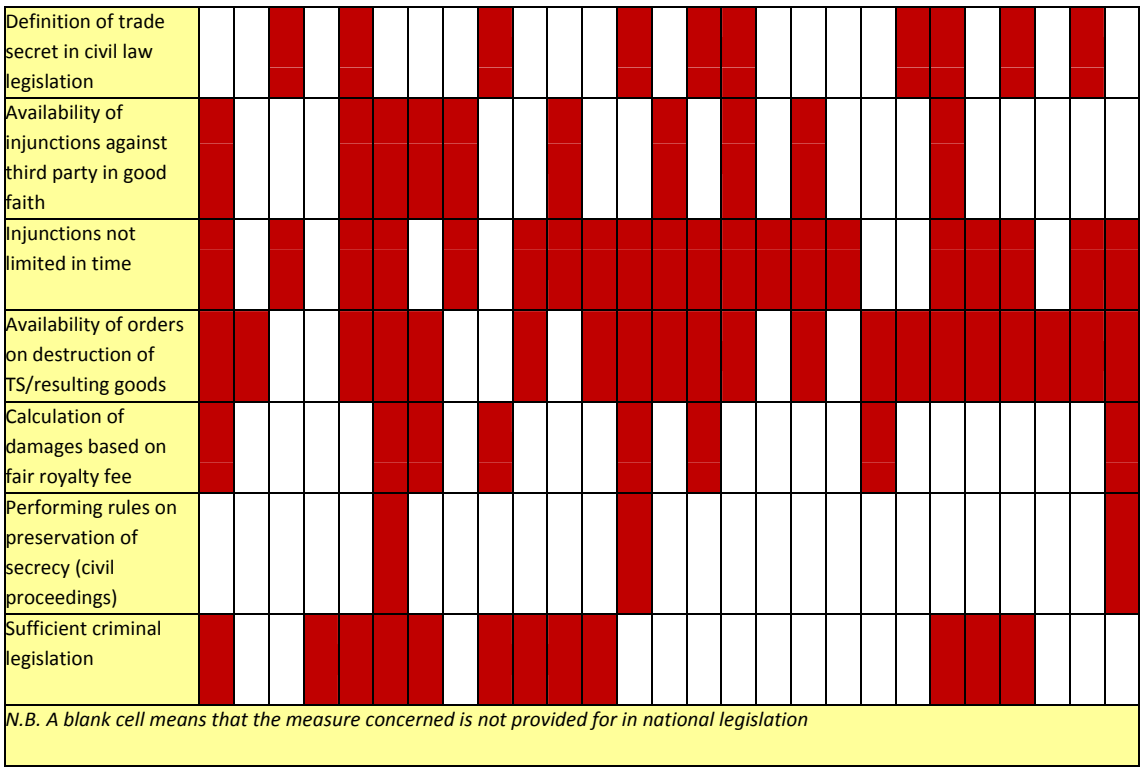
Thirdly, in some cases, civil proceedings may be needed anyway: in Austria, Cyprus, Germany and Slovenia, claims for damage compensation are not filed within criminal proceedings and the aggrieved party should separately file a civil lawsuit for recovery of damages suffered as a consequence of the offence[93].

Fragmented overall legal protection. Figure 4 shows the fragmentation of the legal protection of trade secrets against misappropriation within the Internal Market, by comparing Member State laws to several selected important measures that any such legal protection could be expected to offer (i.e. building blocks of a performing legal protection of trade secrets against their misappropriation): the absence or presence of a definition of trade secret in civil law legislation; the availability of injunctive relief against third parties in good faith; the possibility to obtain injunctions not limited in time; the availability of orders on the destruction of resulting goods and on the destruction of the misappropriated information (or its return to the original trade secret holder); the possibility to calculate the damages suffered using a fair royalty fee as criterion; the possibility to ensure that the confidentiality of trade secrets will be preserved during litigation; and the existence of criminal legislation specifically addressing trade secrets misappropriation. As the following figure shows, no single EU Member State would have complete legislation on the protection of trade secrets against misappropriation.

Figure 4 – The fragmentation of the legal protection (selected measures)
Source of data: Baker & McKenzie (2013).

Selected measures	AT	BE	BG	CY	CZ	DE	DK	EE	EL	ES	FI	FR	HU	IE	IT	LT	LU	LV	MT	NL	PL	PT	RO	SE	SI	SK	UK

89 Baker & McKenzie (2013), p. 7.
90 See UK Law Commission (1997), p. 23 and Baker & McKenzie (2013), p. 77, supporting this view.
91 See Case 9 in Section A8.6 of Annex 8.
92 US UNCIX (2011), p. B-3, explaining that "*German authorities note that espionage cases are often hindered by diplomatic immunity protections and by attribution issues from operating abroad through cyberspace*".
93 Baker & McKenzie (2013), p. 75.



Industry claims that the existing legislative framework within the EU is essentially a *"patchwork which of itself represents a major deterrent from taking legal action"*[94].

Litigation practice. The varying levels of national legal protection in case of misappropriation of trade secrets appear unattractive to trade secret holders and seem to deter their use of litigation (including in a cross-border environment)[95]. According to the 2012 Industry Survey, companies hardly defend their trade secrets before courts in case of misappropriation within the EU: **only 13,6% of the respondents who reported having suffered misappropriation of their trade secrets sought legal remedies before courts located in the EU in all cases, 27% of the respondents did it in some cases only.** Reasons for this differ, but: "*lack of effective remedies*" (cf. point *ii* above) was identified as a reason by 29% of the respondents and "*fear of losing trade secrets in court proceedings*" (cf. point *iv* above) by 14%[96].

2.2.3. Problems: sub-optimal incentives for cross-border innovation activities and reduced competitiveness

The fragmented legal protection of trade secrets within the Internal Market against their misappropriation contributes to the following two problems: (1) sub-optimal incentives for

94 Statement made at the June 2012 Conference. See also above, Section 2.2.2. Also Gielen (2009), p. 392, explains that "*the situation in the EU is patchwork quilt*".

95 Official statistics or specific figures on trade secret misappropriation litigation are not available. This may be due to secrecy inherent to the problem, different terminology used to encode cases in databases and also to the fact that litigation regarding trade secrets misappropriation may be related to contractual disputes with business partners, employees or ex-employees rather than with third parties. Baker & McKenzie considers that trade secret case law is limited throughout Europe and cross border litigation non-existent (cf. Baker & McKenzie (2013), p. 46).

96 Baker & McKenzie also notes that in countries where there are no specific provisions addressing trade secret misappropriations (e.g. Malta) courts seem to attribute less importance to trade secret protection and show a lower propensity to deal with cases of trade secret violation when compared with countries where a specific law exists (e.g. Sweden) or where specific provisions are clearly identifiable within more general areas of law (e.g. Italy or Germany. Cf. Baker & McKenzie (2013), p. 44.

businesses to engage in innovation activities across borders and (2) reduced competitiveness of European businesses because of threats to trade secret-based competitive advantages.

Ideally the Commission services would have wished to provide detailed costings of these problems but this has proven impossible. An extensive literature review (see Annexes 6 and 7) and the external study by Baker & McKenzie (2012) have confirmed that no such data are currently available. This is because holders of trade secrets do not always wish to reveal that they have them and are even less willing to describe the nature and level of investment in securitising those secrets for obvious commercial reasons.

Given this fact, the Commission's services commissioned the Industry Survey and undertook the Public Consultation to provide a qualitative assessment of the scope and extent of the problem. Anecdotal examples of the problem are also revealed by the case law (see Annex 8) although this is again limited, not least because the current legal fragmentation within the EU gives rise to lengthy and costly procedures that dissuade cross-border litigation (see in particular Case 5 in Annex 8).

Problem (1): Sub-optimal incentives for cross-border innovation activities.

The misappropriation of trade secrets causes adverse dynamic impacts: when trade secrets are under a high risk of misappropriation with ineffective redress against such misappropriation in cross-border scenarios, incentives to undertake the work necessary to discover and create valuable information, including at a cross-border scale, are affected (see also Annex 6). This undermines the very purpose of the protection of trade secrets, as recognised by the economics literature. In the words of Posner: "*the purpose of […] according legal protection to secrecy […] is to create an incentive to invest in the creation of information*"[97]. Two factors in particular contribute to undermining those incentives: (i) lower expected value of innovation and higher costs for protecting it; and (ii) higher business risk when sharing trade secrets.

(i) Lower expected value of innovation and higher costs for protecting it reduce the innovator's incentive to innovate and undermine the returns on investment in innovative and R&D activities[98]. Weak legal protection of trade secrets against misappropriation has a number of negative impacts on potential innovators who would want to protect their innovation – partially or exclusively – by treating it as a trade secret. Net profits from innovation are reduced from both sides, due to lower revenues and higher costs.

There is a negative impact on the expected revenue streams: the higher the likelihood that the trade secret will one day be misappropriated[99], without the owner having much hope to recover the damages this might cause to him (because of the fragmented legal protection of trade secrets against misappropriation), the lower the returns he can safely expect. Even a relatively low risk of losing the competitive advantage resulting from the trade secret can turn a potentially profitable investment into one where a net loss could be expected[100]. The risk to the entrepreneur of not being able to

97 Posner (1981), p. 244.

98 Theoretical research supports this conclusion. See for instance, Almeling (2009), p.778.

99 The imperfect deterrent effect of existing rules contributes to an increased risk of trade secret misappropriation activities, although other factors are also important in this regard too (see Section A8.3 of Annex 8). Moreover, the inability of those rules to offer effective redress enhances the probable profit from such misappropriation: there is an inverse relationship, *ceteris paribus*, between clarity of enforcement and likelihood of misappropriation (cf. Almeling (2009), p. 778).

100 Scholars note that uncertainty associated with valuations reduces the effectiveness of trade secrets as means to protect innovation. Cf. Searle (2010a), p. 11.

profit from one's own innovations but to see those benefits being exploited by misappropriators would stifle the innovative activities of those who still believe in fair competition and simply encourage profit-seeking businesses to steal and exploit the dwindling innovation of others.

There is also an adverse impact on costs: the weaker and less certain/clear the legal protection, the more each innovator has to invest in his own protective measures[101] and legal search/compliance costs (which are to a large extent non-productive costs). This is exacerbated in cross-border contexts, as shown by the replies of trade secret holders to different surveys illustrated in Box 6[102]. While the level of the adverse impact on costs is not easy to estimate (as it depends on different factors, such as the type of trade secret, size of the company, sector in which the latter operates etc.), it is undisputed from those replies that such costs exist.

Box 6 – Increased costs for protecting knowledge

(1) Increased expenditure on protective measures: 35% of respondents to the 2012 Industry Survey identified "*increased expenditure in protection measures*" as a direct consequence of acts (or attempts) of misappropriation within the EU (cf. Baker & McKenzie (2013), p. 129). **The survey also shows that companies have to adjust to the specific national regimes in their choice of protective measures in different EU Member States: almost a quarter of respondents apply different trade secret protective measures depending on the Member State of location** (cf. Baker & McKenzie (2013), p. 127). Similar results were obtained in the 2013 Public Consultation: 54% of the companies responding reported increased expenditure in preventive measures to protect information. Economic research supports this trade-off between legal protection and individual measures[103]. **38% of respondents to the 2013 Public Consultation consider that weak cross-border protection of trade secrets and insufficient knowledge about the legal regime in other EU Member States makes it difficult to optimise protective measures.**

(2) Increased transaction costs for the sharing of trade secrets with employees or business partners, in particular technological/innovative know-how. As the trade secret owner has to regard each person to whom he confides a trade secret as a potential misappropriator, he has to take protective measures in each case. Research shows that the transaction costs of the trade secret owner negotiating with each potential misappropriator would be extremely high without a sufficient level of statutory protection[104]. **31% of respondents to the 2013 Public Consultation reported increased costs in adapting licencing models to different national rules. These transaction costs will be greater in the cross-border context because of the uneven level of protection across the EU**[105].

(3) Information/compliance costs for businesses with cross-border activities resulting from the uneven national rules (when devising a business plan to protect their trade secrets or in the event of litigation abroad, they need to investigate what law protects what information)[106]. These costs are allegedly higher because of the uncertain scope of protection, which in many cases depends on the interpretation of case-law in the absence of definition of trade secrets in the laws. Research shows, however, that not

101 This can take various forms like protecting the rooms where the trade secret is kept with dedicated security, e.g. iris or fingerprint scans, or sophisticated IT security to prevent online/network theft.

102 Quantification of these costs in absolute terms for this impact assessment has not been possible as they depend very much on the type of information to be protected as a trade secret, the owner of the information, the market in which he operates etc.

103 Risch (2007), p. 42 and seq. Risch argues that savings in protective measures expenditure is a primary economic justification for having trade secret law. The inefficiency of protective measures has also been highlighted in economic research: a company implementing a business plan to protect its trade secrets across the EU would either incur excessive overheads (if different individual plans adapted to each national legislation are to be implemented) or wasteful expenditure (if an EU-wide plan was matching the weakest legal standard among the EU Member States, since the company will expend additional resources although it knows that they are unnecessary in at least some jurisdictions) – Cf. argument raised in Almeling (2009), p. 777, as regards the US legal framework on trade secrets.

104 See Risch (2007), p.41.

105 See, for instance, CEFIC (2012), p. 12.

106 For employees willing to move to a new job in a cross-border context, the law applicable to the contractual clauses should normally not change. Thus information costs should not arise.

every entity investigates differences in legislation, either because they suspect that any differences would be immaterial or because the investigatory costs would be too high[107].

(ii) Higher business risk when sharing trade secrets for innovation-related activities affects incentives for collaborative innovation in cross-border scenarios. As noted above, innovation is less often the fruit of individual efforts, but increasingly that of collaborative activity (collaborative research, technology transfer, joint ventures etc.), often across borders (since one has to use the scope of the Internal Market to find the most appropriate partners to be competitive in the global knowledge economy) and between different actors (both private and public bodies)[108]. However, the willingness to share innovation and knowledge within EU networks at cross-border level diminishes as, all other things being equal, such sharing bears a risk of misappropriation which is not efficiently addressed by the legal protection within the EU[109]. According to the 2012 Industry Survey, **40% of EU companies would refrain from sharing trade secrets with other parties because of fear of losing the confidentiality of the information through misuse or release without their authorisation**[110]; **similarly, 38% of the respondents[111] to the 2013 Public Consultation found that different national rules on the protection of trade secrets against misappropriation result in less incentives to undertake R&D activities in a cross-border context** (e.g. with other companies, research entities such as universities or even with their own affiliates located in other Member States)[112]. A recent global innovation survey confirms these findings: 64% of respondents would be reluctant to collaborate with others because of lack of protection of confidentiality or intellectual property; and this factor was identified as the most important barrier to collaboration[113].

Cross-border knowledge spill-overs and technology transfer (i.e. network innovation) would be adversely affected if trade secret owners were dissuaded from collaborating cross-border in

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107 Litigation costs are not considered here. Litigation outside the home Member State is generally associated to higher costs: e.g. claimants may not be familiar with the foreign legal system, lack the possibility to rely on their known and trusted lawyers, may need to travel and expend management time etc. A study carried out for the Commission suggests that, in general, embarking on litigation in another EU Member State to resolve a commercial dispute is more expensive than comparable proceedings where the plaintiff and defendant are both in the same country: 46% of the respondents to a key stakeholders' survey (including national authorities and legal experts) held that view; a different survey carried out among small businesses (European Business Test Panel) showed that 40% of respondents with experience in cross-border litigation considered that costs of litigation in another EU Member State were much more expensive than the costs of litigation in their own country (cf. CSES (2010), p. 46-47). However, in the present case, those litigations costs are not necessarily related to the differences in national rules on the misappropriation of trade secrets.

108 See European Commission Staff (October 2010), p. 28. See also Lemley (2012) explaining that invention appears to be part of a social, not an individual, phenomenon. Additionally, see Annex 6 on the importance of knowledge spill-overs for innovation. See also Lemley (2012), p.752, recalling the standard economic theory on duplication of research.

109 Not only the substantive law is relevant in this regard, but also the procedural protection of trade secrets in litigation, as underlined by de Werra (2009), p. 39, who argues that "*the cross-border flow of trade secrets may be prevented if it is considered that trade secrets could be threatened because they may have to be disclosed […] at the time when enforcement of the protection of such trade secrets would be sought before state courts in the relevant jurisdiction.*"

110 Baker & McKenzie (2013), p. 124.

111 60% of businesses and 42% of research entities.

112 This is also the opinion of the European chemical industry, a sector which strongly relies on trade secrets: "*Current differences in the protection of trade secrets from misappropriation significantly impair integration and cooperation in networks and clusters by preventing the flow and exchange of information within the internal market*". Cf. CEFIC (2012), p. 13

113 GE & Strategy One (2013), p. 5. Survey based on interviews with 3100 senior business executives in 25 countries, of which 6 EU Member States. The percentage of respondents in the 6 EU Member States who agreed with that statement were: Germany (80%), Ireland (68%), Netherlands (65%), Poland (63%), Sweden (64%) and the United Kingdom (58%).

innovation-related activities where trade secrets would be shared within the Internal Market[114]. This adverse effect also hinders the efficiency of the development and exploitation of innovation[115] in the EU Internal Market and undermines its smooth functioning[116]. The effect is aggravated by the fact that, as evidence shows[117], the cross-border dimension of innovation-related cooperation enhances its efficiency.

Problem (2): Trade secret-based competitive advantages are at risk (reduced business competitiveness).

As explained above (Section 2.1.1), trade secrets are of particular importance for businesses to secure their lawfully acquired competitive advantages. However, third parties misusing trade secrets gain an unfair competitive advantage by exploiting the (often long-term) investment made by the market innovator to gather, develop or acquire the valuable information in question. They produce/supply competing goods/services using the trade secrets in question (hereinafter "resulting goods/services") – in some cases, the ”resulting goods” may be produced outside the EU and subsequently imported into the EU.

114 24% of the respondents to the 2012 Industry Survey consider that better protection of trade secrets against their misappropriation across the EU would result in better opportunities for their own companies to cooperate with other players in R&D and innovation (cf. Baker & McKenzie (2013), p. 131). This, *a contrario*, supports the view that currently there is a sub-optimal level of information sharing. Moreover, empirical research on licencing of patents (including associated know-how) in Europe and Japan found that European companies, in general, license significantly less (to non-affiliated entities) than their Japanese competitors (cf. Pluvia Zuniga & Guellec (2009)). Private investment in R&D in Japan is higher than in the EU (see Section 2.2.4 below).

115 While not the only factor influencing the level of private investment in R&D or innovative activity, the legal protection of trade secrets certainly influences investment choices.

116 This means that the benefits of the Internal Market in this field are not being fully exploited. For instance, innovation may be hampered by stifling cross-border alliances and investment within the EU and overtly encouraging EU companies to invest in and develop their cross-border networks in third countries offering the legal security and market scale necessary for their continued growth. Given the global nature of most markets, this does not contribute to a reinforcement of the confidence that businesses need to have when investing in R&D within the EU.
See also opinions expressed by industry at the June 2012 Conference organised by the Commission.

117 E.g. the impact assessment accompanying the communication on a Reinforced European Research Area Partnership for Excellence and Growth explains that “*[e]vidence from cross-border cooperation through the Framework Programmes shows though that it is possible to improve R&D performance by increasing spill-overs between sectors and nations […].”* (Cf. European Commission Staff (July 2012), p. 9). It also stated that “*[t]he low level of cross-border co-operation in research programmes implies that Europe is not using the opportunities for enhancing the quality and impact of its research. […] Similarly, inventions resulting from international cooperation have on average a higher impact than purely national ones […]*” (cf. *ibid*., p. 10). This paper refers to publicly funded research only, but the conclusions on the value of cross-border cooperation on research are valid for commercially funded R&D too.

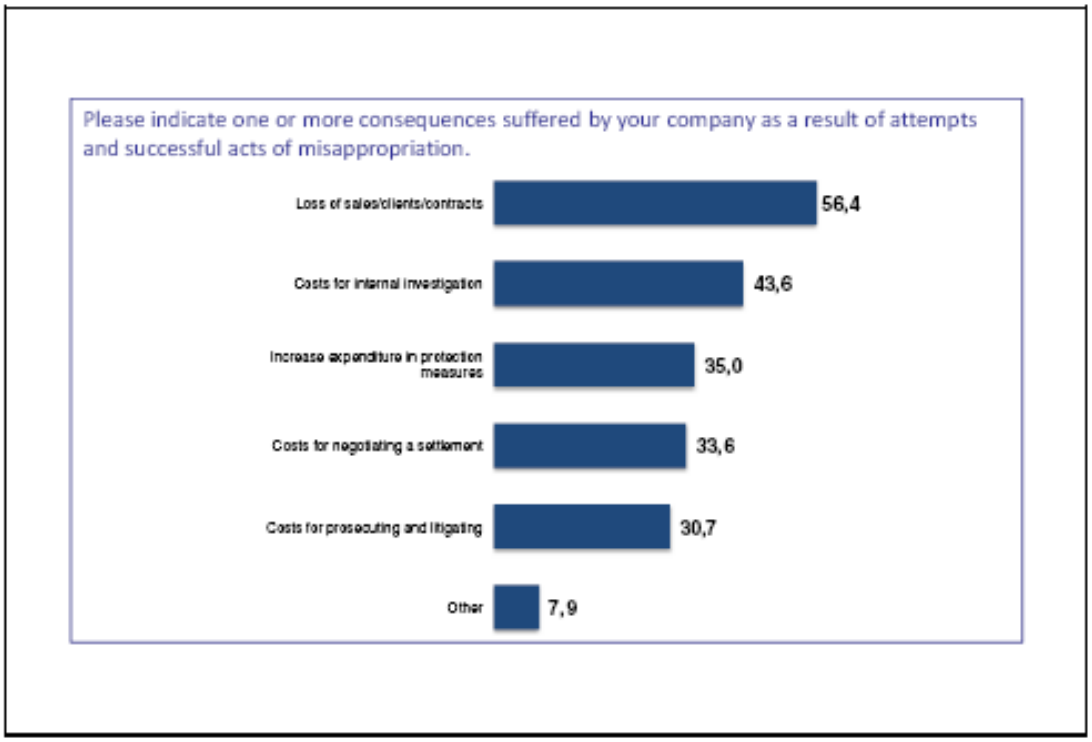

Figure 5 – Consequences arising from attempts and successful acts of trade secrets misappropriation. Source: 2012 Industry Survey.

This will cause harm to the trade secret owner (who is likely to face losses of sales, clients, contracts, image, goodwill and to see the value of his information diminish or even vanish altogether; and who, in extreme cases, might be forced out of business completely), unless he receives sufficient legal protection. Indeed, the results of the 2012 Industry Survey confirm that respondents believe that acts of misappropriation have mostly resulted in loss of sales/clients/contracts (56% of the cases): see Figure 5[118].

The loss of sales, clients, and contracts are reported as significant in a wide variety of industries, including the Chemicals, Pharmaceutical, Computer, Machinery and Equipment manufacturing sectors, for both large and small/medium firms alike. The fragmented legal protection within the EU does not guarantee a comparable scope of protection and level of redress among the EU Member States, thus putting trade-secret based competitive advantages (whether innovation-related or not) at risk and undermining trade secret owners' competitiveness within the Internal Market[119]. The European chemical industry, which strongly relies on process innovation secured by trade secrets, considers that misappropriation of a trade secret could often entail a turnover reduction of up to

[118] The trade secret owner will also face other costs linked to the act of misappropriation of the trade secret, such as costs of internal investigation/staff time responding to a breach (identified by 44% of the respondents), as well as or costs for negotiating settlements (identified by 34% of the respondents) and the litigation/prosecution costs (identified by 31% of the respondents). The threat of misappropriation also entails increased expenditure in protective measures (identified by 35% of the respondents). Those costs also affect companies' competitiveness.

[119] See CREATE (2012), p. 6, claiming that "*trade secret theft can have devastating effects on companies' competitiveness*".

30%[120]. Similarly, a large European company active in the aeronautics sector claimed that 40% of its turnover could be at risk in case of trade secret theft[121].

Again, this risk is higher for SMEs and start-ups: (a) SMEs suffer disproportionately more from low and fragmented levels of legal protection than larger companies. Evidence shows that they rely more on secrecy to protect their innovation (cf. Annex 7). Even when their innovation is patentable, for cost reasons they often prefer not to apply for a patent. So in many cases, trade secret protection will be their only option; and (b) since innovation-related collaboration is dissuaded (cf. problem 1), they will need to rely more on their own innovation capacity, which could create higher market barriers to SMEs' growth and development within the EU. Similarly, the risk is particularly important in the services economy (accruing to 70% of the EU's GDP) where trade secrets are often the only way to appropriate innovation, since the scope of formal intellectual property rights in the EU does not cover, in the vast majority of cases, innovation in the services field (cf. Annex 7).

Business competitiveness is also affected by the sub-optimal incentives for cross-border innovative activities (problem (1)). The lower expected value of innovation and the higher costs incurred by businesses to protect it logically affect the profitability of trade secret-protected innovation. This is likely to impair businesses' ability to obtain returns from the initial innovation investment (e.g. either by directly exploiting the innovation or by transferring its results to others in exchange for compensation – i.e. licensing or selling) and also its ability to obtain external financing. A trade secret may have a high value in many cases (e.g. process innovations) and be taken into consideration by banks or private equity firms. For instance, 15% of the respondents to the 2012 Industry Survey expect that better protection of trade secrets against their misappropriation across the EU could result in better conditions for accessing funding and venture capital. For SMEs and start-ups, consequences may be even more critical. If unable to directly exploit their innovation because of the risk, they may be forced to sell it to larger/wealthier companies (perhaps at below market value), which affects the overall level of competition within innovating sectors of the EU economy. Less cross-border cooperation with partners on innovation-related activities contributes to inefficiencies as regards the development and exploitation of innovation: it actually promotes more secrecy (e.g. more in-house-only activities and increased expenditure on protective measures)[122], whether this is efficient or not. It will be inefficient if it prevents the company from focusing on those core functions where it is most competitive and efficiently outsourcing other functions. The inefficient resource allocation to pre-empt the misappropriation of trade secrets contributes to reducing businesses' competitiveness[123]. Thus, the opportunities offered by the Internal Market in terms of cooperation and specialisation are underused in this regard.

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120 This percentage could reach up to 80-100% when the trade secret is the basis of the product differentiation or the manufacturing process. Information based on companies interviewed by CEFIC. Cf. CEFIC (2012), p. 13; and CEFIC (2013), p.2.

121 Information provided to the Commission by that company.

122 There is a difference between secrecy (irrespective of the legal protection) and trade secret legal protection, which actually allows to share information because of the protection against misappropriation. See Annex 6.

123 The European chemical industry explains that value chain partners (both upstream and downstream) need to be involved in the development of the chemical industry innovations to ensure their success and improve competitiveness (the propensity of the chemical industry to integrate along value chains be one of the European's chemical industry's main competitive advantages). However, companies would currently be prevented from cooperating fully as they have to prioritise concealment of their trade secrets to avoid misappropriation. Consequently, complete supply chain integration within clusters

2.2.4. Wider consequences for the EU economy

Adverse impact on economic growth in the Internal Market. Sub-optimal incentives to cross-border innovative activity and reduced business competitiveness are likely to result in less economic activity within the Union in the long run, when such activity depends on the protection of secrecy for its commercial success[124]. Respondents to the 2013 Public Consultation expressed that different (or divergent) national rules on the protection of trade secrets would result in: higher business risks in the Member States with weaker protection (50% of respondents) and reduced cross-border business activity within the EU "*as trust in legal protection in other Member States diminishes*" (32% of respondents)[125].

This reduced business activity is likely to have stronger impacts on SMEs, in so far as other innovative businesses have fewer incentives to enter into licensing or sub-contracting agreements[126]. For instance, at the June 2012 Conference organised by the Commission, a major French company explained that it largely relied on subcontractors, the majority of which are SMEs. These subcontractors were closely involved in the conception and construction of products and services provided by the company, and were subject to reciprocal obligations of protection of confidential information, from which both sides benefited. The lack of adequate redress against misappropriation of confidential information undermines the value of the commitments between contractors and therefore diminishes the benefits of such cooperation because the companies would prefer to keep some of the information secret and therefore tend to limit the scope of exchange and the overall level of sub-contracting. Furthermore, those businesses having and needing the scale of cross-border activities may find other, more legally certain, third country markets of similar size more attractive for their expansion.

It could be argued that these arguments of less cross-border activity and reduced competitiveness present only a partial view from the perspective of the trade secret owner, as some of his foregone revenues would not be entirely lost to the economy but just 'moved' to the company producing and selling the 'resulting goods or services' and to the providers of protective measures. This, however, is only true if one assumes that the businesses' (cross-border innovative or other) activity will take place anyway, but this cannot be taken for granted. If businesses have to expect that their investment in innovation or in the creation of a competitive advantage does not pay off in the end, one cannot actually expect them to undertake such investment in the first place.

From an Internal Market perspective, the use and exploitation of trade secrets in the innovation process to the benefit of growth will be distorted by the fragmented legal protection against the misappropriation of trade secrets in the EU. The European chemical industry, for instance, highlights

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would often not yet be achieved and the interconnection between clusters would be insufficient to the detriment of the efficiency of the industry. Cf. CEFIC (2012), p. 13.

124 This will particularly affect those sectors using mature technologies and relying on process/incremental innovation, secret know-how etc.; as well as sectors that cannot protect their innovative steps by intellectual property rights (e.g. mostly services).

125 The need to pursue litigation abroad may also act as a disincentive. A study carried for the Commission reported that: "*The possibility of having to pursue litigation abroad is a major concern to business and one of the main reasons for not getting involved in cross-border trade*" (cf CSES (2010), p.58). Anecdotal evidence also underlines the difficulties for SMEs in this regard. In a presentation at a European Parliament event in 2012, an EU start-up explained that undertaking cross-border litigation to defend its trade secrets was not a real alternative to start-ups or small companies.

126 Empirical research shows that small firms are more likely to license their inventions. Pluvia Zuniga & Guellec (2009), p. 12. While this research is primarily about licensing of patents, in many cases the licence also included know-how. *Ibid*. p. 16.

that: "*[…] investors in industry are more willing to invest in countries where they believe that their secrets are adequately protected from misuse or misappropriation […].*"[127] As previously stated in the a 2011 Commission Communication, the significant differences in national laws regarding the nature and scope of trade secrets protection, as well as the available means of redress and respective remedies, inevitably result in different levels of protection, so that *"some companies are better equipped than others to face the challenge of an information-based economy*"[128].

***Less jobs and potential contractual restrictions to labour mobility/entrepreneurship*.** Limited incentives to innovate hinder job creation. This could be detrimental to the sustainability of growth and employment within the EU, particularly for skilled and qualified employees: it has been estimated that between 30000 and 70000 jobs per year would be lost in Germany as a result of foreign espionage[129]. Recent research[130] has demonstrated that innovative companies perform better in creating new jobs across all size classes and are much better in retaining employment during economic downturns[131].

Employees' mobility (and their ability to become entrepreneurs) may also be affected[132]. In the absence of appropriate trade secret protection, businesses have to rely more on their own protective measures to protect their trade secrets and non-compete/non-disclosure covenants imposed on employees are a key tool[133]. The likelihood increases that such covenants include stricter internal

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127 CEFIC (2012), p. 12. Indeed, when deciding where to invest (e.g. for the establishment of a research centre or of production facilities), businesses are likely to take into account, *inter alia*, the level of protection of trade secrets against misappropriation. There is also evidence in the US that states made strategic choices of industrial policy nature when deciding the level of protection they want to award to trade secrets. The Alberta Report argues that "*[i]t is significant that most of the jurisdictions which have reformed their trade secret laws in the United States have done so because of a perceived need to provide a responsible climate for such industries*" [N.B. referring to high-technology industries, such as micro-electronics or industries utilising genetic engineering] (cf. Alberta Report (1997), p.119). The strategic choices may go in two directions: either a race to implement high standards in order to attract investment or a preference for weaker but more flexible standards, including in some cases a niche policy to attract talent (by facilitating its mobility). The US example confirms the risk of divergent development of legislation. However, although important, it is not to be expected that legal protection against misappropriation of trade secrets will rank top among the factors influencing investment decisions by companies.

128 European Commission (May 2011a), p. 15. Other different assumptions could logically (or theoretically) follow from the fragmented legal protection: e.g. Member States with weaker legal protection of trade secrets could become more attractive for the trading of or the import from third countries of "resulting goods"; also unproductive expenditure on economic activities by research-intensive industries leading to the inefficient allocation of capital within the Internal Market could appear. However, there are no analysis/data on these issues and they remain theoretical.

129 US ONCIX (2011), p. B-1, citing the Germany's Federal Office for the Protection of the Constitution (BfV) as source. Another German report confirms that "*as many as 70000 jobs in Germany are directly threatened by industrial espionage, not to mention those that are indirectly threatened*." Weber (2010).

130 De Kok et al. (2011). This study also suggests that Member States with a strong innovation baseline have coped with the current economic crisis better than others.

131 Also, the jobs created by SMEs (which accounted for 85% of all jobs added in the EU between 2002 and 2010) mostly came from young companies (up to 5 years old) while SMEs older than 10 years lost jobs over that period of time. This appears to confirm that innovative activity, which is the basis of all new businesses, is the backbone for social prosperity (cf. European Commission Staff (February 2013), p. 133).

132 Ex-employees are often parties to litigation in trade secrets misappropriation cases. See Annex 8 for selected cases. See also Almeling et al. (2010) and Almeling et al. (2011) for figures on litigation with employees in the US. See Annex 24 for a summary of the economic research on the impact of trade secrets legislation on labour mobility.

133 Increased business reliance on secrecy could also affect employees in so far as they may be imposed working conditions which could undermine their fundamental rights to privacy (e.g. companies could in

constraints on employees than necessary if there was a respected legal definition of trade secrets. The evidence arising from cross-state comparisons in the United States suggests that welfare enhancing knowledge spill-overs through skilled labour mobility are optimised by a combination of a transparent and proportionate legal protection of IP including against the misappropriation of trade secrets with restrictions on non-compete clauses (see Png (2012) and Ghosh (2009)). Without the former, there is a risk that employers could disproportionately extend the contractual protection to cover information which would normally not qualify as a trade secret (e.g. because known or readily accessible in the circles that "normally" deal with the kind of information in question)[134]. Uncertainty regarding whether using certain information or communicating it to a third party would be regarded as misappropriation of a trade secret makes that information less attractive for future employers and employees themselves[135]. This is likely to further inhibit innovative activity given its positive correlation with job mobility[136].

The fact that there is no hard evidence and that even the number of unreported cases might be relatively small compared to the number of labour contracts in the EU should not be misinterpreted. Firstly, the people concerned are often 'key enablers', i.e. people in key positions whose availability is crucial for the viability of projects, in particular when it comes to technology transfer. Secondly, it is this cross-border mobility of researchers, specialists and young professionals that the EU wants to increase, precisely because of their multiplier effects, through various initiatives and programmes.[137]

Reduced competitiveness of the EU. The EU currently suffers from an innovation gap relative to major third countries (such as the US or Japan), in particular as regards innovation in the private sector. This has been recently recognised by the European Commission: "*There is a widening gap between the EU and its world competitors, notably due to weaker business R&D investment*"[138]. The Commission has pointed at the insufficient attractiveness of the EU's knowledge economy to growth-enhancing capital, compared with other major trading blocks: "*[w]eaker framework conditions for business R&D and a fragmented European market for innovation are hampering private R&D investments and affecting the attractiveness of Europe*"[139].

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theory attempt to disproportionately monitor employees' behaviour to avoid breaches of secrecy). According to The Economist (2013), multinational businesses are increasingly screening their own employees' behaviour to avoid regulatory breaches. See also Almeling (2012), p. 1101 (explaining that companies use different security systems to detect misappropriation, including: key cards that track employees movements, metadata about who accessed a file, when, for how long and from where, etc.).

134 At the same time, it is also likely that stricter protection (e.g. covenants not to compete) could be compensated by higher remuneration of some key employees (*premia* wages). On the impact of labour mobility on remuneration levels of employees, see Annex 24.

135 As Lemley points out, "*if any idea, no matter how public, is subject to a claim of legal rights [in this case, pursuant to a contract], individuals and companies will reasonable worry about using any information they do not themselves develop*." Lemley (2008), p. 338.

136 The economics literature highlights the importance of job mobility/entrepreneurship of skilled staff for knowledge spill-overs. See Annex 24.

137 See for example Flagship initiatives "Youth on the move" and "An Agenda for new skills and jobs" of the Europe 2020 initiative (European Commission (March 2010)), or the Communication "A Reinforced European Research Area Partnership for Excellence and Growth" (European Commission (July 2012a)).

138 European Commission (2011), p.3. Concerning business R&D expenditure, the 2013 Innovation Union scoreboard reveals the second largest gap between the EU and the US and the biggest between the EU and Japan and South Korea respectively (even if the gap on this indicator has somehow narrowed for US and Japan).

139 European Commission (2011), p.10.

The European chemical industry has highlighted that the fragmented legal protection of trade secrets against misappropriation could lead to a "*loss of confidence in the entire internal market, lowering investment and innovation and threatening the competitiveness of all European companies*"[140]. Moreover, the Commission has identified a low level of cross-border cooperation in R&D in the Union as an important reason for this innovation gap, as many national economies in Europe are too small to support stand-alone R&D at national level[141]. In this context, the EU's policy goal is to increase investment in R&D (3% GDP target) in order to increase growth. Any inefficiency in the allocation of businesses resources to (cross-border) innovative activity (such as those identified in Section 2.2.3) could, *ceteris paribus*, contribute to undermining this goal[142].

Any adverse impact on the Union's competitiveness in the area of innovation weighs heavily on its economic prospects as, given its scarceness in terms of natural resources and relatively high costs of labour, knowledge and knowhow are seen as the factors in which the Union possesses a comparative advantage vis-à-vis the other regions of the world. A quote from the USTR which aptly summarises the chain of the effects of trade secret misappropriation on the U.S. therefore applies equally to the EU: "*If a company's trade secrets are stolen, its past investments in research and development, and its future profits, may be lost. Moreover, trade secret theft threatens national security and the U.S. economy, diminishes U.S. prospects around the globe, and puts American jobs at risk*."[143]

Fewer (innovative) products and services and potentially higher prices. Although misappropriators might sell their resulting goods cheaper than the original trade secret owner in the short term, they might exploit their market power in the same way as the owner did, once he has been forced out of the market. But what is more, it cannot be expected that misappropriators would replace the innovator as well in the development of new products in the future. However, if this does not happen, and if the innovator does not continue its innovative activities because of low prospects to market them successfully in the face of misappropriation, then the overall level of innovation will be reduced, leading to less/inferior choice for consumers and potentially higher prices of goods and services.

Stakeholders' perception. Respondents to the 2013 Public Consultation do not have a uniform view on whether divergent national protection of trade secretes against misappropriation has an impact when carrying out business across Member States (question I.7): 62,5% of the respondents identified at least one negative impact resulting from different national laws on the protection of trade secrets against misappropriation, whereas 34% do not see any negative impact. This latter perception comes essentially from non-industry stakeholders (67% of the responding citizens believed that there are no impacts; while less than 10% of the responding companies shared that view). It appears from other responses to the 2013 Public Consultation that the vast majority of responding citizens do not attach economic importance to trade secrets and would not share the view that they are important for innovation. Several of them also expressed negative views about the role of intellectual property generally (intellectual property is seen by certain sectors of civil society as imposing unnecessary or

140 CEFIC (2012), p.12.

141 European Commission (July 2012a).

142 To be sure, innovation and the commercialisation of innovation are highly complex (decision-making) processes which are influenced by many factors other than the uneven legal protection of trade secrets in the EU; e.g. taxation, public subsidies to R&D activities, education of workforce etc. However, the fragmented legal protection certainly creates friction in the system and contributes to tie resources in unproductive protective measures and/or to dissuade innovative activity.

143 USTR (2013), p. 13.

unacceptable limitations on their freedom and fundamental rights) which could explain their negative views on trade secrets and their fear that this initiative on trade secrets could lead to the creation of a new *sui generis* intellectual property right. This impact assessment will try to address those civil society concerns, in particular: (a) this initiative is not about creating a new intellectual property right, as explained below in Section 4 on policy options (e.g. independent research and reverse engineering remain possible); and (b) this initiative will not limit fundamental rights, as explained below in Sections 5 and 6 on impacts and Annex 21 on fundamental rights).

2.3. Baseline scenario

In a knowledge economy, the amount of valuable proprietary information and the value of businesses intangible assets increase continuously[144]. However, not every innovation or knowledge can be patented, nor are patents an efficient form of protection in all cases[145]. With the lowering of entry barriers for manufacturing that globalisation, technology and outsourcing have brought, trade secrets appear to protect most of the knowledge from which businesses derive competitive advantages. About half of the respondents to a recent innovation global survey believe that the development of new business models (which are typically protected as trade secrets) would contribute more to their businesses' performance in the future[146]. According to this survey, business leaders recognise that growth strategies rooted in linear thinking (first creating a product and then continuing to advance it) will, on their own, be insufficient to achieve long-term goals in a complex, globalised world[147]. This implies that the importance and value of information protected as trade secrets are likely to increase in the future. At the same time, important factors influencing the misappropriation of trade secrets (e.g. globalisation, increased outsourcing and longer supply chains, increasing reliance on information and communication technology, etc. – see Section 2.1.2) are not likely to diminish in relevance. As a result, misappropriation trends are unlikely to decrease *per se*. On the contrary, they are expected to increase. According to a representative telephone survey of 400 German managers by the consultancy Ernst & Young in July 2013, while considering the current threat level to be relatively low, three quarters of the managers expected the threat of industrial espionage and data theft to increase for their company in the future. For the economy as a whole even 9 out of 10 expect such an increase.[148] According to recent counterintelligence research in the US, "*[e]merging trends indicate that the pace of economic espionage and trade secret theft against U.S. corporations is accelerating*"[149]. And the 2013 Special 301 Report of the USTR also "reflects increased emphasis on the need to protect trade secrets".[150] In a recent global innovation survey,

144 For instance, the intangible assets of the S&P500 companies constituted 17% of the companies' total value in 1975, 32% in 1985, 68% in 1995, 80% in 2005 and 80% in 2010; cf. Ocean Tomo (2011). See also Annex 1 and OECD (May 2012).

145 Searle (2010a), p. 257, notes the increasing costs of defending patents (because of patent trolls and aggressive patent enforcement), suggesting that these costs could drive smaller firms to use trade secrets even more intensively.

146 GE & Strategy One (2013), p. 4. Survey based on interviews with 3100 senior business executives in 25 countries, of which 6 EU Member States. The percentage of respondents in the 6 EU Member States who agreed with that statement were: Germany (32%), Ireland (64%), Netherlands (44%), Poland (53%), Sweden (49%) and the United Kingdom (47%).

147 *Ibid*.

148 Ernst & Young GmbH (2013); although data theft is not necessarily the same as theft of trade secrets, the overlaps are considerable.

149 US (2013), p. 1.

150 USTR (2013), p.13.

41% of respondents identified "*protecting trade secrets*" as the most pressing need when asked about the main priorities their country should focus on to efficiently support innovation[151].

In the absence of an EU initiative, it is predicted that no voluntary convergence of national civil rules will take place within the EU[152] and that the level of civil protection against the misappropriation of trade secrets is unlikely to be improved systematically at national level[153]. This is evident from how the adoption of the TRIPS Agreement in 1995 has not led to any particular convergence in the EU Member States' approaches to the civil law protection of trade secrets against misappropriation. Only Sweden enacted legislation specifically addressed at trade secret protection (but it did it before the TRIPS Agreement was adopted) while most of the other Member States simply rely on their general tort or unfair competition law. This fragmentation effect described in Section 2.2 is therefore likely to continue. Given the increased importance of trade secrets, it is expected that major trading partners with a high level of protection against misappropriation of trade secrets will advocate for harmonised legal protection against trade secrets misappropriation within the EU in the context of the negotiations of future bilateral trade agreements[154]. However, considering the TRIPS Agreement experience, it is not likely that future bilateral trade agreements could result in sufficient national convergence without EU intervention. Convergence in criminal law (not required by the TRIPS Agreement) seems to be even less likely.

Some argue that contractual protection (confidentiality and/or non-compete clauses) "*may act to negate any differences between Member States laws*" in this area[155]. However, contractual protection cannot address the misappropriation of a trade secret by a third party not contractually bound to the trade secret owner. Physical protective measures have limitations as well, as they only make misappropriation more difficult, but once a trade secret has been misappropriated, they do not help to stop the exploitation/misuse of the trade secret by the misappropriator. Existing intellectual property rights can only provide protection to valuable innovative information when such information comes into the (restricted) scope of protection of those rights[156].

Therefore, in the absence of EU action, the adverse consequences resulting from the misappropriation of trade secrets will remain insufficiently and unevenly addressed by the legal means made available to owners of trade secrets for their defence by EU Member States. In addition, the deterrent effect of existing national rules protecting against misappropriation of trade secrets will continue to be low. The detected problems as well as their consequences (see Section 2.2) will therefore remain or, probably, increase over time.

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151 GE & Strategy One (2013), p. 6. Survey based on interviews with 3100 senior business executives in 25 countries, of which 6 EU Member States. The percentage of respondents in the 6 EU Member States who agreed with that statement were: Germany (40%), Ireland (34%), Netherlands (23%), Poland (40%), Sweden (25%) and the United Kingdom (41%).

152 One reason might be that Member States fear the adjustment costs that would result from unilateral changes in their law and hope for EU harmonisation based on their current regime. Furthermore, Member States with a low level of protection may have little incentive to upgrade their legislation if they have hope that a low level of protection might help them attract investment. However, at this stage, this premise is not supported by evidence.

153 For instance, the debate in France about the economic intelligence problem has not led to any proposal regarding civil law protection of trade secrets against misappropriation.

154 For instance, the US administration recently stated that "*trading partners must treat trade secret theft as a serious issue*" and explained it will focus diplomatic efforts to protect trade secrets overseas. In particular, it announced that it will "*raise trade secret protections as a priority issue in all appropriate bilateral […] trade discussions*". Cf. US(2013), pp. 3 and 4.

155 Van Eecke et al. (2009), p. 317.

156 Even if in the EU (contrary to the US) databases are protected by an intellectual property right.

2.4. The EU's right to act and justification

Legal basis (see Annex 17 for a more detailed analysis). Article 114 of the Treaty on the Functioning of the European Union (TFEU) allows for the adoption of EU rules harmonising national legislation, provided that they are necessary for the smooth functioning of the Internal Market. The need to establish a sufficient and comparable level of redress across the Internal Market in case of trade secret misappropriation (while providing sufficient safeguards to prevent abusive behaviour) is at the core of the policy intervention, as far as civil law is concerned. The national rules described above provide for an uneven level of protection across the EU of trade secrets against misappropriation. They thus lower the incentives to undertake any innovative-related cross-border activity (e.g. establishment in a different Member State, supplying goods/services to a company in another Member State etc.) which would depend on the use of information protected as a trade secret[157]. They also render cross-border networking in R&D and innovation less attractive and create a higher business risk in Member States with lower levels of protection, with adverse effects on the whole of the EU economy as "resulting goods" may spread across the Internal Market. Any rules on criminal offences and sanctions (Policy Option 5) would require a different legal basis (Article 83(2) TFEU), and a separate legal instrument.

Subsidiarity (see Annex 18 for a more detailed analysis). According to the principle of subsidiarity laid down in Article 5(3) of the Treaty on European Union (TEU), action on the EU level should be taken only when the aims envisaged cannot be achieved sufficiently by Member States alone and can therefore, by reason of the scale or effects of the proposed action, be better achieved by the EU. The problem addressed in this Impact Assessment relates to fragmented legal protection of trade secrets across the EU. The objectives of the initiative to address these problems (see Section 3) cannot be achieved by Member States alone. This is shown by the continuing uncoordinated national legal approaches in this field (see Figure 2, above). In addition, national responses are necessarily limited in their geographical scope and cannot be compared with or substitute for a co-ordinated or systematic response on the EU level. EU action is particularly needed to establish a legal framework which could protect and so enhance the cross-border flow of innovation-related trade secrets among research and business partners by ensuring that the benefits of any misappropriation of such information are minimised if not completely eliminated. This flow of information is paramount for the exploitation of innovation in the EU and for R&D (see Annex 1). Thus, the inconsistencies between the different national regimes hinder the functioning of the Internal Market.

An EU action providing for civil law redress measures would fulfil the necessity test in this regard. At the same time, such EU action would not establish any specific *sui generis* monopoly/exclusive right on secret information but would be limited to provide legal redress to holders of trade secrets when those trade secrets are misappropriated by third parties.

In terms of stakeholders' perception, 52% of the respondents to the 2013 Public Consultation support EU action on the legal protection against the misappropriation of trade secrets. Box 7 shows the extent of such support within each specific category of stakeholders. Support is higher for measures based on civil law compared to criminal law (see Section 6 below).

Box 7 – Stakeholders' views on an EU initiative, 2013 Public Consultation.				
Respondent profile	**No. of respondents**	**EU should act**	**No EU action required**	**No opinion or no answer**

[157] See Section 2.2.3

All respondents	386	52%	41%	5%
Citizens	152	19%	75%	6%
Companies (including SMEs)	125	80%	12%	6%
SMEs	59	66%	22%	11%
Professionals	35	48%	40%	11%
Business associations	34	94%	6%	0%
Research entities	19	57%	31%	10%
Trade unions	4	25%	75%	0%

In terms of added value, harmonising the legal protection of trade secret against misappropriation, at least in civil and commercial law, across the EU would bring positive effects for trade secret owners. This notably includes a comparable level of legal protection ensured throughout the Union resulting in overall better protection of trade secrets (expected by 77% of the companies which replied to the 2013 Public Consultation) and easier cross border litigation (expected by 54% of the companies which replied to the 2013 Public Consultation), or a reduction of cost of protective measures for about a quarter of EU companies (expected by 26% of the companies which replied to the 2013 Public Consultation) (see Sections 5 and 6 below for a more detailed assessment of impacts). Such harmonisation efforts are in general better achieved by EU action than by Member States action. Similar lessons come from third countries with a federal structure have federal legislation addressing trade secrets or are currently considering doing so (see Annex 18). There could be additional added value in harmonising this area at EU level from an international viewpoint: (a) to provide for a coherent implementation of the EU's international obligations, i.e. TRIPS and (b) to influence (by example), in the context of trade negotiations, legislative developments in third countries having currently a low level of protection of trade secrets to the detriment of EU companies active there. The lack of harmonisation in the field of trade secrets contrasts with the field of intellectual property rights that have largely been regulated at EU level (see Annex 5), including most recently the unitary EU patent. As confidential know-how is often associated to patents and involved in patent infringement litigation, harmonised EU law regarding trade secrets would simplify future unitary EU patent-related litigation when the dispute would also involve a claim on misappropriation of trade secrets.

3. OBJECTIVES

Objectives	
General objective	Ensure that the competitiveness of European businesses and research bodies which is based on undisclosed know-how and business information (trade secrets) is adequately protected and improve the conditions/framework for the development and exploitation of innovation and for knowledge transfer within the Internal Market.
Specific objective	Improve the effectiveness of the legal protection of trade secrets against misappropriation within the Internal Market.
Operational objectives	A) ensure adequate and comparable scope of such legal protection across the Internal Market; B) provide access to a sufficient and comparable level of redress in cases of misappropriation across the Internal Market; C) preserve the confidentiality of trade secrets during and after litigation within the EU; D) increase deterrence of third parties from misappropriating and dishonestly exploiting trade secrets within the EU.

Consistency with EU policy. These objectives are consistent with existing **EU policy** on innovation and industrial policy, intellectual property, competition and fundamental rights.

(i) Innovation and industrial policy: improved legal protection of trade secrets in the Internal Market should create better conditions for knowledge transfer among innovators and reduce incentives for misappropriators' use of the free movement principles of the Internal Market as a means to maximise profits from misappropriation. The promotion of knowledge transfer throughout the Union has been identified by the Europe 2020 growth strategy as an important tool for strengthening research performance (European Commission (March 2010)). Facilitating knowledge transfer, including confidential know-how, and improving the framework conditions for business to innovate are also at the heart of the EU policy as reflected in the Commission's communications on Innovation Union (European Commission (October 2010)), on the European Research Area (European Commission (July 2012a)) and on Industrial Policy (European Commission (October 2012)). These objectives also address the need to facilitate innovation by SMEs and start-ups.

(ii) Intellectual property in the Internal Market: putting in place a seamless, integrated Single Market for intellectual property to stimulate growth and employment is the aim of EU policy, as outlined in the 2011 Commission Communication (European Commission (May 2011a)). While trade secrets are not intellectual property rights as such, they complement or substitute for such rights.

(iii) Competition: facilitating legal action in cases of misappropriation of trade secrets does not restrict the possibility for antitrust authorities to act in cases where: (a) horizontal anti-competitive restrictions are set up by economic actors when trying to protect their trade secrets[158]; or (b) a dominant firm abuses its dominant position by refusing to deal[159] or by carrying out abusive litigation to exclude competitors[160].

(iv) Fundamental rights: the objectives fully respect the fundamental rights of the Charter of Fundamental Rights of the European Union, notably the right to access to justice or the right to privacy and secrecy of communications (see Annex 21). The protection of trade secrets has been recognised as a general principle of law by the European Court of Justice[161].

Consistency with international commitments. The objectives are also consistent with international commitments of the Union and its Member States, in particular Article 39 of the TRIPS Agreement which requires its signatories to protect trade secrets (called undisclosed information in that Agreement) against misappropriation[162]. Under Article 41 of the same Agreement, signatories are called to ensure effective action against any infringement of the intellectual property rights recognised in the Agreement (trade secrets are part of that category for the purpose of the Agreement)[163].

158 See Commission Regulation (EC) No 772/2004 and European Commission (2004).

159 See European Commission (February 2009), in particular §§ 75 and seq. on refusal to supply and margin squeeze.

160 See Regibeau & Rockett (November 2011).

161 See Section A4.2 of Annex 4.

162 See Peter & de Werra (2010), p. 104 and seq, for an explanation of Article 39 of the TRIPS Agreement.

163 See Section A9.1 of Annex 9.

4. POLICY OPTIONS

Policy options. The following table presents a summary description of the policy options retained for further examination (see Annex 19 for a more detailed description).

Policy option **1**	Status quo: do nothing option (see Baseline Scenario in Section 2.3).
Policy option **2**	Provide information on and raise awareness of the existing scope of protection of trade secrets and available redress tools in case of misappropriation of trade secrets. This option consists of (a) preparing fact sheets including appropriate information on the scope of legal protection (what can be protected as trade secrets; when trade secrets are misappropriated, etc.); measures, procedures and remedies available against trade secret misappropriation in each Member State; and on the availability of arbitration/mediation procedures. The fact sheets would be made available on a website, which could be that of the EU IPR helpdesk[164] and/or the European Judicial Network[165]. As a by-product, this option could also provide information on protective measures, including contractual clauses[166]; (b) making stakeholders aware of the measures, procedures and remedies currently available at national level to obtain relief in cases of the misappropriation of trade secrets or to help preventing misappropriation occurring (specific campaigns at EU and/or national level); and (c) promoting the use of arbitration/mediation procedures to solve disputes.
Policy option **3**	Harmonisation of laws regarding the unlawfulness of acts of misappropriation of trade secrets. This option consists in defining the scope of protection of trade secrets against their misappropriation by: (a) defining trade secrets (i.e. information which is not generally known or readily accessible to persons within the circles that normally deal with the kind of information in question, has commercial value and has been subject to reasonable steps under the circumstances, by the person lawfully in control of the information, to keep it secret); and (b) establishing that certain acts of acquisition, use and disclosure of trade secrets are unlawful (i.e. the willing or negligent unlawful acquisition of the trade secret by theft, bribery, misrepresentation, breach or inducement to breach a duty to maintain secrecy, industrial espionage, and other unlawful practices; as well as the disclosure or misuse of a trade secret by a person without the consent of the trade secret holder, when such person was under a duty not to disclose it or misuse it or when that person obtained knowledge of the trade secret following an act of unlawful acquisition) in a way that is consistent with the TRIPS Agreement. Under this option, Member States would also be called to ensure that their national rules provide for measures, procedures and remedies, available to trade secret holders, in case of misappropriation; including measures to preserve the confidentiality of trade secrets during and after the legal proceedings. The detailed implementation of those measures, procedures and remedies would, however, be left to Member State, subject to a general requirement on Member States to ensure they are fair, equitable and proportionate, and are applied in such a manner as to avoid the creation of barriers to legitimate trade and to provide for safeguards against their abuse.
Policy option	Harmonisation of national civil law remedies against misappropriation of trade secrets.

164 www.iprhelpdesk.eu

165 http://ec.europa.eu/civiljustice/index_en.htm

166 There is already guidance at EU level on contractual protection, including model non-disclosure/non-compete clauses. See for instance, the templates made public by the European IPR helpdesk: https://www.iprhelpdesk.eu/library/useful-documents?=Apply See also Expert Group on Knowledge Transfer (2009), p. 197, on model agreements for technology transfer.

4	Firstly, this option integrates Option 3 as regards the scope of protection of trade secrets against misappropriation. Secondly, Member States would be required to establish principles-based minimum harmonisation rules on civil law remedies allowing to obtain relief in case of misappropriation of trade secrets. These rules would in particular address the availability of (a) provisional and definitive injunctive relief; (b) prohibition of imports of "resulting goods" from third countries; (c) corrective measures (i.e. destruction of goods violating the misappropriated trade secrets, delivery up of copies of documents containing the trade secret etc); and (d) rules on the calculation of damages for the compensation of the prejudice suffered from the misappropriation of trade secrets (i.e. allowing the judicial authority to calculate damages on the basis of a fictitious royalty fee, similarly to Article 13 of Directive 2004/48/EC). Thirdly, Member States would be required to establish minimum harmonisation rules on the preservation of confidentiality during and after the litigation on misappropriation of trade secrets, while ensuring the conditions for a fair trial. In particular, the rules would address: the protection of trade secrets included in any document (i.e. evidence) submitted during the judicial proceedings; the carrying out of in-camera hearings to the exclusion of the general public; a confidentiality obligation for the parties and persons involved and other persons assisting or participating in the proceedings; and the preparation of non-confidential versions of relevant documents and judicial decisions. Fourthly, Member States would be required to establish specific safeguards to ensure a proportionate application of the law by judicial authorities, by balancing different interests at stake, when deciding on the granting of these measures and remedies. Fifthly, the general anti-abuse clause in Option 3 would be complemented by a requirement to sanction manifestly abusive behaviour during litigation.
Policy option **5**	Harmonisation of national civil law and criminal law remedies against the misappropriation of trade secrets. This option builds on Option 4 and adds a requirement for Member States to criminalise certain acts of misappropriation of trade secrets (i.e. unauthorised use or disclosure of trade secrets and business/industrial espionage and to establish an effective penalty framework for those offences (i.e. maximum penalties to be set at least at 2 and 4 years imprisonment respectively).

Legislative or non-legislative character of options. Option 2 is a non-legislative option (e.g. a Commission Communication). Options 3, 4 and 5 are in principle legislative options: Options 3 and 4 would require the adoption of a single legal instrument; and Option 5 would require the adoption of two legal instruments (one for the civil law rules and another one for the criminal rules). However, it could also be conceivable to employ a non-legislative solution (e.g. a recommendation to Member States) for Options 3, 4 and 5. Section 6 addresses the choice of legal instrument(s) and the underlying reasons.

Discarded policy options. Other policy options have also been considered: uniform EU rules (i.e. maximum harmonisation) on civil law remedies against misappropriation of trade secrets; regulation of protective measures which trade secret holders would be required to adopt to protect their trade secrets against possible misappropriation; uniform rules applicable to non-compete clauses and/or to non-disclosure clauses between the trade secret holder and its employees and/or business partners who have access to trade secrets[167]; extension of the scope of existing intellectual property rights and/or creation of *sui generis* intellectual property rights[168]; and extension of the scope of the

[167] 55% of respondents to the 2013 Public Consultation did not support uniform contractual rules on non-compete and/or non-disclosure clauses.

[168] E.g. copyright protection was extended in the Union to databases although this has not been done in other countries, such as the US (where databases are considered trade secrets).

Regulation on customs enforcement of intellectual property rights to include trade secrets misappropriation. However, these options have not been retained for further examination, mostly for lack of effectiveness or proportionality (see Box 8 for one of these discarded options and Annex 20 for further explanations on the reasons for excluding those options).

> ***Box 8 - Possible extension of the scope of existing intellectual property rights and/or creation of sui generis intellectual property rights to protect trade secrets as subject matter.***
>
> This possible option has not been retained for further examination for the following reasons.
>
> (1) There is little (if any) justification supporting the need for creation of additional monopoly rights. The extension of the scope of existing intellectual property rights or a *sui generis* intellectual property right on trade secrets could hardly cover the whole spectrum of valuable information currently protected by secrecy[169]; therefore this option would result in over protection for some trade secrets and under protection for others[170].
>
> (2) A monopoly right would not allow for distinguishing between the misappropriation of information and the mere acquisition of knowledge (e.g. by reverse engineering or by parallel discovery).

Proportionality. Under the principle of proportionality (Article 5(4) TEU), the content and the form of EU action shall not exceed what is necessary to achieve the objectives of the Treaties. The initiative under consideration is proportionate to the problems detected and the objectives set. It takes into account that *this is not a 'greenfield area' and that there is national legislation in place*. The policy options retained for further examination constitute a proportionate range of possible EU action: from an informative action to a harmonisation of rules in the civil and criminal law areas. At the same time, they do not go beyond what is necessary to achieve the objectives. While they would facilitate the legal redress across the EU against acts of misappropriation of trade secrets, thus trying to ensure that wrongdoers will not benefit from the misappropriation,[171], *these options do not create any exclusive or monopoly right for the benefit of the trade secret holder. Innovation through parallel invention and reverse engineering remains possible* and competition is therefore not impaired. The proportionality of preferred option(s) will be analysed further below while evaluating their respective impacts.

5. ANALYSIS OF IMPACTS

This section analyses the main impacts of the options presented above[172]. For Option 1 (*status quo*), see the 'baseline scenario' (Section 2.3) and Section 2.2.4 of the problem definition. In contrast to Option 2, Options 3 to 5 would normally require legislative changes at national level and the following analysis assumes that this would be the case (either following the enactment of EU rules or because of the voluntary implementation of a Commission Recommendation; see below Section 6.3 on the choice of legal instrument).

169 Granting a patent right or creating a *sui generis* right covering strategic business information, even if valuable to its holder, appears disproportionate.

170 Lowering patentability standards would create problems for the examination of patent applications.

171 It is noted that the options retained are enabling rather than prescriptive in character: they would grant trade secret owners easier access to redress against misappropriation of their trade secrets, without imposing any particular solution; trade secrets owners would remain free to choose between going to court, using arbitration proceedings or relying solely on protective measures.

172 It must be noted that the exact impact of options would depend on the type of trade secret misappropriated and the efforts to maintain it secret before misappropriation.

5.1. Impacts of Option 2

Member States' legal frameworks. An information and awareness action would have no direct impact on the different national laws currently in place. Some Member States might, however, react with amendments of their laws to the provision of information.

Trade secrets owners. In any event, knowing about one's rights is obviously a necessary precondition to ensure that they are properly enforced. Option 2 would therefore lead to a certain improvement in the situation for trade secrets owners, in particular SMEs, compared to the *status quo*, as they would be better informed about the scope and extent of protection of trade secrets against misappropriation and redress procedures available to trade secret owners. This would not only hold for their home country but also for other Member States thereby reducing the costs and risks involved in expanding business across borders. Even if the legal protection would not improve, better knowledge about it should allow trade secret owners to take better informed decisions and they could become more open to engage in cross-border activities involving trade secrets[173].

Innovation, Internal Market and Competition. Since this option does not result in a reduction of the risk associated with the cross-border sharing and exploitation of trade secrets, it is unlikely to have direct impacts on **innovation** compared to the *status quo*. However, as information about the legal protection of trade secrets in Member States would be easier accessible, the (cost) barrier and uncertainty for trade secret owners to engage in cross-border innovation activities should be reduced, which could lead to a slight increase in the level and quality of innovative activity in the Union. For the same reason, Option 2 might also have a slight positive impact on the **Internal Market**. It cannot be expected that this option will have a significant impact on **competition** compared to the baseline scenario; and it would not lead to material changes of the *status quo* regarding **economic growth within the Union**.

Social impacts and consumers. Option 2 is unlikely to have direct social impacts (employment levels, income) at macro level. An information and awareness action on the existing laws of Member States protecting trade secrets would not directly impact the **mobility of employees** of trade secret owners either. Any litigation regarding non-compete or non-disclosure covenants would be governed by the law of contractual relationships and not by other laws. Indirectly, employees who are better informed about whether the use of particular knowledge could result in a misappropriation of a trade secret could be influenced in any decision to change employer within the Internal Market or to set up their own business. However, it is not likely that better information on its own will result in relevant increases in job mobility. Option 2 could result in increased transparency for **wider civil society**. The low level of additional innovative activity resulting from this option is not likely to provide **consumers** with significantly more choice of innovative products and services.

Third countries. Option 2 is not expected to have direct impacts on third countries.

5.2. Impacts of Option 3 (and impacts common to Options 3 to 5)

Options 4 and 5 comprise all elements of Option 3. Thus, the impacts of Option 3 would also be triggered by Options 4 and 5. The main differences would lie in the strength and likelihood of these impacts to materialise. This will be discussed in the respective sections below.

[173] Equally, the reverse could also be true. Given the fragmentation of the legal protection, better information on it might have a chilling effect on cross-border activities.

Member States' legal frameworks Option 3 would lead to a harmonisation of what information qualifies as a trade secret and of the scope of protection it enjoys (in civil law) across Member States[174]. Therefore, it would have an important impact on Member States' legal frameworks (civil law only), as Member States will need to either align their existing definitions of trade secrets (ten Member States) or to adopt such definition from scratch. The definition of a trade secret in Option 3 will match that of the TRIPS Agreement and not be narrower than existing national definitions (see Section 2.2.2). Therefore, this option will not result in a narrower protection of trade secrets than that provided in the national laws.

In this context, 35% of the respondents to the 2013 Public Consultation invoked the risk of EU rules endangering the current balance between labour, civil and criminal law at national level. This is a particular feature underlined by three responding Swedish Trade Unions, which fear the interference of EU rules with collective agreements between companies and trade unions. The Swedish Government[175] seems to sustain a similar view. However, based on further discussion of the issue, this concern seems to be unjustified as far as the impact of the convergence of the civil law rules is concerned. Options 3 to 5 (civil law aspects) will not have any direct impact on contractual freedom and contract law: contractual relations, whether among companies or between companies and their employees, will remain untouched. These options are also neutral with regard to labour law: they will neither require Member States to establish in their (labour) law a confidence duty on employees nor prohibit Member States from doing so. The convergence is neutral in this respect.

***Trade secret owners*.** Harmonised rules of Option 3 will provide greater legal certainty at the EU level in respect of the scope of protection of trade secrets[176]. The future role of the European Court of Justice in providing uniform interpretation of the EU rules will greatly contribute to this (in the US, this is the main argument being made to enact civil law protection at federal level)[177]. Over time, relevant case law would build up for a better interpretation of the envisaged EU rules in specific

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174 The convergence of the civil law rules could simplify complex cross-border litigation in which a judge would be called to apply foreign law as applicable law (which could indeed be a result of the combined application of the Brussels I and Rome II Regulations). If national rules are harmonised, the judge would apply foreign civil law rules largely similar to those of the forum. The convergence in the definition of a trade secret would also result in applying the same concept both for procedural rules (for the purposes of protecting the trade secret during proceedings) and for remedies-related rules, which, as outlined before may not be from the same Member State in the course of the same case.

175 The reply from the Swedish Ministry of Justice to the 2013 Public Consultation underlined that the protection against the misappropriation of trade secrets involves not only economic issues but also "*difficult and sensitive issues of how EU legislation would interrelate with national rules on labour law, whistleblowing and freedom of expression*". Sweden proposed that further consultation is carried out on those issues before any decision is taken concerning a legislative initiative.

176 43% of the respondents to the 2012 Industry Survey believe that convergence of EU rules would bring greater legal certainty. See Figure 7.
It is noted that the benefit of improved legal certainty at national level would depend on how well the definitions were drafted in the EU law. There is the risk that, at least in some Member States, the harmonisation of rules would lead to a neutral change in the law, and thereby some costs without significant benefits, or even to a reduction in the level of protection if the new EU definitions were less clear or appropriate than the ones in the national law. At the same time, the benefit of harmonisation in the form of a level playing field and reduced search costs and increased cross-border activities involving trade secrets would materialise in any case.

177 In the US, the possible intervention of the Supreme Court to interpret federal rules is one of the main arguments raised in support of the enactment of federal rules on civil redress against misappropriation of trade secrets, since the current uniform State Act is subject to separate interpretation by 47 state supreme courts.

situations[178]. Two main consequences follow, bringing positive impacts on trade secret owners (Figure 6 schematically illustrates these impacts, which would be common to Options 3 to 5).

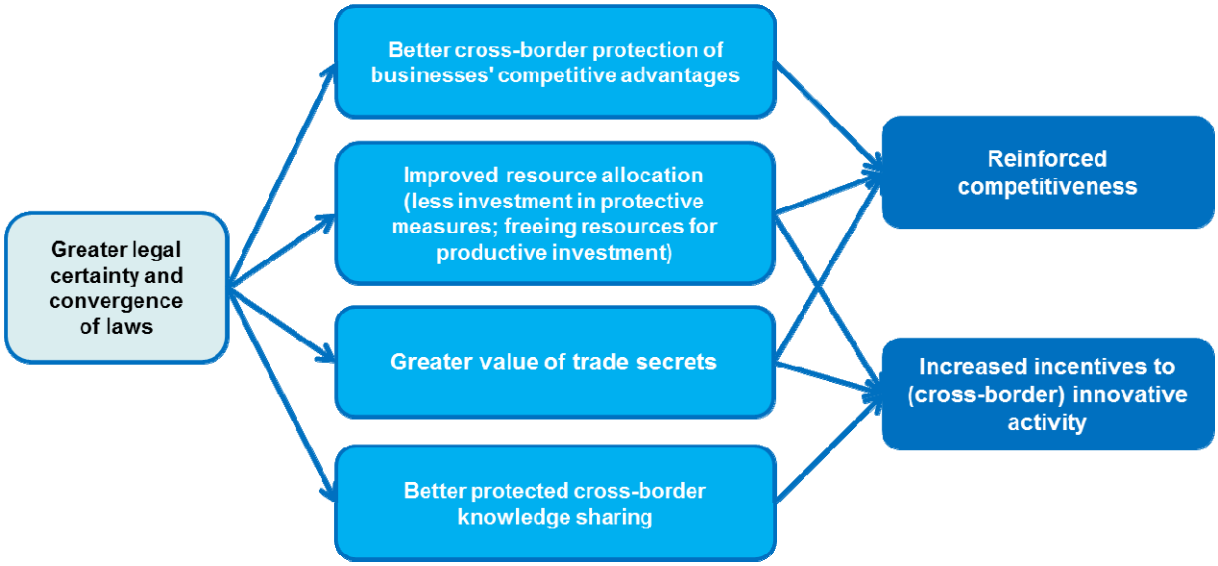

Figure 6 – Common impacts on trade secrets owners of options 3 to 5.

Firstly, businesses' competitiveness within the EU would be reinforced.

– (i) A comparable legal framework to stop third parties from using/exploiting the misappropriated trade secrets within the EU should result in better cross-border protection of the competitive advantages that trade secret holders derive from their trade secrets. Trade secret holders seem to be convinced of the increased protection that EU law could bring: 77% of the companies that replied to the 2013 Public Consultation believe that better protection against the misappropriation of trade secrets would result from EU rules[179] and 54% believe that litigation in other Member States would improve[180]. The expected deterrent effect of the rules is also an important element of the protection. Businesses see the increased deterrent effect as the most important positive factor arising from EU rules in this area: 49% of the positive replies in the 2012 Industry Survey[181], see Figure 7.

– (ii) In addition, thanks to the convergence of national laws on the legal protection against third party misappropriation, trade secret owners would be in a better position to protect their trade secrets in the Internal Market. Firstly, they could better tailor protective measures across the EU (including contractual non-disclosure/non-compete clauses). Secondly, costs of investigations on the legal regime in other Member States (information costs) would logically be reduced. Thirdly, it is likely that, at least some, trade secret owners could afford investing less in protective measures: 26% of companies which replied to the 2013 Public Consultation believe that the convergence of EU law could result in less expenditure for companies' specific protective measures[182]; and 22% of the replies to the 2012 Industry Survey

178 This impact would only materialise if Option 3 (or Options 4 or 5, as appropriated) is integrated into EU law, but not in case of a non-legislative instrument.

179 46% of all respondents share this view.

180 34% of all respondents share this view.

181 Deterrence is highly ranked in the Chemical (73%), Motor Vehicles (61%), Pharmaceuticals (61%), Advertising (57%), Machinery (55%), Wholesale trade (54%) and Legal (50%) sectors, while it is less highly ranked in the Telecom (28%), Electricity (30%) and Information services (30%) sectors. See Baker & McKenzie (2013), p. 133.

182 19% of all respondents share this view.

believe that such convergence would result in less resources spent, by their own companies, on trade secret protection measures (see Figure 7). The importance of such savings in protecting measures, for those trade secret holders, is not easy to estimate as it would depend on different factors: the size of the company; the sector in which operates; the importance of the trade secret; the fact that the trade secret holder would need to show, in case of litigation, that he took reasonable measure to protect his trade secrets. This implies that some investment in protecting measures would be unavoidable and that savings are likely to be of moderate nature.

This could improve the allocation of resources from unproductive expenses to pre-empt misappropriation to more productive use, including for innovation purposes (see next paragraph). This beneficial effect would be disproportionately high for SMEs. SMEs usually do not have the financial means to seek sophisticated legal advice regarding the protection of trade secrets against misappropriation when they plan to expand activities into other Member States. In addition, SMEs are often among the most innovative companies (e.g. start-ups) that (have to) rely extensively on trade secrets[183]. This improved cross-border legal protection of trade secrets against misappropriation (and the underlying competitive advantages), combined with a more efficient allocation of resources and the expected increase of value of trade secrets (see next paragraph) should reinforce competitiveness of businesses in the EU. This conclusion is supported by economic research on the use of trade secrets by companies as a tool to enhance their competitiveness (see Annex 7).

Secondly, there would be greater incentives to innovate[184].

– (i) Because of the increased legal certainty and the convergence of rules across the EU the current risk that misappropriation of a trade secret could not be stopped within the EU would be reduced. This has positive effects on the value of trade secrets: when the risk of losing trade secrets is lower for companies, the expected value of the trade secret increases[185]. Option 3 would also establish a general principle requiring Member States to ensure that courts take appropriate and proportionate measures to preserve the confidentiality of trade secrets during and after civil law proceedings. A common definition of the scope of protection of trade secrets against misappropriation, both for the purposes of seeking legal remedies and the preservation of confidentiality during litigation, ensures that no further divergences would arise in cases where the applicable law to a trade secret misappropriation was different from the procedural rules of the forum. In this manner, trade secrets owners would not risk their trade secrets becoming public if they chose to go to court. Without such reassurance the greater legal certainty that would be achieved by the scope of protection might not help trade secrets owners, as they would not go to court because of the risk that the breach of the trade secrets

183 43% of the companies which replied to the 2013 Public Consultation believe that EU rules on the protection of trade secrets could bring better conditions for SMEs to raise funding or venture capital. 27% of all respondents agree.

184 Obviously, there are other factors that provide incentives to innovation. However, the importance of legal protection of trade secrets as a mechanism to appropriate innovation results has been largely demonstrated by economic research (see Annex 6).

185 The 'expected value' of a good weighs the value one expects the good to acquire with the likelihood with which this value is expected to materialise. In a simplified example of the current context, the expected value of an innovation based on a trade secret would be the profit made from it per year multiplied by the number of years. If the gain per year is, say, 1 and is expected for ten years the expected value is 10; however, if there is a likelihood of 50% that the trade secret will be misappropriated after one year, the expected value will be reduced to 50%x1 + 50%x10 = 0,5 + 5 = 5,5.

could be aggravated in the proceedings. If trade secrets owners can rely on confidentiality during and after legal proceedings, they may be more inclined to seek legal redress against potential damages by misappropriators of trade secrets at the EU scale. This would contribute to the increase of the expected value of innovation or other knowledge/know-how protected as trade secrets[186].

– (ii) In addition, the convergence of the legal protection of trade secrets against misappropriation and the increased legal certainty should enhance the incentives to share knowledge, in particular (because of the harmonisation effect) across borders, at least for some trade secret owners[187]. Concerning the opportunities for knowledge sharing: 63% of the companies which replied to the 2013 Public Consultation think that "*safer business environment* [resulting from harmonised EU rules] *would create better opportunities for different players to cooperate in R&D and innovation projects (network/collaborative innovation as opposed to in-house innovation)*"[188]; and 24% of the respondents to the 2012 Industry Survey saw better opportunities, for their own company, to cooperate with other players for R&D and innovation, as a result of possible EU common rules on the protection of trade secrets (see Figure 7). Concerning the expected returns from knowledge sharing: 49% of the companies which replied to the 2013 Public Consultation believe that such EU rules would deliver greater returns from sharing, licencing and transferring know-how[189]; and 18% of the respondents to the 2012 Industry Survey believe that their own company would obtain such greater returns (see Figure 7).

186 It could be argued that the effectiveness of those rules would be doubtful as experience in some Member States shows that existing rules on the possibility to hold *in camera* hearings are hardly used at national level (see Annex 15). However, it is likely that the existence of EU rules in this regard would result in an increased use of these rules, because of the effect that the definition of trade secret as protected subject matter will have, on the one hand, and the expected control that the European Court of Justice will exercise *in fine*, on the other hand.

187 The external study explains that although trade secrets law may appear to encourage an excessive proprietary approach and the creation of barriers resulting in market inefficiency, the literature argues that effective legal protection encourages efficiency and circulation of innovative information. Policy objectives would be accomplished through at least two separate channels: (1) trade secrets law serves as a partial substitute for excessive investments in physical security; and (2) trade secrets law facilitates disclosure in contract negotiations over the use or sale of know-how that otherwise would not occur in the absence of such protection. Cf. Baker & McKenzie (2013), p. 2.

188 43% of all respondents share this view.

189 30% of all respondents share this view

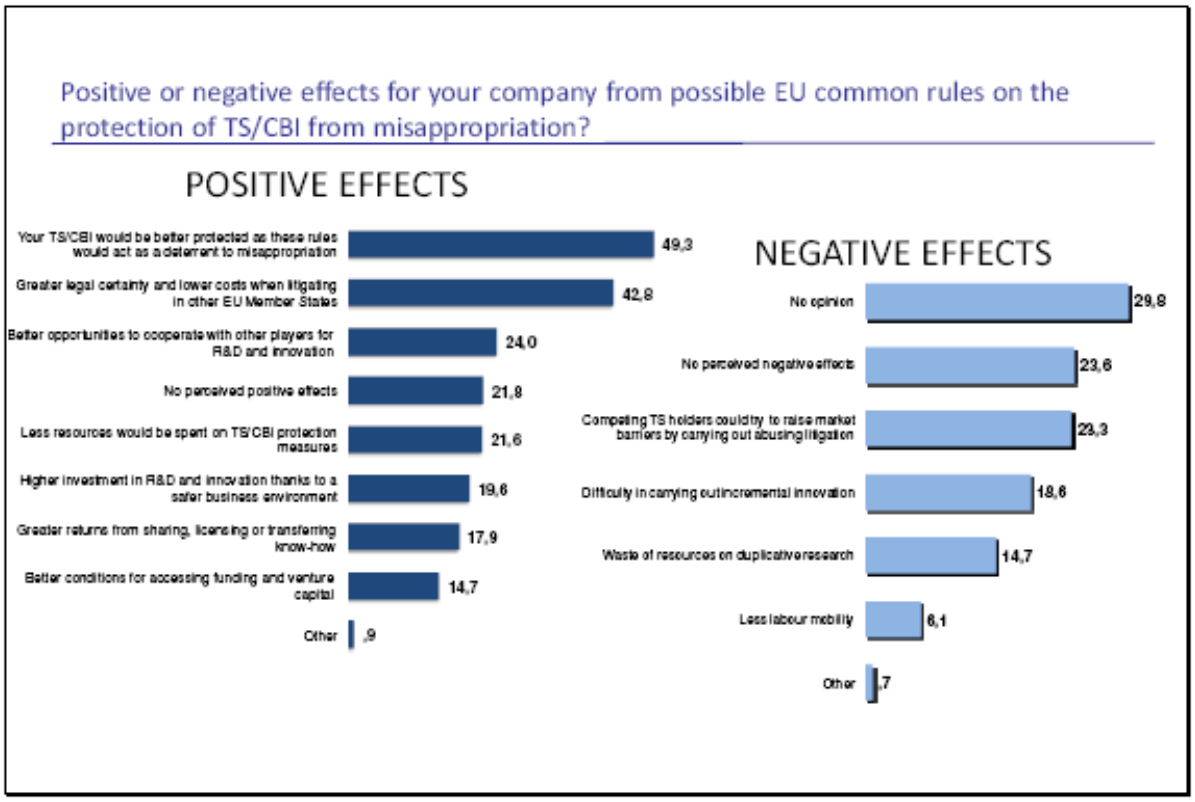

Figure 7 – Positive or negative effects from possible EU rules; cf. 2012 Industry Survey.[190]

Competition. The facilitation of legal action (Options 3 to 5) against misappropriation of trade secrets will promote a more competitive environment in the Internal Market. In a *static scenario*, competitors and business partners of trade secrets owners would benefit from these options as, thanks to the increased cross-border legal certainty and the harmonisation, they would benefit from a comparable legal framework defining in a clear manner what they can do and what they cannot do in order to appropriate themselves of trade secrets. At the same time, the scope for misappropriating competitors' to undertake economic activities on the edge of law, or to free-ride on other businesses by taking advantage of the misuse of their trade secrets, would diminish as trade secret owners could defend their rights better[191]. However, the protection of trade secrets against their misappropriation as per Options 3 to 5 should not be seen as enacting any additional barrier to entry (39% of the respondents to the 2013 Public Consultation saw the risk that litigation on trade secrets could amount to creating market barriers), since competitors remain able to develop the same innovation through lawful means, e.g. parallel independent R&D or reverse engineering. Nor would such protection have any negative impact on the freedom to conduct a business (Article 16 of the Charter, see Annex 21). Moreover, greater legal certainty and the inclusion of specific safeguards and anti-abuse clauses in these policy options (particularly Options 4 and 5, which provide for more detailed rules) should contribute to reducing the concern of honest businesses that EU rules in this area could result in trade secret holders trying to abuse the litigation rules in order to raise market barriers to competitors (23% of the responses of the 2012 Industry Survey selected this factor as the most important possible negative effect of the rules, see Figure 7; also 36% of the respondents to the

190 "TS/CBI": trade secrets/confidential business information.

191 In practice, unlawful competitors may be blocked by a trade secret owner defending his rights.

2013 Public Consultation highlight this risk)[192]. In a *dynamic* scenario, better protection of trade secrets against their misappropriation will encourage innovative activities (rather than facilitating free-riding activity which relies on unlawful copying with little added value involved) and increase the competitiveness of the EU economy. Honest competitors/business partners would also benefit from those opportunities.

Innovation. Options 3 to 5 should better ensure that benefits resulting from an innovation can actually be enjoyed by the innovator. This should lead to a reduction of the wasteful employment of business resources[193] to protect trade secrets and should further increase businesses' incentive to innovate and to create the most efficient cross-border innovation networks (knowledge sharing). This, in turn, should logically result in a certain increase in innovation in the EU (see Figure 8)[194]. Empirical data tend to confirm these hypotheses:

– Firstly, trade secret owners believe that investment in innovation will increase: 55% of the companies which replied to the 2013 Public Consultation believe that a "*better legal protection of the results of innovative activities would trigger more investment in R&D and innovation*"[195]; and 20% of the companies which replied to the 2012 Industry Survey believe that they would invest more in R&D and innovation because of the convergence of EU rules (see Figure 7). There are views, however, that legal protection of trade secrets could lead to waste of resources in duplicative research and make incremental innovation more difficult: 36% of the respondents (mostly citizens or non-industry stakeholders) to the 2013 Public Consultation support that view. It seems, however, that this view is not shared by those directly affected: only 10% of the companies replying to the 2013 Public Consultation believe that there would be waste of resources in duplicative research and only 11% believe that incremental innovation would be made more difficult.

  Non-industry views are often based on the belief that patent protection is preferable as it results in disclosure of inventions for the benefit of society, thus avoiding duplication of research and allowing to build on others' inventions. However, this reading of patent and trade secret legal protection seems to be overly simplistic. There is duplication of research in the patent environment (e.g. patent races) as well. The consequences are often more severe than in the case of trade secrets as the winner takes all the benefits (i.e. a monopoly on the invention) and the losers not only lose their R&D investment but have to pay licence fees to the winner for the use of the patent[196]. Economic research suggests that patent races are the rule rather than

192 Indeed abusive litigation could undermine the overall trust in the legal protection of trade secrets across the EU. In the 2012 Industry Survey, 11% of respondents reported to have experienced, as defendants, abusive litigation within the EU by a competitor trying to intimidate that company with a false accusation of misappropriation of trade secrets in the past 10 years (60 out of 537 companies). This problem would be particularly significant in the Motor Vehicles (33% of respondents), Chemicals (19%) and Pharmaceutical (18%) sectors. Baker & McKenzie (2013), p. 131.

193 As explained by Baker & McKenzie, "*[t]rade secret protection policies that help to reduce the resources expended by firms on such controls assist firms in maximising the returns to innovation investments. Considered in this light, trade secret protection plays an important role in innovative efficiency and encouraging the disclosure and dissemination of inventions beyond levels that would not be overcome were this protection not available*". Baker & McKenzie (2013), p.3.

194 Ottoz and Cugno (2011) and Png (2012) have shown (using comprehensive US data sets) that legal protection of trade secrets has a positive effect on R&D, in particular in high tech industries. See Annex 6 and Annex 24.

195 36% of all respondents share this view.

196 Furthermore, the winner-takes-all nature of patent races can lead to early registration of patents at a lower level of invention and disclosure than would have been preferable for society at large.

the exception and the "sole inventor" notion is a myth[197]. In a trade secret protection environment, any investment in R&D is directly exploitable by the innovator (e.g. two competing companies may have the same trade secret), as long as he has not misappropriated knowledge of another party. In other words, even if there is duplication in research, all parties may exploit their own investment because there are no monopoly or exclusive rights granted.

Concerning the question of incremental innovation, legal protection of trade secrets does not make incremental innovation as such more difficult: on the one hand, in the absence of monopoly or exclusive rights, the trade secret holder is encouraged to carry out constant innovation as a trade secret will in the vast majority of cases guarantee little more than a first-mover advantage; on the other hand, competitors of the trade secret holder are incentivised to develop their own research. In addition, recent economic research shows that the positive impact of patents descriptions on knowledge spill-overs has been somewhat over-emphasized[198].

– Secondly, trade secret owners also believe that cross-border cooperation in innovation (network innovation) within the Internal Market will increase[199]. Indeed, the positive impact of the legal protection of trade secret against misappropriation on knowledge spill-over and the dissemination of information, which are essential to innovative activity, as well as on socio-economic welfare, is recognised by economic research[200]. It should be noted that such knowledge spill-overs may not only result from collaboration between firms, but also from the mobility of skilled labour However, stakeholders views about the actual magnitude of the impact are split: 40% of the respondents to the 2013 Public Consultation found that greater legal certainty and easier enforcement of EU rules protecting trade secrets would encourage the exchange of intellectual property across borders in the EU[201], while 39% of the respondents (mostly citizens) stated that research cooperation and transfer of know-how across borders in the EU will not increase much as other factors hamper such activities much more and would not be solved.

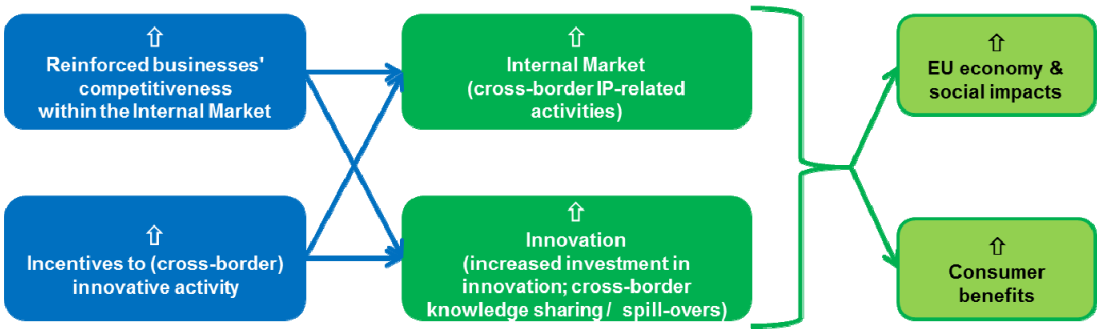

Figure 8 – Common impacts of Options 3 to 5 on innovation, internal market, EU economy, social impacts and consumer benefits

Internal Market. Establishing clear common rules to protect trade secrets against misappropriation in the Union (Options 3 to 5) would make cross-border business activities involving trade secrets (be it cooperation with other companies or direct investment in other Member States) more attractive within the Union: 72% of the companies responding to the 2013 Public Consultation found that the

197 Lemley (2012).

198 For instance, recent evidence shows that companies would prevent their employees from reading patent descriptions so as to avoid being accused of voluntary conduct in case of infringing a patent. See Hall et al. (2012), p.4. See also, Boldrin & Levine (2007), p. 187-189.

199 See Section 5.1 as regards incentives to innovate

200 See Annex 6, in particular Section A6.5.

201 This percentage increases to 66% if only replies by companies are considered.

functioning of the Internal Market for intellectual property would benefit from EU legislation on misappropriation of trade secrets[202]. Such a reliable legal framework may also have positive effects on the cross-border circulation of knowledge in case of labour mobility, thus having overall positive spill-overs effects as regards the circulation of knowledge within the Internal Market. Such enhancements (for trade secret owners and employees) should have direct positive follow-on impacts on the functioning of the Internal Market for goods and services. They would allow researchers and companies, SMEs in particular, to make better use of their innovative ideas by cooperating with the best partners across the EU.

Economic growth within the Internal Market. The incentive to innovate, and to do so more efficiently, as well as the partially reduced costs in terms of seeking legal advice or having to apply potentially excessive protective measures resulting from Options 3 to 5 should stimulate innovative activity of EU businesses and research partners at a wider EU scale, thereby contributing to increase private sector investment in R&D. This should have, over time, positive effects on the competitiveness and growth of the EU economy. This should in turn benefit the job market.

Social impacts. It is not possible to evaluate the social impact of Options 3 to 5 at a **macro level**. For any of the options the impact in terms of, say, employment levels or income will be far too small to isolate them from others. At **micro level**, these options could make it easier for (highly) skilled employees (those who create or have access to trade secrets) to change employer within the Internal Market or to set up their own business.

Indeed, the issue arises as to whether the legal protection of trade secrets against their misappropriation has an impact on key[203] **employees' ability (and right) to change jobs or to become entrepreneurs.** It could be argued that their employers could litigate more easily for alleged misappropriation of trade secrets either against leaving employees and/or against their future employers[204]. In the 2013 Public Consultation, 29% of respondents considered that EU rules could negatively impact on labour mobility. However, this perception diminishes when trade secrets owners (which can be existing employers but future employers too) are concerned: only 6% of the replies to the 2012 Industry Survey believe that convergence of EU rules could result in less labour mobility, see Figure 7. For the analysis of the impacts of the options on employees' mobility, two issues should be noted: (a) employers will often have recourse to contractual protection of trade secrets (non-compete or non-disclosure clauses) in their contracts with key employees and/or in some cases national labour law imposes a confidence duty on employees; and (b) the policy options assessed do not interfere with either contract law or labour law governing relations with employees.

It could be argued that the harmonisation effect of Options 3 to 5 (as regards civil law) could potentially have some positive impact on the conditions for labour mobility or becoming an entrepreneur of key research and management personnel within the EU. In any case, these options would not result in conditions restricting labour mobility compared to the *status quo* and thus they

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202 Mainly because greater legal certainty and easier enforcement would encourage the exchange of intellectual property across borders in the EU and because better coordination and/or harmonisation would help in deterring misappropriation from non-EU countries and make intra-EU cooperation more interesting.

203 The issue arises only as regards employees who have sufficient knowledge of the relevant trade secret.

204 For the effects of trade secret protection on labour mobility, see the summary of the economics literature in Annex 24.

would not negatively impact on the freedom to choose an occupation (Article 15 of the Charter, see Annex 21).

– Firstly, future employers would be able to better value the knowledge that mobile workers could bring in without revealing trade secrets of former employers and therefore be in a better position to offer the corresponding job opportunities.

– Secondly, a clearer and harmonised legal framework could result in the alignment of the scope of contractual protection of trade secrets to that of the law[205], thus alleviating the negative effects of over-stringent and over-resorted to non-compete clauses on employees[206]. If this happened, (i) it would reduce the theoretical risk for employees who have changed job to a competitor or decided to start a new business to be the target of disproportionate claims by their former employer for alleged misappropriation of trade secrets; and (ii) future employers would also benefit from this reduced uncertainty.

– Thirdly, increased legal certainty would possibly place an employee in a better position to assess whether the information he or she possesses would be a trade secret and if so, whether and how he or she would be allowed to deal with this information, in case he or she changes job (or becomes entrepreneur) and wants to make use of this knowledge in his/her new capacity. Thus, it could be easier for the employee in question to make the choice to work for the employer for which he feels best suited and providing the greatest added value. In view of the (expected) shortage of highly qualified innovative employees in the Union, an efficient allocation of resources would not only be very important for EU workers but would make the Internal Market also a more attractive job market for people from third countries[207].

Greater incentives to innovate resulting from Options 3 to 5, thanks to increased innovative activity, could possibly result in increasing numbers of **innovation-related (and possibly higher quality) jobs,** thus contributing to the sustainability of employment within the EU. In a dynamic setting, additional jobs will be created in the production of the goods resulting from innovations by the better incentivised employees[208]. Options 3 to 5 could have negative effects on **employment provided by free-riders** who misappropriate others' trade secret-based innovation with little added value. This free-riding activity, and associated cheap labour, is likely to be – in its vast majority – in the grey market and/or outside the EU. The net social impact would therefore be positive.

Finally, as employers are better able to defend their rights in court, the need to **monitor employees' behaviour** is less pressing. Accordingly, both the costs of monitoring and the risk of personal data protection breaches would be reduced[209].

Consumers. Options 3 to 5 should have a more significant effect on innovation and businesses' competitiveness than Option 2. Assuming economic success of at least some of these innovative

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205 Indeed, this effect would depend on the existing situation in the Member States involved. Should the harmonisation of rules lead to a neutral change in the scope of the law, this effect would not materialise.

206 See Annex 24 on the negative effect of non-compete clauses, in particular Png (2012), supporting the view that legal protection of trade secrets could have positive effects compared to the *status quo*.

207 See European Commission (July 2012a) and European Commission Staff (July 2012).

208 See European Commission (March 2010) and European Commission (October 2010).

209 This also reduces socially wasteful efforts to protect information (e.g. constant monitoring of former employees to insure that trade secrets are not revealed). See Searle (2010a), p. 19, citing Posner.

activities, this would result in greater choice and potentially lower prices for innovative goods/services for consumers[210].

Wider civil society. Options 3 to 5 will have significant positive impacts at the level of legal certainty and regarding the promotion of honest practices of trade as opposed to unfair competition. At the same time, Options 3 to 5 will not allow the use of litigation with a view to undermining the right of expression and information (in particular whistleblowing action and journalistic freedom). Therefore, they should not have negative effects on the achievement of the objectives of Article 11 of the Charter (see Annex 21).

Third countries. Better EU rules (Options 3 to 5) could be expected to have a positive impact on honest players from third countries willing to invest or carry out business in the Internal Market in the same manner and under the same conditions as an EU business would do. At the same time, these rules will negatively impact on third country economic actors who would try to misappropriate trade secrets from European companies: i.e. their activity would be unlawful.

Moreover, as regards the international rule setting on trade secrets, common rules in the EU (Options 3 to 5) could, over time, influence third countries to establish similar regimes and thereby raise the global level of protection of trade secrets against misappropriation in the spirit of the TRIPS Agreement. This would then provide better protection of European trade secrets in third countries laws[211]. In turn, this could result in increased knowledge transfer and investment vis-à-vis those third countries[212].

5.3. Impacts of Option 4

Option 4 would have the same impacts as Option 3 as described in Section 5.2. *This section deals only with the specific impacts of the civil law aspects of Option 4 which are not part of Option 3.*

***Member States' legal frameworks*.** Option 4 establishes, in addition to the elements of Option 3, specific rules on remedies against the misappropriation of trade secrets which will require most Member States to adapt (at least a component of) their civil law frameworks. The risk exists that *ad hoc* measures applicable only to trade secrets misappropriation could negatively impact the functioning of the entire justice system in the Member States. However, Option 4 rules are similar to those of Directive 2004/48/EC and already known in their national civil law systems. From the perspective of the national civil law frameworks and judicial systems, this option would largely extend the scope of existing measures to cover trade secret misappropriation and the need for national adaptation should be limited. As a result, the proposal would not cause fragmentation of

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210 More than 50% the replies to the 2013 Public Consultation believe that trade secrets are highly important for the exploitation of innovation: i.e. turning an invention into a marketable product. However, respondents do not seem fully convinced about the correlation between trade secret protection and more choice for consumers: 27% of the respondents find that trade secrets have a positive influence on consumer choices (this percentage increases to 42% in the case of companies), while 23% of respondents have the opposite view.

211 For instance, in a reply to a 2010 public consultation on the customs rules applicable to the enforcement of intellectual property rights (see Annex 13), industry representatives argued that "*European customs authorities should be able to take action in order to ensure the protection of trade secrets in a similar fashion to authorities in other WTO Member States*". Cf. TSIC (2010). Academic views have also raised the argument (cf. Broncker & McNelis (2012), p. 674).

212 Academic research shows that the developed world is more likely to share technology with countries that have at least some effective level of intellectual property protection. Cf. Lemley (2012), p. 749.

procedural rules at national level and it should not have negative impact on the effectiveness of the national judicial systems.

***Trade secret owners*.** The positive impacts of Option 3 on trade secret holders are reinforced by the additional elements regarding civil law contained in Option 4. Trade secret owners[213] would not only benefit from improved legal certainty regarding the delimitation of what would be considered as trade secrets within the EU, but also regarding the necessary actions to take to comply with the requirements. They would also be reassured that they can defend their rightful trade secrets more effectively across the EU as they could trust that available remedies would be sufficient. This would also hold in case a misappropriator uses a stolen trade secret to produce goods outside the EU with a view to market them in the EU: available remedies would allow to prohibit the imports of such "resulting goods" from third countries. Also, the reassurance that suing a misappropriator would not result in the revelation of the trade secret to the public during or after the legal proceedings would increase under Option 4, thanks to the common minimum rules on the preservation of confidentiality. Thus, the risk of losing a trade secret during litigation will be removed and at least substantially lowered. Finally, Option 4 should reinforce the deterrence effect of civil law rules on the legal protection of trade secrets.

Innovation. Option 4 is likely to have a similar but stronger impact in this regard than Option 3, because of the higher degree of convergence of trade secret laws.

Internal Market. Option 4 would better protect trade secret owners from damages resulting from misappropriation, not only in their own country, but also in other Member States. Better opportunities to defend their rights and the expectation to recover any damage incurred should provide companies with a stronger incentive to actually undertake investments to innovate and to improve their competitiveness. This dynamic impact would hold in particular with regard to cross-border activities within the Internal Market and thereby contribute to its smooth functioning. Moreover, because of the improved legal protection, there should be fewer "resulting goods" in the Internal Market, giving a further boost to business confidence and secure returns on investment by trade secret owners within the EU.

Third countries. Option 4 would in particular make sure that the import of goods, which have been produced using misappropriated trade secrets, from third countries could be stopped anywhere in the EU, thus providing a comparable level of redress against trade secret misappropriation across the EU. This feature could be particularly helpful when the misappropriation takes place outside the EU or online from outside the EU. Option 4 would, therefore, make the production of goods, which have been produced using misappropriated trade secrets, in third countries less attractive. While this might reduce the investment and employment in such illicit production it might at the same time increase the incentive for licit production in third countries thereby balancing the impact on third countries to some extent.

5.4. Impacts of Option 5 (criminal law aspects)

Option 5 comprises all elements of Option 4, as far as civil law is concerned. In this respect the impacts of option 5 will be the same. This section deals therefore only with the specific additional impacts of the criminal law aspects of Option 5.

[213] On average, 78% of the companies participating in the 2012 Industry Survey perceive some positive benefits (74% of SMEs, 85% of large firms). However, 22% of the replies do no perceive any positive impact. See Baker & McKenzie (2013), p. 131.

***Member States' legal frameworks*.** The criminal law aspects of Option 5 would require a significant alignment of Member States criminal law. Difficult issues might arise where these amendments diverge from the rules applying to offences against formal intellectual property rights. In addition, the criminal rules of Option 5 could endanger the balance between protection of trade secrets by civil and criminal law at national level (irrespective of whether that current balance is appropriate or not) referred to in Section 5.2.

Trade secret owners. The threat of imprisonment combined with more forceful prosecution represents a significant additional deterrence effect of Option 5. Thus, trade secrets owners would enjoy a more effective protection.

Innovation. While the greater deterrence of misappropriators should provide additional incentives to innovate, these might be somewhat mitigated by overly conservative behaviour of some businesses fearing criminal consequences. This could reduce their willingness to share information obtained from third parties, thus having a negative/chilling effect on overall innovative activity.

Social impacts. Similarly, the criminal law aspects of Option 5 could have a deterrent effect on labour mobility/self-employment: in case of doubt about the scope of the protected trade secret, an employee might prefer not to engage in any activity that could potentially place him or her in breach of criminal rules. In order to mitigate this risk rules would have to be as clear as possible.

Third countries. Option 5 would not have any significant additional deterrent effect compared to Option 4 regarding third country misappropriation of trade secrets, as the punishable conduct would take place outside the EU and/or the misappropriator would be located outside the EU. In the former case, the territorial nature of criminal law would prohibit prosecution, in the latter enforcement of the rules would be impossible without the cooperation of third countries, which is not guaranteed. This largely weakens the additional deterrent effect of this option, in particular against state-sponsored industrial espionage.

5.5. Other impacts: environment, fundamental rights and transparency of public administrations

Environment. None of the policy options would have a traceable impact on the environment[214].

Fundamental Rights. Option 2 does not present any impact on fundamental rights compared to the baseline scenario. Options 3 to 5 would have positive impacts as regards the right to private life (Article 7 of the Charter). In addition, Options 4 and 5 would have positive impacts on the right to an effective remedy (the essence of these options), while providing safeguards to ensure that the protection of personal data (Article 8 of the Charter) and the rights of defence and to a fair trial are not negatively affected (cf. Articles 47 and 48 of the Charter). See Annex 21 for a more detailed analysis.

Public administrations, including European institutions and bodies, as holders of third parties' trade secrets. None of the options interfere with existing rules on the protection of business secrets which are disclosed by companies to public administrations because of regulatory obligations, nor with the rules on the transparency of public administrations.

[214] However, to the extent that these options should have positive impacts on R&D and innovation and on the development of innovative businesses, they could indirectly benefit environment-related R&D and innovation. This indirect effect is likely to be higher for Options 4 and 5.

5.6. Summary of impacts and administrative burden

Figure 9: Summary of impacts of policy options	***Summary of impacts on stakeholders and economy/society as a whole****										
Policy options	Member States legal frameworks	Trade Secret owners	Innovation	Competition	Internal Market	Employees' mobility	Other social impacts	Consumers	Civil society	Third countries	Fundamental rights
1. Status quo.	0	0	0	0	0	0	0	0	0	0	0
2. Information/ awareness on existing redress tools in case of trade secret misappropriation.	0	0/+	0	0	0/+	0	0	0	+	0	0
3. Unlawfulness of acts of trade secret misappropriation	+	+/ ++	+/ ++	++	+/ ++	+	+	+	++	+	+
4. Convergence of national civil law remedies against trade secret misappropriation	++	++	+/ ++	++	++	+	+	+	++	++	+
5. Convergence of national civil and criminal law remedies against trade secret misappropriation	+/ ++	++	+/ ++	++	++	-	+	+	++	+	+

* Comparison vis-à-vis Baseline: -- significant deterioration of the situation; - slight deterioration; 0 no relevant change; + slight improvement; ++ significant improvement.

Administrative burden. None of the options would result in administrative burden for businesses, administrations or employees.

6. COMPARING THE OPTIONS

6.1. Comparison of the options

This section discusses how effective and efficient the policy options are in achieving the operational objectives. As it is not possible to quantify the impacts, this comparison has to be done primarily in a qualitative manner. Options will be compared to the baseline scenario. Figure 10 below summarises this analysis.

Comparable scope of protection. Option 2 would help mitigate some of the short-comings of the baseline scenario, in particular from the perspective of trade secret owners. However, it would hardly result in any improvement concerning the operational objectives, notably because of low likelihood that improved information and awareness raising would eventually lead to any improvements in the legal protection at national level. The potential benefits of this option are very limited and would not, as such, address the unequal protection against the misappropriation of trade secrets throughout the EU and their adverse effects (e.g. the need to develop tailor-made strategies for protecting its trade secrets in each jurisdiction in which a company is active; etc.). Therefore, there are no improvements as regards the objective to ensure adequate and comparable scope of legal protection across the Internal Market. Option 3 would go a step further by providing harmonised legal definitions of trade secrets and their misappropriation. Greater legal certainty created by this option would result in a significant improvement as regards the comparable scope of protection of trade secrets across the Internal Market regarding civil law protection. Option 4 would achieve similar results as Option 3. Option 5 would achieve a considerable convergence as regards the scope of protection of trade secrets. It would not only integrate Option 3 as far as civil law protection is concerned, but it would also go furthest in this protection by harmonising the rules that

criminalise certain acts of misappropriation of trade secrets[215]. This would constitute a very significant improvement in protection compared to the baseline scenario.

Sufficient and comparable level of redress. For the reasons explained with regard to the previous objective, Option 2 would not result in any improvement with regard to the objective to provide access to a sufficient and comparable level of redress in cases of misappropriation across the Internal Market. Option 3 merely calls Member States to provide for effective and proportionate remedies without specifying them. Hence, only a slight improvement as towards a sufficient and comparable level of redress can be expected. It would not be ensured that minimum standards would be raised effectively. Option 4 would go one step further to address the shortcoming of Option 3 as regards the legal remedies, in terms of civil law protection. To the extent that the harmonised civil law remedies would ensure that the trade secret owner is appropriately compensated for any prejudice suffered (e.g. payment of damages by the misappropriator) and that the misappropriator cannot benefit from his action (e.g. injunctions against further use of the trade secret, destruction of "resulting goods" and other corrective measures), the higher level of convergence of the rules would represent a significant improvement in terms of providing a sufficient and comparable level of redress across the Internal Market in case of misappropriation of trade secrets. With regard to this objective, Option 5 would have the same effect as Option 4 as regards civil law redress. However, the criminal law aspects of Option 5 would be less effective in improving the level of redress as criminal law protection is less effective than civil law protection in terms of stopping the unlawful use of trade secrets and obtaining compensation thereof. For the trade secret owner, the use of criminal law would have the disadvantage that the rules of burden of proof or presumptions as in civil law cases would not apply, a conviction of a perpetrator would only be possible if the judge had no doubts about the wrongful conduct ("*in dubio, pro reo*")[216]: i.e. the level of evidence required is higher. It is true that criminal law generally provides for faster and better access to evidence, as the public prosecutor and/or judge can use investigative means to have evidence produced. However, this additional benefit would be limited by the fact that the public prosecutor acts in the public interest, not in the interest of trade secret owners[217].

Confidentiality in legal proceedings. Option 2 does not result in any improvement with regard to the poor protection of confidentiality in legal proceedings. No substantial improvement could be expected from the general principle of Option 3 concerning the preservation of confidentiality of trade secrets during legal proceedings. It is unlikely that this option would lead to significantly greater harmonisation (and the degree of convergence that could be achieved would not be known in advance). There would therefore remain a risk that national rules on remedies and preservation of confidentiality of trade secrets would continue to differ significantly. These shortcomings would require trade secrets owners to analyse the legal situation separately for each Member State in which they are active in order to assess whether trade secrets could be effectively protected in court – thus information costs would be lowered but not entirely eliminated. Option 4 would be more effective than Option 3 to achieve this objective: the convergence of detailed rules will provide

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215 It should be noted, however, that the definition of trade secret misappropriation would need to be drafted with a high degree of precision to be foreseeable enough and to only catch the most blatant cases of misuse of the secret (thus resulting in a reduced scope of protection compared to civil law). Cf. Lang (2003), p. 464

216 A further problem is who would carry the burden of proof on what information is in the public domain or not. Cf. Lang (2003), p. 464.

217 It is also raised that public prosecutors select to pursue cases based on the severity of the crime and the likelihood of successful prosecution (Searle (2010a), p. 79).

certainty that their effects will materialise. Option 5 does not propose to address the preservation of confidentiality of trade secrets in criminal proceedings as it could negatively impact on the right of defence and to have a fair trial. Therefore, there is no improvement beyond what would be achieved by Option 4[218].

Deterrence. Better information and awareness actions (Option 2) may have a positive impact on the deterrent effect of the national rules in so far as it could facilitate trade secret owners' legal actions. It might, however, also have the detrimental effect of encouraging potential misappropriators when they learn about the low level of trade secret protection in a given jurisdiction. The deterrent effect of Option 3, despite the significant improvement on the scope of protection, would be moderate. Harmonisation of civil law remedies under Option 4 would be a significant disincentive for potential misappropriators in Member States where remedies are currently weak. A strong point of Option 5 would be that, by criminalising certain acts of misappropriation of trade secrets and establishing minimum rules for sanctions, it would significantly strengthen the deterrent effect of the legal protection against misappropriation. The deterrent effect of criminal sanctions is generally recognised as greater than that of civil law remedies, as people involved in misappropriation risk penal sanctions.

Overall effectiveness. Option 2 does not address the question of the consistency of the legal protection across the Internal Market, as national rules would remain as they are. Therefore this option would not address the problem in its entirety. Hence, it would be ineffective in achieving the operational objectives and, *a fortiori*, the specific objective (improving the effectiveness of the legal protection of trade secrets against misappropriation within the Internal Market)[219]. Overall, Option 3 would address only part of the provisions which are necessary to establish an effective legal framework for the protection of trade secrets against misappropriation within the Internal Market, its positive impacts would be relatively limited as trade secret owners could not rely on a sufficiently effective protection should their trade secret be misappropriated. Therefore, this option would achieve the specific objective of the measure only to a limited extent. In summary, Option 4 would create a more consistent legal protection of trade secrets against misappropriation across the Internal Market, as far as civil law is concerned. It would address three important conditions for an effective protection: the scope of protection (the subject matter), the remedies and the measures on the preservation of the trade secret during litigation. These rules would also be consistent with EU rules on civil law remedies and measures in place addressing infringements of intellectual property rights (Directive 2004/48/EC), therefore avoiding contradictions in the way intellectual property (in its wide sense) is protected. However, this consistency does not extend beyond civil law to criminal protection. In terms of consistency of the legal protection, Option 5 presents some problems compared to Option 4. While the combination of criminal and civil law protection would arguably result in a more coherent approach, Option 5 would go beyond the existing situation regarding infringements to intellectual property rights[220] and it raises questions as to the relationship with national criminal law sanctioning infringements of intellectual property right (patent infringements and trade secret misappropriations are often litigated together). Moreover, this option could

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218 It is noted that greater publicity about loss of trade secrets brought about by criminal trials might deter many victims from filing a case. See Lang (2003), p. 464.

219 One could also raise the weak legitimacy of the EU to launch an information/awareness raising action on national rules, in the absence of any EU harmonisation measure or soft-law in this field.

220 The 2003 Commission proposal to harmonise criminal rules in that area was never endorsed by Council and Parliament. See European Commission (January 2003).

endanger the balance between civil law and criminal law at national level in so far as it significantly reinforces criminal law protection. For these reasons, despite the potentially high effectiveness of this option, these systemic inconsistencies reduce its efficiency, by creating potential frictions in the legal system.

Efficiency. In terms of *costs,* in order to ensure a sizable impact, Option 2 would notably incur costs in the form of: (a) the preparation and regular updating of fact sheets and information documents on all Member States, ideally in all languages; and (b) regular specific awareness raising campaign[221]. Integrating the information leg of this action into the regular activities of the IPR Helpdesk EU and the European Judicial Network could somehow limit those costs but the impact of making available information-only action will be limited without related (and expensive) awareness raising campaigns. In conclusion, this option would not be effective in achieving the objective and even to have a limited effect it would require substantial and continuous efforts, so that its overall efficiency would be "low". In view of the costs of the legislative procedure needed to implement Option 3**,** the overall efficiency of the option would be "medium". Option 4 constitutes a significant improvement compared to the baseline scenario and Option 2. It would be more effective than Option 3. Given that legislative costs for the two options would be comparable, Option 4 would also be more efficient than Option 3 – thus, its overall efficiency would be "high". Option 5 would result in higher legislative *costs* than Options 3 and 4 as it would require the negotiation of two different legal instruments at the EU level and it would also require changes in national criminal law which is at the heart of national sovereignty and where the need to ensure consistency of national regimes in terms of scope of protection would be higher. Therefore, though potentially a very effective solution (at least in terms of the deterrent effect), its overall *efficiency* would be "medium" and lower than that of Option 4.

Figure 10: Summary comparison of options	***Effectiveness****				***Efficiency & Costs****	
Policy options	Comparable scope of protection	Sufficient and comparable level of redress	Preservation of confidentiality in litigation	Deterrence	Costs	Efficiency
1. Status quo.	0	0	0	0	0	0
2. Information/ awareness on existing redress tools in case of misappropriation of trade secrets.	0	0/+	0	0/+	H	L
3. Unlawfulness of acts of misappropriation of trade secrets.	++	+	+	+	M	M
4. Convergence of national civil law remedies against misappropriation of trade secrets.[222]	**++**	**++**	**++**	**++**	**M**	**H**
5. Convergence of national civil law and criminal law remedies against the misappropriation of trade secrets.	+++	++	++	+++	H	M

[221] These costs are likely to entail an initial investment of between €775 000 and €2M. and annual recurring costs of between €9 000 and €62 000. See Annex 22.

[222] From the perspective of the national civil law systems, this option ensures the application of existing civil law remedies against misappropriation of trade secrets. From the perspective of a trade secret holder, there is rather a convergence of national civil law remedies.

* Comparison vis-à-vis Baseline: --- very significant deterioration of the situation; -- significant deterioration of the situation; - slight deterioration; 0 no relevant change; + slight improvement; ++ significant improvement; +++ very significant improvement.
** Overall assessment of the option with regard to the achievement of the objectives. L: Low; M: Medium; H: High.

***Stakeholders' opinions*.** A slight majority of 52% of the respondents to the 2013 Public Consultation supported the view that the legal protection of trade secrets should be addressed at EU level. Companies (including SMEs), professionals, business associations and research entities are generally much more favourable: 80% of the companies supported such action. However, a vast majority of the 152 replying citizens (mostly from Germany) and three Swedish trade unions (see Section 5) do not think that the EU should act.

When possible options for EU action are considered, Option 2 received little support in the 2013 Public Consultation: only 10% of the respondents who were favourable to EU action supported this Option, as opposed to 83% in favour of the legislative solutions (Options 3 to 5). Trade secret owners particularly support an EU legislative action: more than 70% of the companies that replied to the 2013 Public Consultation favour EU legislative action along the lines of Options 3 to 5. Similarly, 69% of the replies to the 2012 Industry Survey were favourable to a European Commission proposal for EU legislation with a view to ensuring that national rules providing relief against the misappropriation of trade secrets provide effective and equivalent protection across the EU and only 17% were against[223].

Option 3 was supported by 53% of all respondents (82% of companies) to the 2013 Public Consultation. Respondents to the 2013 Public Consultation were consulted on possible remedies (Option 4): 49% of all respondents (76% of companies) agreed to empower courts to order the unlawful use of misappropriated trade secrets (42% against); 43% of them (65% of companies) agreed that rules on calculation of damages should be addressed (43% against) and several respondents suggested, in their comments, to address the destruction of "resulting goods". Concerning the preservation of confidentiality of trade secrets during litigation, 51% of respondents (77% of companies) to the 2013 Public Consultation supported rules on this issue (41% against). Option 5 received less support in the 2013 Public Consultation: a majority of 52% of the respondents were against the introduction of criminal rules at the EU level; only 39% supported the idea. The picture is, however, almost the reverse when looking at companies only: 62 % were in favour of criminal rules.

[223] 35% were generally in favour; and 34% were also in favour "as long as EU legislation does not lower the existing national level of protection". Support rates are particularly high in the Motor vehicle (83%), Chemicals (79%) and Wholesale (79%) sectors. See Baker & McKenzie (2013), p. 132.

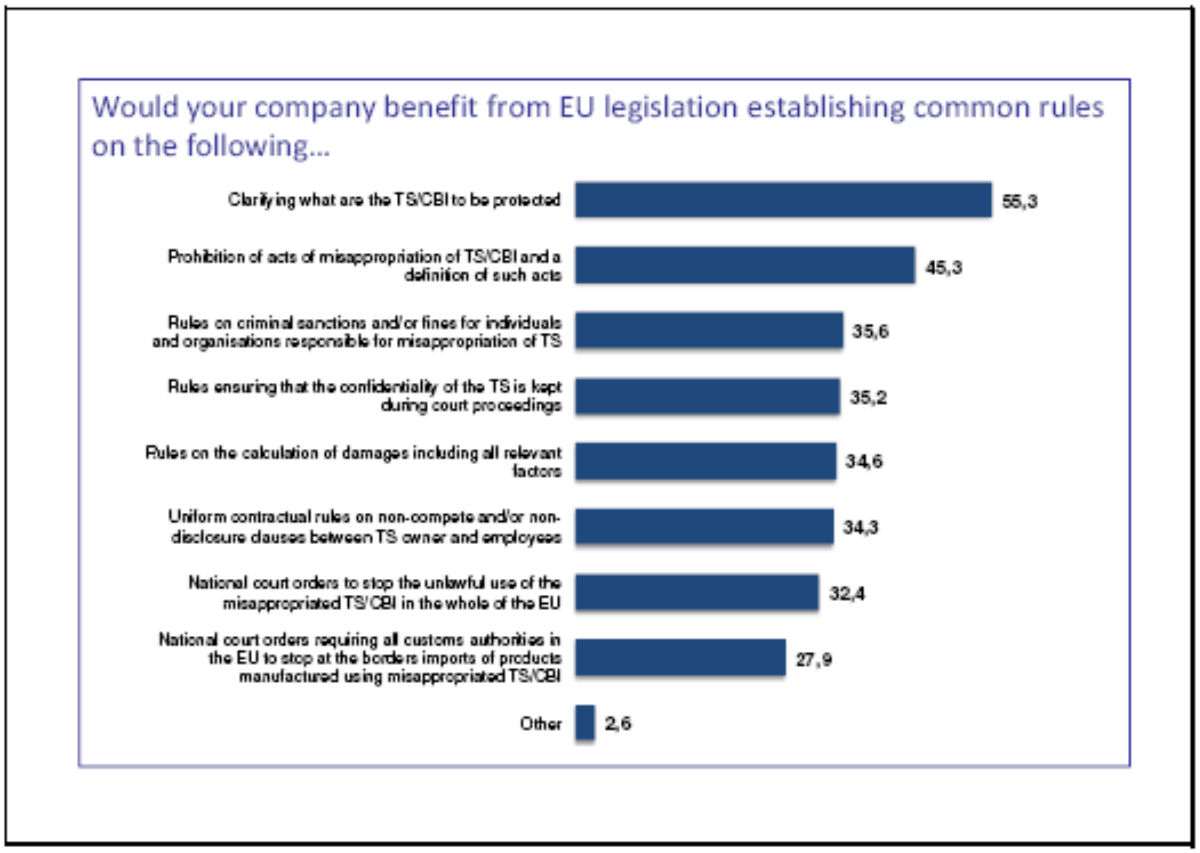

Figure 11 – Benefits of the EU intervention for EU companies. Source: 2012 Industry Survey.

Business respondents to the 2012 Industry Survey seem to be convinced that their companies benefit most from the possible measures which are included in Options 3 to 5 (see Figure 11)[224]. The two measures that obtain the largest positive rates (clarifying what the protectable trade secrets are and the prohibition of acts of misappropriation) correspond to the essence of Option 3: 56% and 45% respectively. The additional elements in Option 4 and the criminal law aspects of Option 5, also obtain significant positive rates of support above 30%.

Member States which have expressed a formal position[225] are not opposed to a EU action but Sweden and Denmark prefer that the Commission undertakes further study first (i.e. by publishing a Green Paper), Estonia suggests that the Commission should adopt a recommendation while France could support a legislative approach at this stage.

Preferred policy option. Option 4 appears as the most balanced option in terms of effectiveness and efficiency and it received significant support in the surveys. While Option 5 could be more effective, the need to introduce EU criminal law legislation must be carefully considered, in particular paying regard to the general subsidiarity requirement of EU legislation. Also, a small majority of the respondents to the consultation were against the introduction of criminal rules at the EU level. It seems therefore more prudent and reasonable, at this stage, to set aside Option 5 and focus on the implementation of the proposed changes in civil law and to see whether they might already suffice to achieve the objectives (following the principle of proportionality, criminal law must remain a

224 The uniform contractual rules on non-compete/non-disclosure clauses have been excluded from the policy options, see Annex 20.

225 Sweden and Estonia replied to the 2013 Public Consultation. Denmark and France submitted written comments to the Commission in the margins of the 2013 Public Consultation.

measure of last resort). This is also in line with the conditions set out in Article 83(2) TFEU[226] for the approximation of criminal laws at the EU level. Implementation of the criminal law elements of Option 5 at a later stage, if considered necessary, would therefore not lead to significant additional costs. **Hence, Option 4 is the preferred policy option**.

6.2. Coherence of the options with other EU policy areas

There is no indication that any of the policy options would adversely affect other EU legislation which may be applicable to information qualifying as trade secrets, such as: rules requiring the disclosure of information, including trade secrets, to the European Commission, EU institutions and bodies or national authorities; rules requiring these institutions, bodies and authorities to disclose information they hold under certain circumstances[227]; rules on the disclosure of information to employees' representatives[228]; and rules on personal data protection or in the anti-trust field. For a discussion showing the consistency of the options with Directive 2004/48/EC (on enforcement against infringements of intellectual property rights), considering that litigation about misappropriation of trade secrets is often carried out together with litigation on infringements of intellectual property rights, see Section 6.1.

6.3. Choice of legal instrument

Non-binding legal instrument vs. a binding legal instrument. A non-binding legal instrument (i.e. a Commission Recommendation) does not appear as an appropriate solution to implement the preferred policy option. A Recommendation, lacking binding effect, would not guarantee the achievement of any of the objectives of the proposal. As the TRIPS Agreement has acted as a *de facto* recommendation, this is not a greenfield area. However, the TRIPS Agreement has manifestly failed to achieve any significant convergence in the protection of trade secrets within the Union. A Commission Recommendation would add little, if any, compared to the requirements of the TRIPS Agreement. Under these circumstances, the likelihood that the baseline scenario continues to apply remains high. In addition, the subject matter covered by the preferred policy options concerns the protection of a right before courts. Other factors, which are of particular importance in this context, such as the need to ensure a fair trial, the right to effective remedies or the right of defence, can hardly be guaranteed by a non-binding instrument. Finally, the inter-institutional balance has evolved and the case for Commission's Recommendations in areas where a legal basis for legislation exist is weaker[229].

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226 This article requires that the approximation of criminal laws and regulations of the Member States has to be essential to ensure the effective implementation of a Union policy in an area which has been subject of harmonisation measures. As no specific EU (non-criminal) law deals today with the misappropriation of trade secrets, evaluating whether measures other than criminal law are sufficiently effective is difficult. Therefore, the conditions for the use of Article 83(2) might not be met.

227 E.g. Regulation (EC) No 1049/2001.

228 The following Directives require employers to provide certain types of information to employees' representatives and establish confidentiality requirements in this respect: Directive 2002/14/EC (framework on information and consultation); Directive 2001/86/EC (Employees' involvement in the European Company; Directive 98/59/EC (collective redundancies); Directive 2001/23/EC (Transfer of undertakings); Directive 2009/38/EC (European Works Council); Directive 2003/72/EC (Employee involvement in the European Cooperative Society).

229 The Lisbon Treaty repealed old Article 211 of the Treaty on the European Community which contained the express reference to the Commission's general power to adopt Recommendations. There is no express reference to such a general power in the Treaty on European Union (TEU) or the TFEU. The possibility to adopt Recommendations results from the interpretation of Article 17 of the TEU on Commission's role and its powers.

A binding legislative instrument is preferable since the EU added value in this case essentially relies on the compulsion that only a binding instrument has. In terms of effectiveness, it would provide legal certainty and convergence in the level of protection across the Internal Market, thus guaranteeing that identified positive effects could be delivered. A legally binding solution is also the preference of the respondents to the 2013 Public Consultation: 79% of the those in favour of EU action would prefer a legislative solution as opposed to a mere 3,5% in favour of a Recommendation.

Directive vs. Regulation. Contrary to a Regulation, a Directive would provide the necessary flexibility to Member States on how to integrate the requirements into their national law. This is particularly important in the current context as the substance of the preferred policy option is closely related to the rules on the enforcement of intellectual property rights, which are dealt with in a Directive as well, and to the national rules on civil law litigation, which reflect different legal traditions existing in Member States. One might argue that national divergences may subsist after transposing a Directive and that therefore a Regulation would be preferable. This risk, however, is not likely to materialise at the level of legislation. The scope for national divergences depends on the margin of manoeuvre that would be left by the Directive's terms. In this case, the preferred policy option would not leave any significant leeway to the Member States. Also, the language of the definitions of trade secret/misappropriation and on the remedies could be sufficiently precise so that, in practice, the scope for deviation in substance at the level of the national transposition would be minor, if any[230]. A Directive therefore appears as the most suitable legal instrument.

Independent Directive vs. amendment of Directive 2004/48/EC. In this connection, it appears preferable to propose an independent Directive rather than to extend the scope of Directive 2004/48/to civil redress measures against the misappropriation of trade secrets. The main reason is the important differences between trade secrets and intellectual property rights. Contrary to intellectual property rights, the protection of trade secrets against misappropriation does not institute any exclusive right and the use by a third party of the information protected as a trade secret without the consent of the trade secret holder is not sufficient to qualify as illegal conduct: it will also be necessary to demonstrate the misappropriation conduct by a third party. It is also necessary for the legal instrument implementing Option 4 to address the question of the scope of protection, an issue which is not addressed in Directive 2004/48/EC as regards intellectual property rights. In addition, the scope of the selected option and of Directive 2004/48/EC also differs: e.g. rules on preservation of secrecy are not included in Directive 2004/48/EC; in contrast, the initiative on trade secrets does not include rules on evidence that are included in Directive 2004/48/EC. Moreover, integration of trade secrets into Directive 2004/48/EC could also create confusion, if they were interpreted as falling within the "intellectual property rights" category, as regards the applicability of the Rome II and Brussels I Regulations on the applicable law and choice of forum in

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[230] According to point 43 of the 2010 Framework Agreement on relations between the European Parliament and the European Commission (OJ L 304, 20.11.2010, p. 47), in areas where Parliament is usually involved in the legislative process, the Commission should only adopt Recommendations in duly justified cases and after having given the Parliament the opportunity to express its views.
A different issue is the application of the rules by courts to specific cases. There is the possibility that divergences between courts appear, whether within the same Member State or cross-border. However, this will happen whether the rules to be applied by the judges are in an EU Regulation or in national rules transposing a Directive. The way to correct these divergences is through appeals to higher courts which can provide uniform interpretations. This is the same as in any other area of law where judges take decisions; it is not a trade-secret specific issue. Concerning the EU dimension, the European Court of Justice will have an important role to play in this regard. This is one of the most important factors for the future success of the measures.

cross-border disputes. These Regulations distinguish between litigation on traditional tort/delict, which encompasses litigation on trade secrets (see Annex 16) and litigation on intellectual property rights for the criteria determining the applicable law and the choice of forum. For these reasons, this initiative would be better dealt with in a separate legal instrument. See Annex 23 for further explanations.

6.4. Transposition and compliance aspects

National transposition measures are required to integrate the preferred option into national law, but no specific technical difficulties are envisaged in this regard[231].

Compliance. It appears appropriate to provide for a general sanctioning regime to ensure compliance with the preferred option. Member States will be required to provide for effective, proportionate and dissuasive sanctions in case of non-compliance with certain types of orders which judicial authorities could take pursuant to a claim on misappropriation of trade secrets: i.e. cease and desist orders, orders for corrective measures or orders in relation to the preservation of confidentiality of trade secrets during litigation. The sanctioning regime would remain at a general level and respect national legal frameworks: it will not set the level of any of the penalties; nor the type of penalty. Member States will, however, be required to provide for judges to apply recurring penalty payments in case of non-compliance with cease and desist orders and orders for corrective measures. The regime will not harmonise any rules regarding liability or procedure for the imposition of sanctions. Therefore, it will preserve Member States' rules for ensuring compliance with fundamental rights such as the right to an effective remedy and a fair trial (Article 47 of the Charter), the presumption of innocence and the right of defence (Article 48 of the Charter).

7. MONITORING AND EVALUATION

The monitoring and evaluation of the preferred option will be carried out in 3 steps: **(1)** a Transposition Plan, preparing for the application of the rules; **(2)** the Regular Monitoring activity by the Commission (assisted by Member States), as guardian of the Treaty, on the timely adoption and correctness of the transposition measures and on their application thereafter; and **(3)** the Evaluation of the effects of the policy, in the medium term (after enough time has lapsed for the impacts of the implementation of the option to materialise).

This Evaluation would be done in 3 steps: firstly, a preliminary examination carried out by the European Observatory on infringements of intellectual property rights (the Observatory) of the litigation trends regarding trade secret misappropriation; followed, secondly, by an intermediate report by the Commission on transposition and the initial application of the rules; and, thirdly, the evaluation itself, to be carried out at a later stage (see Figure 12 for the timing). Selecting the appropriate monitoring indicators for the assessment of the success (or lack of it) of the policy presents particular challenges, which also appear with regard to infringements of intellectual property rights and other types of infringements in general: e.g. are there more cases because there are more infringements or because the rules are better designed and courts are better enforcing them, so that victims are more willing to file new cases?; also, would trade secret owners continue to be reluctant to litigate on trade secrets for reputational reasons? Considering those difficulties, it is proposed to define data needs in cooperation with the Observatory during the transposition period.

[231] The transposition into national law of EU legislation on the enforcement of intellectual property rights, which contained similar provisions, did not raise any technical difficulty.

In doing this, it might not be appropriate to rely only on levels of litigation on trade secrets to assess the policy. It might be useful to periodically repeat an industry survey to test how companies' perceptions of the level of trade secrets protection, as well as their innovative behaviour and competitiveness, has evolved following this proposal and how other stakeholders assess the overall impact of the measure. See Annex 25 for more detail on monitoring and evaluation.

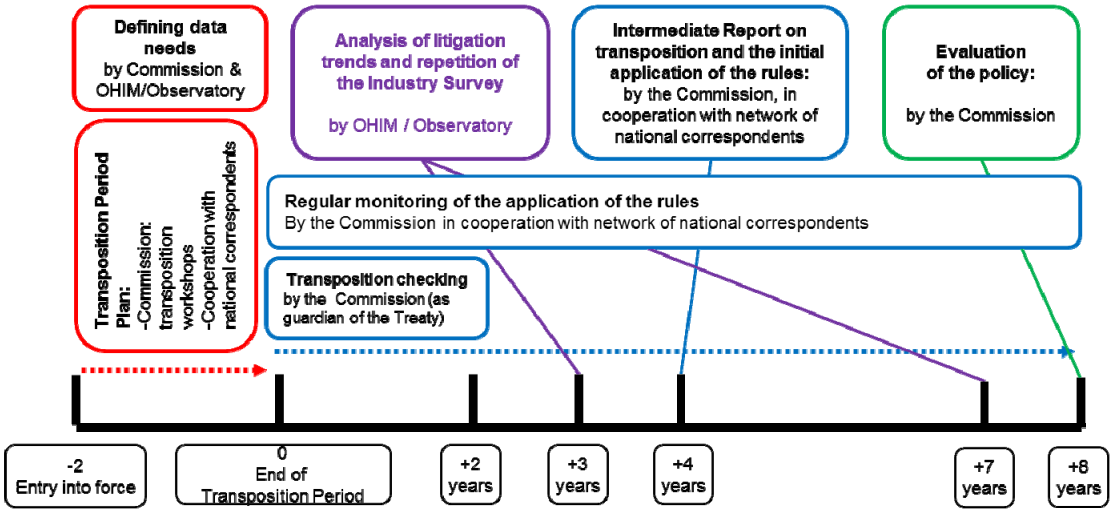

Figure 12 – Monitoring and evaluation

Annexes

ANNEX 1 – THE KNOWLEDGE AND INNOVATION ECONOMY IN A GLOBALISED WORLD: EUROPE'S ROLE

A1.1. The knowledge and innovation economy in a globalised world

Intangible assets are essential for the competitiveness of companies in the knowledge and innovation[232] economy in a globalised world. Companies are more open to the exterior (e.g. increased used of contractors, consultants and outsourcing) and innovation is more and more achieved in a networking environment.

The knowledge and innovation economy

As will all Western economies, the EU is increasingly moving towards a knowledge and innovation economy (and society) in which the management of information is essential. Recent international research estimates that "*as much as 75 percent of most organizations' value and sources of revenue (or wealth) creation are in intangible assets, intellectual property and proprietary competitive advantages*."[233]

In a knowledge and innovation economy, the competitive performance of companies, and of the economic regions where they are established, depends on how well they manage intangible assets as a core asset and source of value. Investment in intangible assets and other assets related to innovation (e.g. investment in information and communication technologies (ICTs) and other tangible assets that improve the joint productivity of capital and labour) accounted for between two thirds and three quarters of GDP growth in several OECD countries between 1995 and 2006[234]. Income gaps between countries are closely related to differences in total factor productivity, which is a close proxy for differences in technology and innovation performance levels[235]. In particular, most advanced economies have become progressively intensive in the use of knowledge-based capital[236]. In some countries such as Sweden, the United Kingdom or the United States, investment in knowledge-based capital matches or exceeds investment in physical capital (see Figure A1.1)[237].

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232 Innovation is a specific function of entrepreneurship, in either existing businesses, or new ventures. It is a process of creating new wealth-producing resources or improving existing resources which enhance potential for creating wealth. Cf. Drucker (1985).
Respondents to a recent business survey define innovation as the implementation of new processes, products, organizational changes or marketing changes (35% of top choices and 47% of all mentions). Other replies were: an environment/culture that embraces positive change, creativity and continuous improvement (27% of top choices, 42% of total mentions); research and development, new intellectual property and inventions (17% and 41%), staying ahead in the market and being a market leader (12% and 32%), solutions that benefit society and societal outcomes (9% and 29%). GE & Strategy One (2012), p.30. Survey carried out among 2800 senior business executives, mostly from large companies in 22 different markets.

233 ASIS (2007).

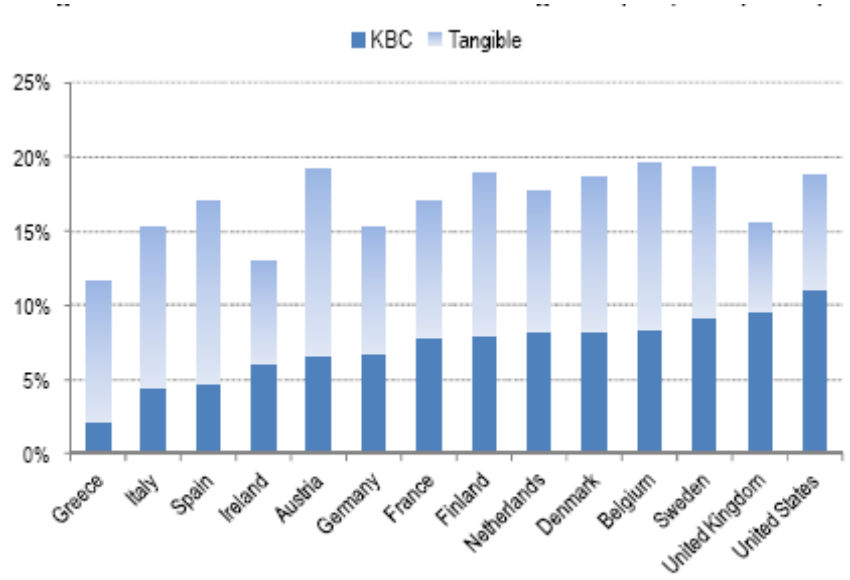
234 OECD (2010), cited in European Commission Staff (October 2010), p.8.

235 OECD (2010), cited in European Commission Staff (October 2010), p.8.

236 Understood as encompassing computerised information (software and databases), innovative property (patents, copyrights, designs, trademarks) and economic competencies (including brand equity, firm-specific human capital, networks joining people and institutions, organisational know-how that increases enterprise efficiency, and aspects of advertising and marketing). Cf. OECD (May 2012), p. 3 and seq.

237 *Ibid*. p. 5.

Figure A1.1: Business investments in knowledge-based capital and tangible capital, 2009 (% GDP)[238]



Source: C. Corrado, J. Haskel, C. Jona-Lasinio and M. Iommi (2012, forthcoming), Joint database on intangibles for European policymaking – data from INNODRIVE, COINVEST and the Conference Board.

Intangible assets are principally composed of valuable (innovative) information processed by a company in a particular manner (e.g. know-how) and not necessarily available to other companies or society at large. Such proprietary information is an important and valuable tool for its owner in that it is the source, as long as such information is not in the public domain (or in the hands of his competitors), of competitive advantage. For instance, in the automotive sector, valuable trade secrets now lie in the electronic controls that regulate the operation of motors, generators and batteries. Huge volumes of computer code are required, especially by hybrid and electric vehicles: the Chevrolet Volt plug-in hybrid uses about 10 million lines of computer code[239].

The importance of such secret information is estimated by Forrester as follows *"enterprises in highly knowledge-intensive industries like manufacturing, information services, professional, scientific and technical services, and transportation accrue between 70% and 80% of their information portfolio value from secrets*."[240]

In this context, trade secrets appear as essential components of business or research policies to manage and protect valuable intellectual property related intangible assets, and a tool for competitiveness strategy[241].

Globalisation and the exploitation of innovation

Globalisation of trade, production, innovative activity and research has resulted in drastic changes in the business environment within which R&D takes place and innovation is exploited. Unlike in the past, European businesses, in striving to be globally cost competitive, increasingly set up in or transfer their labour-intensive manufacturing operations to third countries (delocalisation). For the same reason, they increasingly rely on – whether or not at the cross-border level – joint-ventures,

238 OECD (May 2012), p.6.
239 OECD (May 2012), p. 9.
240 Forrester Consulting (2010). Almeling (2012) also points at this factor (cf. p. 1104).
241 See Annex 6.

contractors, consultants or other outsourcing strategies, which often involve the sharing of valuable proprietary information (including licensing of know-how and technology transfer). Recent innovation surveys show that business players believe that a combination of players partnering together will most likely drive innovation through the next decade[242].

Hence, proprietary information flows within these networks of businesses and has become a tradable commodity. In this new international networking model, businesses have had to become more open to the exterior and therefore have become more exposed to losing control of their valuable proprietary information – or to having it misappropriated by a third party[243].

At the same time, increased globalisation of trade, production, innovative activity and research contributes to the emergence and multiplication of a range of new competitors to challenge innovative firms and scientific institutions in Europe (and elsewhere)[244]. These developments increase the pressure on the EU to continue to be globally competitive in terms of the quality of its research, its innovative goods and services[245] and its ability to attract researchers and innovators of the highest calibre.

Network innovation

It is not only the exploitation of innovative ideas that has been affected by globalisation. The development and creation of such ideas (i.e. research and development) is similarly affected by the specialisation that the globalisation of the economy calls for. "Network innovation" – i.e. innovation via collaboration between different businesses, research centres, universities etc, that is often cross-border – is increasingly becoming the main path, both in Europe and elsewhere, to undertake and pursue research and development efforts[246]. This also involves the transfer of confidential

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242 GE & Strategy One (2012), p.23. Survey carried out among 2800 senior business executives, mostly from large companies in 22 different markets. 39% of respondents considered that a combination of players partnering together will most likely drive innovation through the next decade; 27% replied that SMEs will drive innovation and for 21 %, large companies will be the drivers.
See also GE & Strategy One (2013), p. 5. Survey based on interviews with 3100 senior business executives in 25 countries, of which 6 EU Member States. 87% of respondents believe that their firm would innovate better by partnering than on their own. The percentage of respondents in the 6 EU Member States who agreed with that statement were: Germany (84%), Ireland (83%), Netherlands (90%), Poland (89%), Sweden (93%) and the United Kingdom (85%).

243 See Annex 8.

244 See European Commission Staff (October 2010), p.26. This paper points out that new competition comes from Brazil, Russia, India and China. These emerging economies would no longer be lagging behind in technological development. Many of these economies have significant pockets of academic excellence; strong educational programmes; major programmes to create research infrastructures and attract leading academic researchers; strong entrepreneurial industries; and sophisticated, well-educated users and consumers.
Veugelers (2013) describes Asia's increased innovation spending (mostly related to information and communication technologies), although economies such as the Chinese or Korean are still not specialised in knowledge-intensive goods and services.

245 A recent OECD paper maintains that in a context of global integration of markets and deregulation, sustained competitive advantage is increasingly based on innovation, which in turn is driven, in large part, by investments in knowledge-based capital. For instance, research shows that absolute levels of patenting, R&D, IT and management quality have risen in firms more exposed to increases in Chinese imports. And in sectors particularly exposed to Chinese imports, jobs and survival rates have fallen in firms with lower patenting intensity, but have been relatively protected in high-tech firms. OECD (May 2012), p. 9.

246 The rise of 'open innovation' – which involves companies relying much more on 'traded' knowledge inputs and outputs instead of primarily or even solely on self-generated inputs and outputs – is only one

information (which may subsequently become commercially valuable, if the fruits of the research and development activity can be exploited on the market) between the parties involved.

of the many shifts affecting the pattern of innovative activities across the globe. European Commission Staff (October 2010), p. 28.

A1.2. The importance of knowledge and innovation for Europe

The European Commission has repeatedly recalled in recent times the importance of knowledge and innovation for Europe, setting notably an important target for the 2020 horizon. It has also explained that the gap with major third countries needs to be reduced. Two important areas are, *inter alia*, identified for action: the need to increase R&D intensity in the private sector and need to facilitate network innovation and knowledge transfer within the internal market. The Commission has also underlined the job creation dimension of an improvement in knowledge and innovation in Europe.

The importance of knowledge and innovation for Europe: the 2020 target

In its Europe 2020 strategy for smart, sustainable and inclusive growth, the Commission established as a priority the development of an economy based on knowledge and innovation. It also maintained an important target for the 2020 horizon: "*3% of the EU's GDP should be invested in R&D*"[247]. Europe also faces a series of crucial internal challenges: economic and financial crisis, low growth, ageing population, and a diverse set of environmental and grand challenges.

Pursuing this avenue should deliver important benefits[248].

- Macro-economic model simulations suggest that increasing R&D investment in the EU to 3% of GDP could have significant and positive impacts on GDP growth in all Member States over a 25-year period[249].
- In particular, a recently completed simulation of the impact of increasing average R&D investment across the EU27 to 3% of GDP by 2020 suggested that GDP could increase by 3% and employment by 1.5% by 2020. The corresponding figures for 2025 are 5.4% for GDP and 2.5% for employment, leading to overall potential gains of €795 billion in GDP and 3.7 million jobs[250].
- Investment in 'intangible assets' that give rise to innovation (R&D, software, human capital and new organisational structures) now accounts for up to 12% of GDP in some countries and contributes as much to labour productivity growth as investment in tangible assets (e.g. machinery and equipment)[251].

Public opinion also acknowledges that research and innovation are critical for sustainable growth. According to an Eurobarometer survey of EU citizens, conducted in autumn 2009, the most widely supported priority concerning ways to boost growth in a sustainable way is through the stimulation of research and innovation in European industry (31%)[252].

The need to reduce the innovation gap with other major economies

247 European Commission (March 2010), p.5.
248 European Commission Staff (October 2010), p.7.
249 Gardiner and Bayar (2010), cited in European Commission Staff (October 2010), p.7.
250 Fougeyrollas et al (2010), cited in European Commission Staff (October 2010), p.7. See also Zagamé (2010), cited in European Commission (October 2010), p.6.
251 Corrado et al (2009), cited in European Commission Staff (October 2010), p.7.
252 Cf. European Commission Staff (October 2010), p. 8.

As underlined by the Commission, European research is still among the best in the world[253]. However, Europe suffers from an innovation gap with the US, Japan and other competitor economies. Europe has been investing too little in research – despite the 3% target – compared to major competitors, thus "*under-investing in our knowledge base*"[254]. In relative terms, the investment is lower than in the US (1.92% of GDP in Europe - or 201 billion Euros PPP in 2008- vs. 2.79% of GDP in the US (or 283 billion Euros PPP in the same year) (Eurostat)[255]. Europe is spending every year 0.8% of GDP less[256] than the US and 1.5% less than Japan in R&D[257].

The 'Innovation Union Scoreboard 2011'[258] showed that the US, Japan and South Korea have a performance lead over the EU27[259]. This is confirmed by the 'Innovation Union Scoreboard 2013'[260]. New economic powers such as Brazil, China and India have emerged and their R&D weight is already growing. This implies that, on the one hand, Europe is losing ground, in relative terms, in producing knowledge[261]. On the other hand, global innovation leaders such as the US and Japan are particularly ahead of the EU27 on indicators of business activity[262]. This reflects a lower presence of EU industry in sectors based on new technological paradigms (such as ICT and biotechnologies), as Europe has been less able, compared to the US, to develop competitive new technology-based business[263].

Indeed, one key driver of the differences is the fact that the EU has not played a role comparable to the US in the IT revolution. In the US much more than in the EU, the IT revolution has given rise to the creation of many R&D intensive firms which have developed and grown into global leaders. But this "IT story" seems not to be an isolated case as we see again that the US biotech sector attains a

253 In many areas, research has enabled European companies to be leaders or first movers in technology development and be ahead of the game in many areas, setting the standards and performance levels for others to follow. For example, Europe has introduced "fly-by-wire" in the commercial aircraft industry and GSM in mobile telecommunications, promoted the growth of capabilities in satellite development and launch, invented the compact disc, and more recently fostered the emergence of the wind energy industry. Moreover, Europe is still the best producer of scientific publications worldwide and also generates more than 30% of world patent applications. Also, EU inward Foreign Direct Investment (FDI) in R&D is holding up, bucking the trend of a decline in overall inward FDI (Cf. European Commission Staff (July 2012), p.4).

254 European Commission (October 2010), p.6

255 Eurostat data. Cf. European Commission Staff (July 2012), p.6.

256 An additional problem is that knowledge production is concentrated in a relatively small number of Member States. Cf. European Commission Staff (July 2012), p.6.

257 R&D intensity levels in China are lower (1.44% – 2007 figure), but rising faster. Cf. European Commission Staff (October 2010), p. 11.

258 European Commission (February 2012); cited in European Commission Staff (July 2012), p.5.

259 For instance, the US is performing better than the EU27 in 10 indicators, in particular in tertiary education, international co-publications, most cited publications, R&D expenditure in the business sector and public-private co-publications.

260 European Commission (March 2013), p.7 : "*Comparing the EU27 with a selected group of major global competitors, this year's Innovation Union Scoreboard edition again confims that the US, Japan and South Korea have a performance lead over the EU27 with South Korea joining the US as most innovative country. Although this lead has been increasing for South Korea, the EU27 has been able to close about half of the gap with the US and Japan since 2008.*"

261 European Commission Staff (July 2012), p.5.

262 "*The global innovation leaders US, Japan and South Korea are particularly dominating th eEU27 in indicators capturing business activity as measures by R&D expenditures in the business sector […].*" European Commission (March 2013), p.7.

263 Three symptoms of this are the deficits of the EU vs. the US in terms of volume of private sector R&D investments (EU: 1.27% of GDP, US: 2.12% of GDP in 2009), of patenting (25% of triadic patent families originated from the EU in 2007 vs. 35% originating from the US) and of medium and high-tech product exports (representing 47% of total EU products export in 2008 vs 59% of total US products exports) in 2008 (European Commission (2011), and Pro Inno Europe (2009)). Cf. European Commission Staff (July 2012), p.5.

size which is about the double that of the EU[264]. Also in nanotechnologies, in spite of a higher level of public research expenditures in the EU than in the US, EU/US comparisons on the volume of business activity generated (based on indicators such as private R&D investments, number of patents and market introduction of new products) are clearly not favourable for the EU[265].

On the contrary, the EU scores well in 'traditional' scientific fields, such as Agricultural science, Chemistry, Physics and Engineering, while it lag the farthest behind the US in fast-developing fields such ICT, Nanotechnology, Biotechnology, Molecular biology and Genetics[266]. Bonaccorsi developed the following diagnosis: "*European science is weak in the upper tail of quality, in fast moving new fields, and in fields characterised by divergent growth and new forms of complementarities, many of which are also responsible for breakthrough technological developments*"[267].

Two areas for action: increase of private sector R&D and facilitation of network innovation and knowledge transfer within the internal market.

Europe's average growth rate has been structurally lower than that of our main economic partners, largely due to a productivity gap that has widened over the last decade. The Commission's diagnosis is that much of this is due to differences in business structures combined with lower levels of investment in R&D and innovation, insufficient use of information and communications technologies, reluctance in some parts of our societies to embrace innovation, barriers to market access and a less dynamic business environment[268].

Two areas are examined the following paragraphs: firstly, the need to increase private sector R&D; secondly, the need to facilitate network innovation and knowledge transfer within the internal market.

Need to improve the conditions for private sector R&D

R&D is by far the most important driver for company innovations. However, the Commission has expressed that the innovation gap with the US and Japan is mainly the result of lower levels of private investment in R&D[269]. The major gaps identified are related to business R&D (business R&D in the EU is 66% lower than the US[270] and 122% lower than Japan, as a share of GDP; and €100 billion more in business R&D investment would be needed every year to reach the 3% of GDP target) and venture capital investments (Europe invests about €15 billion a year less in venture capital than in the US, so venture capital investments are 64% lower than the US). Banks are reluctant to lend to knowledge-based companies that lack collateral. The financial crisis has made a bleak picture worse[271].

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264 Critical I (2006), cited in European Commission Staff (July 2012), p.46.

265 European Commission (2009), p. 69 and European Commission (2007), p. 44 to 48. Cited in European Commission Staff (July 2012), p.46.

266 Albarrán et al. (2009), cited in European Commission Staff (July 2012), p.47.

267 Bonaccorsi (2007), cited in Cited in European Commission Staff (July 2012), p.46.

268 European Commission (March 2010), p.7.

269 European Commission (March 2010), p.12; European Commission Staff (October 2010), p. 20.

270 Business investment in R&D (which plays an important role in determining productivity levels) reached 1.21% of GDP in the EU in 2008 compared to 2.0% in the US, with only Finland and Sweden above the US average (cf. European Commission Staff (October 2010), p.11).

271 Cf. European Commission (October 2010), p.6 and 13.

It is not only the absolute amounts spent on R&D that count: the European smaller share of high-tech firms explains half of our gap with the US[272]. Indeed, the low levels of investment in R&D are largely due to differences in industrial structure and company demographics[273] and not to the propensity of individual EU-headquartered firms to invest less than similar companies headquartered elsewhere.[274] High R&D intensity sectors in the EU are generally smaller than in the US and Japan and contain proportionately more SMEs, which invest less per firm than larger companies. Currently, too few of European innovative SMEs grow into large companies[275]. These sectors are thus less R&D intensive than their equivalents in other countries (20% less R&D intensive than in the US)[276] and make lower contributions to overall R&D intensity than they do in either the US or Japan[277].

The productivity gap is further aggravated by the fact that, compared to the US, private sector R&D investment in the EU is more concentrated in the medium-high tech sector than in the high-tech sector, since the impacts of R&D investment on productivity are greater in high-tech sectors than they are in medium- and low-tech sectors[278]. Bridging the gap between the EU and the US would require a substantial increase in the share of high-tech, high R&D intensity sectors in the EU economy, but this is hindered by the fact that few R&D intensive SMEs grow into large corporations capable of gradually shifting the structure of the economy towards large, high R&D performing and wealth creating sectors[279]. Few large European high-tech companies have been created over the last couple of decades and the average age of big R&D spenders in the EU is consequently much higher than in the US.[280] The drivers of change are young leading innovators (or 'Yollies'), which are far more numerous in the US than in the EU, especially in leading-edge sectors such as semiconductors and biotechnology[281].

Also, Europe is short in the cutting-edge research that can deliver the breakthroughs required to fuel science and technology (S&T)-based business development. The EU deficit with respect to the US in scientific excellence is particularly important in some fast-moving fields which are precisely those where the US has generated most S&T-based growth (e.g. Information and Communication Technologies, Nanotechnology, Biotechnology, Molecular biology, Genetics)[282].

The case of nanotechnology is a good illustration of the underperformance of the European research system[283]. In this key enabling technology, which is critical for future international competitiveness, the EU spends more public money annually than other countries. According to several recent estimates[284], the European Union spends around 1.5 billion Euros annually (including the 27 Member States' national funding and EC funding), which is considerably more than the USA (1 billion Euros), Japan (0.47 billion Euros) and China (0.1 billion Euros).

However, if one looks at highly cited scientific publications in this field, 10% of EU publications are in the top 10% most cited publications, compared to 16.1% for the USA, 5.4% for Japan and 8.1% for China. Another indication of Europe lagging behind is the market introduction of nanotechnology-based products and applications. According to a recent nanotechnology product inventory compiled by the Project on Emerging Nanotechnologies at the Woodrow Wilson International Centre, a total of 53% of identified nanotechnology-based products come from the US, followed by companies in East Asia (24%), Europe (15%), and other world regions (8%). Fragmented public funding in Europe leads to lower scientific and technological outputs per euro invested: the efficiency of EU countries can be seen lagging behind the US and the OECD average.

272 European Commission (March 2010), p.12

273 See Moncada-Paterno-Castello et al (2009), DGPTE (2006) and European Commission (2008). Cited in European Commission Staff (October 2010), p. 20.

274 Soete and Præst Knudsen et al (2009), cited in European Commission Staff (October 2010), p. 20.

275 European Commission (October 2010), p.6.

276 European Commission (2008c), cited in European Commission Staff (October 2010), p. 20.

277 DIUS/BERR (2008), cited in European Commission Staff (October 2010), p. 20.

278 Kumbhakar et al (2010), cited in European Commission Staff (October 2010), p. 20.

279 Hughes (2007), cited inEuropean Commission Staff (October 2010), p. 20.

280 Soete and Præst Knudsen et al (2009); Veugelers (2009), cited in European Commission Staff (October 2010), p. 20.

281 Veugelers and Cincera (2010), cited in European Commission Staff (October 2010), p. 20.

282 European Commission Staff (July 2012), p.6.

283 See gnerally European Commission Staff (July 2012), p.6.

284 NMP Scoreboard (2011), Roco et al. (2010), OECD (2009), cited in European Commission Staff (July 2012), p.6.

Translating R&D into exploitable innovation is an additional problem. Despite the fact that European research has been excellent and has been responsible for many new technologies used in industries worldwide[285], our past record has not always been so good when it comes to translating scientific leadership into industrial advantage. The situation in lithium batteries is a clear example of this with European firms holding more than 30% of the relevant patents, without any production of such batteries taking place in the EU[286].

Additionally, private sector R&D is increasingly outsourced to emerging economies and thousands of our best researchers and innovators have moved to countries where conditions are more favourable[287].

As a result, the Commission has underlined that Europe needs to improve the conditions for private sector R&D in the EU[288]. Investing in the early stages of the adoption and diffusion of new technologies should give Europe a technological lead to ensure that it secures the returns from its innovation in terms of growth and jobs. "First mover advantage" can boost productivity, resource efficiency, and market shares – provided that business uncertainties are lifted[289].

Need to facilitate network innovation and knowledge transfer within the internal market

Although the EU market is the largest in the world, it remains fragmented and insufficiently innovation-friendly. For instance,

– although our services sector accounts for 70% of the economy, our knowledge-intensive services are still under-developed[290];

– the share of companies in the EU that demonstrate innovative behaviour (via the introduction of new or improved products, processes, services, marketing methods or organisational changes) stood at 53% in 2007, but only 25% of such companies typically introduce new goods or services in national markets other than their own, thus failing to take advantage of the single market[291].

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285 Europe remains a world-leader in many strategic sectors such as automotive, aeronautics, engineering, space, chemicals and pharmaceuticals. Industry still accounts for 4/5 of Europe's exports and 80% of private sector R&D investment comes from manufacturing. Industrial activities also have important spillover effects on production and employment in other sectors. For every 100 jobs created in industry, it is estimated that between 60 and 200 new jobs are created in the rest of the economy, depending on the industrial sector.
Also, Europe is a global leader in R&D for KETs (Key Enabling Technologies) with a global patent share of more than 30%. The global market in KETs, which comprises micro- and nanoelectronics, advanced materials, industrial biotechnology, photonics, nanotechnology and advanced manufacturing systems, is forecast to increase by over 50% from € 646 billion to over € 1 trillion by 2015, which is equivalent to around 8% of the EU's GDP.
Cf. European Commission (October 2012), p. 3 and 8.

286 European Commission (October 2012), p.6.

287 European Commission (October 2010), p.6.

288 European Commission (March 2010), p.10-11

289 A stakeholder consultation carried out for the preparation of the 2012 Commission Communication on A Stronger European Industry showed that uncertainties about the future evolution of new markets often adversely affect business confidence and hold back investment. The Commission thus explained that it is essential to dispel the uncertainties in new markets through the creation of a simple, stable and predictable long-term framework of Internal Market technical rules, standards and other legislation. European Commission (October 2012), p.7.

290 European Commission (October 2010), p.6.

291 European Commission Staff (October 2010), p. 12.

The Commission has pointed out as the insufficient knowledge-transfer within the internal market as an important problem, despite evidence showing that cross-border co-operation enhances the quality and impact of R&D[292].

It has stressed that barriers in the single market make it more difficult for different players to work together across border, using and sharing knowledge from all sources, which is increasingly how successful innovations are developed[293]. Recent estimations regarding publicly funded research show that a reallocation of national funds to transnationally coordinated funding could benefit the EU's economy and job market[294].

In this context, the Commission has underlined that it is more important than ever to deliver the so-called "fifth freedom", which is not only the free movement of researchers but also the free movement of innovative ideas. Genuinely open innovation requires brokerage, intermediaries and networks in which all players can participate on an equal basis. Internationally competitive clusters play a vital role in bringing together – physically and virtually - large companies and SMEs, universities research centres and communities of scientists and practitioners to exchange knowledge and ideas. The Commission considers that knowledge transfer between business and academia should be strengthened, and made to happen trans-nationally[295].

Knowledge, innovation & jobs

Innovation is a key factor for job growth. Although it is possible for innovation to displace employment due to gains in labour productivity, recent firm level evidence suggests that the overall, long-term impact on employment levels is positive in many countries due to factors such as lower costs and increased demand[296].

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292 Quantitative evidence of bibliometric and patent-based patterns show that the average impact (as measured by citations) of internationally co-authored work in most countries is significantly higher than purely domestic papers (exceptions are the US, China and India which have a large pool of domestic researchers). Similarly, inventions resulting from international cooperation have on average a higher impact than purely national ones. It is therefore not surprising that the EU has one of its highest scientific impacts in 'space' where research activities are highly coordinated and integrated across European countries. Two other fields where cross-border collaboration rates are higher in the EU are 'physics' and 'earth and environmental sciences' in which respectively 85% and 50% of EU publications involve authors based in several Member States. In Germany, France and the UK, these two fields are among those with the highest scientific impact. Cf. European Commission Staff (July 2012), p. 10.

293 European Commission (October 2010), p.7.

294 For example, in the case that the removal of barriers which would improve the conditions for cross border cooperation and interaction would lead Member States to gradually reallocate funding to increase the attention given to transnational activities (i.e. to reach 4% research funding by 2020, from the current 0.8% share), this would induce a possible extra gain of GDP of 16 billion Euros in 2030 (0.25% additional GDP growth on top of the 0.92% additional growth expected from Horizon 2020). Higher transnational coordinated funding would create 323,000 additional jobs. The impact would be much stronger if the Barcelona target (3% of GDP dedicated to research) were reached by 2020. The combined effect of the Barcelona target, Horizon 2020 and an increased share of transnational funding would imply 445 billion Euros extra GDP and 7.2 million more jobs in 2030. Cf. European Commission Staff (July 2012), p. 29.

295 European Commission (October 2010), p.18.

296 See Blechinger et al (1998); Klette and Forre (1998); Evangelista and Savona (2002); Harrison et al (2008); OECD (2010); Bogliacino and Pianta (2010). Cited in European Commission Staff (October 2010), p.8.

Businesses seem convinced of this. 86% of the Respondents to a global survey in 2011 agreed that investing in innovation is probably the best way to create jobs in their own country[297].

However, overall European underperformance and differences in scientific output and quality amongst Member States entail missed opportunities notably in terms of growth and jobs[298]. The number of researchers in Europe as a share of the population is well below that of the US, Japan and other countries. Moreover, the EU has only 46% of its research labour force in business compared to 69% in China, 73% in Japan and 80% in the US[299]. It is estimated that the EU will need at least one million new research jobs if it is to reach the R&D target of 3%[300].

The role of the private sector, and in particular of SMEs, appears of paramount importance in this regard. Recent research has demonstrated that innovative companies perform better in creating new jobs across all size classes and are much better in retaining employment during economic downturns[301]. In addition, it is worth highlighting that all the jobs created by SMEs (which accounted for 85% of all jobs added in the EU between 2002 and 2010) only came from young companies (up to 5 years old) while SMEs older than 10 years lost jobs over that period of time. This indicates that innovation, which is essential to all new businesses, is the backbone for social prosperity[302].

297 49% strongly agreed, 37% somewhat agree. GE & Strategy One (2012), p.14. Survey carried out among 2800 senior business executives, mostly from large companies in 22 different markets.
At the same time, this survey also highlights that the human factor is the most relevant factor for success in innovation: when asked what could most help them, at their own company level, to be more successfully innovative, having more creative people on the team (out of the box thinkers) was mentioned by 56% of respondents; while having more people with advanced technical expertise was mentioned by 49% of the replies. These two replies come well ahead other factors, including access to finance. *Ibid*. p.25.

298 According to the Commission, this is due to a variety of national, local-specific and international factors. Although it is difficult to disentangle research-specific factors from those outside the research field (i.e. factors linked to the overall economic structure and performance of a country, its labour market, the quality of its infrastructure and education and training systems, etc.) 'structural' factors such as different national approaches to competition for funding and cross-border cooperation, as well as to the fragmented labour markets for researchers; "delocalised" working methods; and policies promoting access to scientific knowledge and high speed interconnection of research centres with the availability of shared high performance computing services and unique collections of research information and data are specific to research policy. These underlying problems act as 'structural' breaks, as they do not permit the development of adequate framework conditions for research and innovation at national and European level – i.e. they constitute barriers or obstacles to the completion of ERA. In addition, the current highly variable and fragmented way of structuring research in Europe is not fostering open innovation, essential to enhance competitiveness and attractiveness of the European economy. Cf. European Commission Staff (July 2012), p.6.

299 Eurostat R&D statistics, cf. European Commission Staff (July 2012), p. 12.

300 European Commission (October 2010), p. 9.

301 De Kok et al. (2011). This study also suggests that Member States with a strong innovation baseline have coped with the current crisis better than others.

302 European Commission Staff (February 2013), p. 133.

ANNEX 2 – RESULTS OF THE PUBLIC CONSULTATION

The public online consultation was launched on 11 December 2012 and closed on 8 March 2013. The questionnaire was made available in all official languages of the Union. This summary provides an overview of the responses and results.

386 responses were filed using the online tool[303], coming from almost every Member State. No replies came from Greece, Lithuania, Luxembourg, Latvia, and Malta[304] Germany (111 replies) and France (70) were by far the Member States from which most responses came from. Together Germany and France account for 47% of the responses. Belgium (36) Sweden (26), Poland (22), Spain (18), Italy (15), Austria (11) have also significant levels of participation and together account for one third of the total number responses. Around 10% of the responses came from EU wide organizations.

Table 1: Number of respondents by geographic origin

Austria	11	Greece	0	Portugal	4
Belgium	36	Hungary	2	Romania	3
Bulgaria	2	Ireland	1	Slovak Republic	1
Cyprus	1	Italy	15	Slovenia	1
Czech Republic	7	Latvia	0	Spain	18
Denmark	3	Lithuania	0	Sweden	26
Estonia	2	Luxemburg	0	United Kingdom	4
Finland	3	Malta	0		
France	70	Netherlands	8	EU-wide	28
Germany	111	Poland	22	Other	7

Concerning the type of respondent[305], The consultation triggered many replies from both citizens (152 responses - 39% of the total) and companies (125 - 32%). 35 responses came from professionals (9%), 32 from business associations (8%), 19 from research entities (5%), severn from trade unions (2%), 5 from NGOs (1%) and three public authorities (1%)[306]. The eight remaining respondents did not

303 The Commission services also received position papers from some interested parties, triggered by this public consultation. These position papers have not been taken into account for this summary.

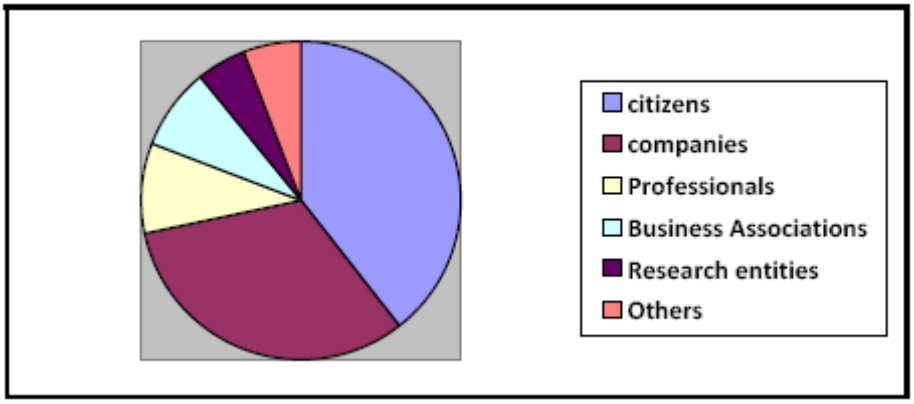
304 The consultation was carried out when Croatia was not yet a member of the EU.

305 These figures are based on the self-declaration by respondents. However, although seven respondents have declared themselves as trade unions, two of them should probably not be considered as such as it seems that the French word used for 'trade union', 'syndicat', also means 'association', and that is what these two respondents from France seem to be. Furthermore, one trade union has submitted its contribution twice. See also Box 1.

306 Namely the Governments of Sweden and Estonia, as well as the government of Friuli Venezia Giulia (Regione Autonoma Friuli Venezia Giulia)

indicate any of the above categories. 15% of the respondents were SMEs and micro-enterprises (59 responses in total).

Figure 1: Share of respondents by type



Box 1: Observations regarding multiple or copied contributions

An analysis of individual responses suggests that there has been a particularly strong mobilisation in some sectors. Two economic groups have provided a total of eight replies via four affiliated companies in each case. Another economic group provided three replies from different affiliated companies, and in one case, an economic group provided two replies. Citizens have also been mobilised by a political party in several Member States. This led to a significant number of identical responses which follow a dedicated template ('answering guide') published on the Internet and promoted by that party.

I. Role and importance of trade secrets

The importance of Trade secrets for R&D, innovation, competitiveness, growth and jobs *(questions I.1 and I.2)*

The majority of respondents see a strong positive influence of trade secrets on: R&D in companies (44%); the exploitation of innovation (45%); innovation and competitive performance of SMEs (42%); large companies operating internationally (44%).

More than 65% of companies see a strong positive influence of trade secrets in the above-mentioned areas.

For 67% of SMEs trade secrets have a strong positive impact on SMEs' innovative and competitive performance.

Citizens have a contrasting view on the role and importance of trade secrets. While a majority sees a weak positive impact on the exploitation of innovation, trade secrets are otherwise generally seen as having a negative impact (either weak or strong) on R&D (in both research entities and companies), on innovative and competitive performance (of both SMEs and large companies) and on growth and jobs as well as on competitiveness of the EU in the world.

There was a split across the respondents as to whether trade secrets have a strong negative (37%) or strong positive (31%) influence on research in research institutions. 37% of research entities find that trade secrets have a strong negative influence on research in research institutions, while 26% see a strong positive influence. However, 53% of research entities regard trade secrets as having a strong positive influence in R&D in companies.

37% of all respondents indicated that trade secrets have a strong positive influence on the competitiveness of the EU in the world, whereas 13% see a strong negative influence.

Views are split about the importance of trade secrets for growth and jobs: 37% of all respondents consider that they are of high importance, 17% find them important and 43% stated that trade secrets are of low importance. 44% of SMEs and micro-enterprises, and 60% of all companies, find trade secrets highly important for growth and jobs.27% of all respondents find that trade secrets have a positive influence on consumer choice and 23% are of the opinion that they have a negative effect. 51% of all respondents see a negative correlation between trade secrets and lower prices for goods and services. The majority of citizens see no influence on consumer choice (56%), but a larger number of them (69%) regard trade secrets as having a strong negative effect on prices of goods and services.

Trade secrets as a tool for business and research bodies *(question I.3)*

58% of respondents find that trade secrets are an important tool for business and research bodies to protect their valuable information. 40% of the respondents do not agree that trade secrets are an important tool for business and research bodies to protect their valuable information.

63% of responding research entities finds that trade secrets are an important tool for business and research bodies to protect their valuable information.

91% of participating companies see trade secrets as an important tool. Nearly half of those see trade secrets as complementing intellectual property rights, while the other half finds them important both as a complement and as an alternative to other intellectual property rights. Only 2% of responding companies see trade secrets exclusively as an alternative to intellectual property rights

II. Views on existing level of protection of trade secrets against their misappropriation

Under the current state of affairs the protection of trade secrets is weak, appropriate or excessive? (*question I.4)*

A substantial part of the respondents (between 37% and 39%) find that protection of trade secrets is excessive at national level and internationally, both within the EU and globally (for example when trade secrets are misappropriated in a non-EU country and used in the EU against to compete with its legitimate owner).

23% of respondents find legal protection appropriate at national level. 15% find it appropriate throughout the EU and only 8% find it appropriate at International level.

28% of respondents find that the existing national protection against misappropriation of trade secrets is weak; 37% are of the opinion that protection in the EU on a cross-border context is weak, and 43% see the protection at global scale as weak.

Replies from companies and research entities (i.e. those more likely to hold trade secrets and to be exposed to trade secret misappropriation) show a substantially different picture: 45% find the protection at national level weak (whereas 31% find it appropriate); 57% find that protection in a cross-border context in the EU is weak (whereas 16% finds it appropriate); and 63% find that the protection at a global level is weak.

Member States referred to as providing weak level of protection *(question I.5)*

Respondents that considered national protection as weak were asked to indicate the Member State or Member States they were referring to.

The table below shows the number of respondents that have indicated a particular Member State has having a weak level of legal protection of trade secrets against misappropriation.

Sweden, Finland, Denmark, Portugal and Germany were the least mentioned countries.

France, Poland, Bulgaria, Czech Republic, the United Kingdom, Belgium and Cyprus were identified by at least 20 respondents as countries with a weak level of protection.

Table 2: Number of responses identifying protection in a certain Member State as weak

Austria	19	**Germany**	4	**Netherlands**	18
Belgium	20	**Greece**	19	**Poland**	24
Bulgaria	22	**Hungary**	17	**Portugal**	4
Cyprus	20	**Ireland**	4	**Romania**	23
Czech Republic	21	**Italy**	19	**Slovak Republic**	18
Denmark	2	**Lithuania**	19	**Slovenia**	18
Estonia	19	**Luxemburg**	15	**Spain**	11
Finland	1	**Latvia**	18	**Sweden**	1
France	74	**Malta**	4	**United Kingdom**	21

Weakness of protection *(question I.6)*

Respondents were also asked to specify where they see the weakness on the current legal protection against misappropriation of trade secrets when doing business across borders. Multiple replies were possible.

Table 3: Weakness of protection

	% of all	% of all companies	% of all citizens	% of all liberal professionals	% of all business associations	% of all Research entities
Differences in the scope of protection in the EU Member States	**38%**	61%	14%	48%	75%	26%
Cost of litigation and enforcement in other EU Member States	**35%**	60%	11%	48%	60%	26%
Difficulties associated with insufficient knowledge on the legal framework of other EU Member States	**38%**	60%	12%	40%	81%	32%
Non-EU goods using stolen trade secrets are not barred from entering into the EU	**34%**	58%	11%	40%	69%	26%
Other	**14%**	10%	1%	8%	19%	0%

15 respondents indicated other weaknesses. Some reported that in certain Member States trade secrets protection legislation is fragmented or embedded in different pieces of legislation, thus hindering its legibility and visibility. Others highlighted that insufficient respect for trade secrets in the EU makes the EU less attractive for industry compared to third countries with more robust regimes. Other respondents referred to difficulties obtaining sufficient evidence of misappropriation.

Impact of divergent national protection of trade secrets against misappropriation when carrying out business across borders in the EU *(question I.7)*

Respondents were asked whether different or divergent rules had an impact, and if so what the nature of the resulting impact would be. According to one third of the respondents (131) there is no impact, whereas 62% of the respondents (241 in total, including 114 companies, 53 citizens, 32 business associations, 19 liberal professions and 16 research entitites) find that such an impact exists, in particular the following:

- higher business risk in the Member States with weaker protection when doing business across borders (indicated by 50% of all respondents and 82% of the companies);
- less incentive to undertake cross-border R&D (38% of all respondents, 59% of companies and 42% of research entities), and
- increased expenditure in preventive measures to protect information (37% of all respondents, 54% of companies and 42% of research entities)

51% of the companies and 42% of the research entities have further indicated that different national rules on the protection of trade secrets against misappropriation reduce cross-border business activity as trust in legal protection in other Member States is diminished.

For 67% of citizens differences in national laws have no impact on trade secret protection. 18% find that that such differences cause higher business risk in the Member States with weaker protection.

III. Possible action from the European Union

Should legal protection against misappropriation of trade secrets be addressed at EU level? *(Question I.8.)*

According to 52% of the respondents the legal protection against the misappropriation of trade secrets should be addressed by the EU. Companies, SMEs, professionals, business associations and research entities are in general favourable to EU action. A vast majority of citizens, however, does not see a need for EU action. The table below shows the extent of support for an EU initiative within the specific categories of respondents.

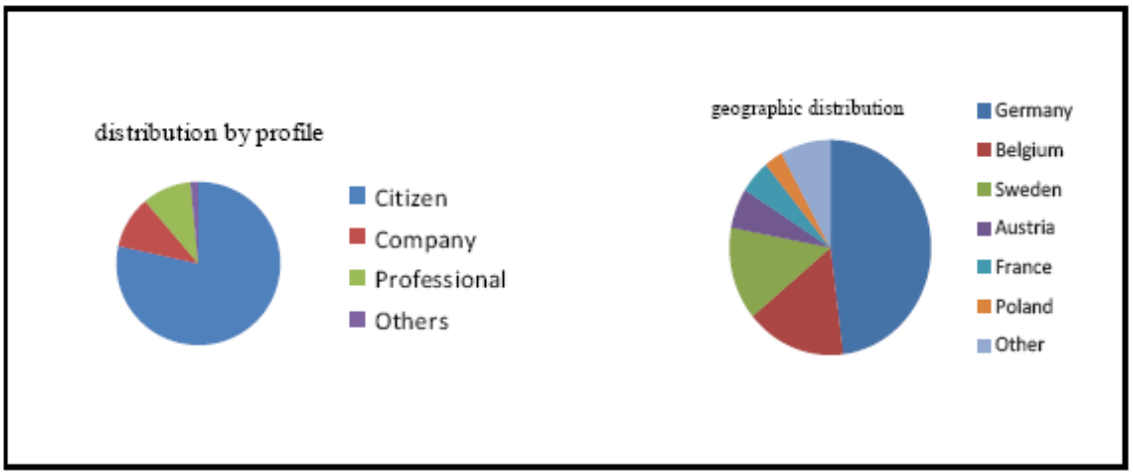
Table 4: Need of EU action

	No of respondents	EU should act	No EU action required	No opinion or no answer
All respondents	386	52%	41%	7%
Citizens	152	19%	75%	6%
Companies (including SMEs)	125	80%	12%	8%
SMEs	59	73%	13%	15%
Professionals	35	49%	40%	11%
Business associations	32	94%	6%	0%
Research entities	19	58%	32%	11%

Respondents of the opinion that no action is required (158 in total) are mostly citizens (114). There are also 15 companies and 14 liberal professionals. Nearly 80% of respondents that do not see a need for an EU initiative come from Germany, Belgium or Sweden.

46% of respondents not favouring an EU initiative declare not to hold any trade secrets and 15% claim to hold trade secrets of crucial importance. The charts below provide an overall view of the profile and geographic distribution of respondents for whom no EU action is required. For the position of trade unions and public authorities, see boxes 5 and 6.

Figure 2: Respondents not in favour of EU action by category and country



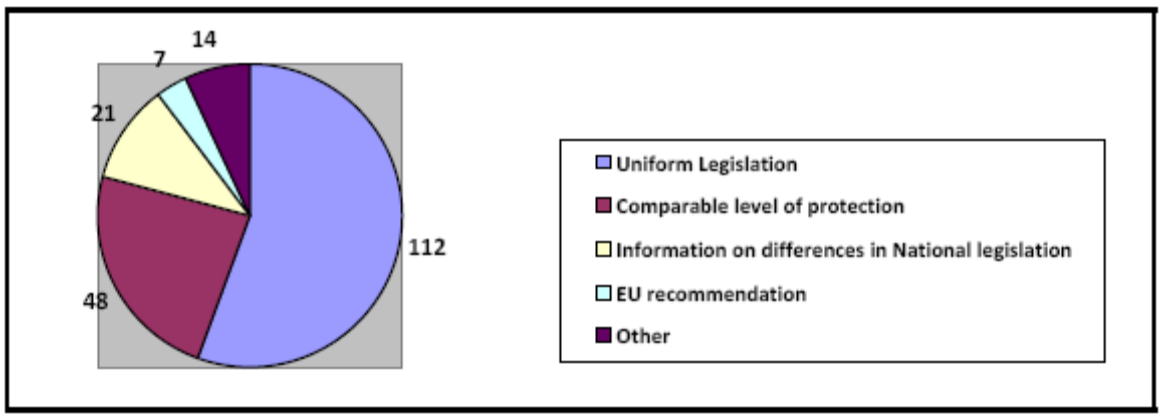
General options for an EU initiative *(question I.8.1)*

Respondents favourable to an EU action (202), of which half are companies, are geographically more widespread (29% from France, 14% from Germany, 12% from an EU wide organisation, 8% from Poland, 7% from Spain, 5% from Italy and 4% from Belgium). 12% hold no trade secrets and 58% of them hold trade secrets which they consider of crucial importance. These respondents were provided with four general options for a possible EU initiative and asked to choose only one:

- 55% indicated that "there should be uniform EU legislation on the misappropriation of trade secrets"
- 24% opted for an "EU legislation establishing a comparable level of protection

The two other options were (a) the provision of information on the differences in national legislation (preferred by 10% of respondents favourable to an EU action) and (b) a Recommendation from the European Commission inviting Member States to improve national laws (4% of respondents favourable to an EU action).

Figure 3: Possible EU initiative



Other options suggested by respondents: some supported the combination of a legislative option and an information action by an EU body. One respondent was in favour of the "fastest option to implement". Some respondents suggested that EU action should also address the protection of trade secrets/confidential information disclosed by companies to public authorities, including EU institutions.

What should be content of a possible EU legislation or recommendation? (*Question I.9).*

Respondents were asked to give their views on the content of a possible recommendation from the European Commission or EU legislation. They were provided with seven non-exclusive options (multiple replies possible) and the possibility of suggesting other measures.

According to the majority of respondents an EU initiative should include the following:

Table 5: Possible content of an EU initiative – need for action

	Yes[5]	No
Prohibition of acts of misappropriation of trade secrets and definition of such acts	53%	42%
Rules ensuring that the confidentiality of the trade secret is kept during court proceedings and hearings, so that the trade secret is not further disclosed in the course of legal action	51%	41%
Empower courts to order a stop to the unlawful use of the misappropriated trade secrets in the whole of the EU	49%	42%
Empower courts to order all customs authorities in the EU to stop at the EU borders imports of products manufactured in a non-EU country using misappropriated trade secrets	48%	43%

N.B. The percentages here indicate the portion of all respondents to the consultation that are in favour of the measure in question

For a majority of respondents the EU should not act on the following areas:

Table 6: Possible content of an EU initiative – no need for action

	No	Yes
Uniform contractual rules on non-compete and/or non-disclosure clauses between the trade secrets owner and employees	55%	32%
Rules on criminal penalties and/or fines for individuals and organisations responsible for misappropriation of trade secrets	52%	39%

Views are split as regards to whether or not there should be EU Rules on the calculation of damages allowing to take into consideration all relevant factors, such as lost sales, unjustified profits by the defendant or fictitious/presumed royalties:

Table 7: Possible content of an EU initiative – inconclusive results

	No	Yes
Rules on the calculation of damages making it possible to consider all relevant factors (including presumed royalties)	43%	43%

The great majority of citizens are not favourable to any of the above-mentioned measures (with rejection rates above 75%).

By contrast the following content is supported by more than 60% of the companies:

Table 8 Possible content of an EU initiative – companies' view

	Yes	No
Prohibition of acts of misappropriation of trade secrets and definition of such acts	82%	11%
Empower courts to order the stop of the unlawful use of the misappropriated trade secrets in the whole of the EU	76%	14%
Empower courts to order all customs authorities in the EU to stop at the EU borders imports of products manufactured in a non-EU country using misappropriated trade secrets	77%	13%
Rules ensuring that the confidentiality of the trade secret is kept during court proceedings and hearings, so that the trade secret is not further disclosed in the course of legal action	78%	11%
Rules on the calculation of damages making it possible to consider all relevant factors (including presumed royalties)	66%	14%
Rules on criminal penalties and/or fines for individuals and organisations responsible for misappropriation of trade secrets	62%	24%

Half of the companies also find that an EU initiative should comprise uniform contractual rules. 30% of the companies do not agree.

Concerning other stakeholders, see the following table.

Table 9: Possible content of an EU initiative – by profession

	% of all citizens		% of all liberal professionals		% of all business associations		% of all research entities	
	Yes	No	Yes	No	Yes	No	Yes	No
Prohibition, and definition, of acts of misappropriation	18%	80%	51%	46%	88%	6%	63%	26%
Court orders stopping unlawful use of trade secrets in the EU	18%	76%	46%	49%	88%	3%	60%	32%
Court orders requesting customs to stop imports of infringing goods at EU borders	17%	77%	40%	51%	84%	6%	47%	32%
Rules on the calculation of damages	19%	77%	46%	46%	50%	19%	37%	42%
Uniform rules on non-compete and/or non-disclosure contractual clauses	15%	81%	34%	57%	22%	63%	53%	32%
Rules on criminal penalties and/or fines	16%	82%	31%	63%	47%	41%	53%	32%
Rules ensuring the confidentiality of trade secrets in civil law proceedings	20%	76%	40%	49%	91%	3%	63%	32%

Other possibilities

Several respondents called for clear definitions of 'trade secrets', 'misappropriation' and 'owner of trade secrets'. At the same time, it was recognised that these definitions should not be overly prescriptive as these concepts are likely to evolve together with technology.

Some respondents were in favour of legislation on corrective measures, such as the destruction of the goods manufactured using misappropriated trade secrets.

A few respondents suggested addressing evidence-related issues. A respondent underlined that, in his view, reverse engineering should not be allowed.

In the comments, several respondents underlined that contractual freedom is important, thus reinforcing the replies against EU action on uniform contractual rules on non-compete/non-disclosure clauses. However, a few of them suggested that, even if EU action is not appropriate, Member States should improve their rules in this regard.

Positive effects and impacts of a possible EU level legislation *(question I.10)*

For 51% of the respondents EU legislation would have positive effects. Respondents were allowed to indicate more than one positive effect (if any) and more than one negative effect (if any).

58% of research entities and 81% of the companies indicated one or more positive effects. Only 6% of citizens have indicated positive effets.The table below shows the different positive effects indicated by respondents.

Table 10: Positive effects and impacts of EU legislation

	Total No	Share
Better protection against the misappropriation of trade secrets/confidential business information	178	46%
Safer business environment would create better opportunities for different players to cooperate in R&D and innovation projects ("network/collaborative innovation" as opposed to "in-house innovation")	164	43%
A better legal protection of the results of innovative activities would trigger more investment in R&D and innovation	139	36%
Companies/researchers could better rely on effective cross-border law enforcement and costs would be lower when litigating in other EU Member States	131	34%
Greater expected returns from sharing, licensing or transferring know-how	115	30%
Better conditions for SMEs to raise funding or venture capital	105	27%
Companies/researchers would have to spend less for company-specific protective measures	74	19%

For 95% of companies an EU action would result in better protection against misappropriation. A majority of companies expected the positive effects suggested to materialise (with rates ranging from 54% to 78%); the only exception being 'savings would be made on company-specific protective measures' which only one third of the companies expect.

Table 11: Positive effects and impacts of EU legislation – by type of respondent

	Companies	Citizens	Liberal professionals	Business associations	Research entities
Better protection against the misappropriation	95%	11%	40%	91%	53%
Safer business environment would create better opportunities for "network innovation" as opposed to "in-house innovation"	78%	15%	40%	88%	47%
More investment in R&D and innovation	68%	10%	37%	78%	42%
More effective cross-border enforcement and costs lower litigation costs in other EU Member States:	33%	9%	34%	41%	32%
Greater expected returns from sharing, licensing or transferring know-how	55%	6%	31%	78%	37%
Better conditions for SMEs to raise funding or venture capital	54%	6%	29%	69%	32%
Lower expenditure in company-specific protective measures	32%	8%	19%	41%	21%

Some respondents referred to increased deterrence , more legal certainty and encouragement of innovation as additional positive impacts which could result from EU rules.A few respondents underlined that the international credibility of the EU would increase providing a positive example to third countries which are currently not protecting trade secrets.

Negative effects and impacts of a possible EU level legislation *(question I.10)*

43% of all respondents attach at least one negative effect to a possible EU legislation.

Table 12: Negative effects and impacts of EU legislation

	Total No	All respondents	Citizens	Companies
More court cases where companies try to raise market barriers for competitors	149	39%	97%	13%
Waste of resources in duplicative research ('re-inventing the wheel' if know-how is kept secret):	140	36%	96%	10%
Risk of abusive behaviour by competitors	138	36%	88%	12%
Incremental innovation more difficult (harder to build on others' innovation)	138	36%	94%	11%
Risk of endangering the existing balance between labour, civil and criminal law at national level	134	35%	86%	10%
Less labour mobility:	111	29%	76%	7%

The negative effect most often mentioned by respondents is the increase in the number of court cases where companies try to raise market barriers for competitors. This is also the case when only citizens or only companies are considered

The least frequently mentioned negative effect indicated by respondents is lower job mobility. Once again, this is also the case when only citizens or only companies are considered.

Similar results are obtained when separately looking at the responses provided by liberal professionals, business associations and research entities: a higher number of litigation cases brought for the purpose of raising barriers for competitors and the risk of abusive behaviour are the two possible negative impacts most often mentioned, whereas lower labour mobility is the least frequently mentioned negative impact associated with a possible EU legislation on misappropriation of trade secrets.

Table 13: Negative effects and impacts of EU legislation – by type of respondent

	Liberal professionals	Business associations	Research entities
More court cases where companies try to raise market barriers for competitors	37%	13%	37%
Waste of resources in duplicative research ('re-inventing the wheel' if know-how is kept secret)	34%	8%	32%
Incremental innovation more difficult (harder to build on others' innovation)	34%	7%	32%
Risk of abusive behaviour by competitors	37%	20%	42%
Risk of endangering the existing balance between labour, civil and criminal law at national level	37%	7%	37%
Less labour mobility	29%	7%	26%

In their comments, some respondents expressed concerns that protection of trade secrets at EU level could be detrimental to innovation (e.g. contrary to a patent, protected information is not disclosed to the public, so society would not benefit) and could result in anti-competitive behaviour. A few respondents highlighted that protection of trade secrets could threaten the freedom of speech, the right of information and whistleblowing practices. It was also invoked that EU rules on trade secret protection could facilitate opaque political action and undermine the transparency of public institutions and companies.

EU legislation on misappropriation of trade secrets and the Internal Market for intellectual property *(question I.11)*

46% of respondents find that the functioning of the Internal Market for intellectual property would benefit from EU legislation on misappropriation of trade secrets, mainly because:

- greater legal certainty and easier enforcement would encourage the exchange of intellectual property across borders in the EU (156 respondents or 40% of total respondents);
- better coordination and/or harmonisation would help in deterring misappropriation from non-EU countries and make intra-EU cooperation more interesting (144 respondents or 37% of total respondents). 72% of the companies agreed with these views.

However, a similar percentage of respondents (43%) do not agree. According to them the functioning of the Internal Market for intellectual property would not benefit from EU legislation on the misappropriation of trade secrets because such legislation would only incentivise companies to control and protect their intellectual property even more (143 respondents – 37% of all respondents) or because research cooperation and transfer of know-how across borders in the EU will not increase much as other factors hamper such activities and would not be solved (135 respondents 35% of all respondents).

Some respondents noted that EU legislation would in addition increase competitiveness of EU industry as well as accelerating growth and sustainable economic recovery. It was also underlined that improved protection against misappropriation of trade secrets will not result in fewer patents, but in a better tool to foster innovation and it would provide greater choice and flexibility to R&D companies. According to some respondents, EU entities would be less reluctant to develop certain markets and more willing to engage and partner with other actors across borders. A respondent indicated that "the current lack of harmonised protection for intellectual property in the form of trade secrets remains a big hole in the achievement of the single market".

Several respondents added that the concept "internal market for intellectual property" was not understandable. Individual comments also included the following:

– focusing on intellectual property is negative for society, research, innovation and the economy.
– less laws is better than new laws.
– the EU should protect individuals, not corporations.

IV. Use of trade secrets, their misappropriation and legal action

Holding trade secrets and making efforts to protect them *(questions II.1 and II.2)*

223 respondents (58% of all respondents) declare to hold trade secrets. Of these, 150 respondents (40% of all respondents) claim to hold trade secrets that they consider of crucial importance. 37. 37% of all respondents make considerable effort to protect their trade secrets.

Most respondents declaring to hold trade secrets of crucial importance are companies (63%), individuals working in liberal professions (7%) and research entities (4%) but, interestingly, a substantial part of those trade secret holders are citizens (19%). The views expressed by these different stakeholders diverge. For the majority of the citizens that claim to hold trade secrets that

they consider of crucial importance trade secrets are not an important tool for business and research bodies in the EU (55%), they consider legal protection at national level excessive (52%) and do not see a need for EU action on legal protection against misappropriation of trade secrets (52%). By contrast, companies, liberal professionals and research entities, holding trade secrets of crucial importance, regard trade secrets as an important tool for business and research bodies in the EU (95%), consider legal protection at national level weak (54%) and favour EU action (88%).

70% of all responding companies and research entities hold trade secrets of crucial importance and 65% make considerable effort to protect them; for SMEs and micro-enterprises the respective figures are 61% and 58% .

Technology and know-how agreements *(question II.3)*

41% of all respondents have entered in technology or know-how transfer agreements. These are mostly companies (60%), but also citizens (22%), liberal professionals (8%) and research entities (6%). Most companies (77%) are or have been parties to such agreements either at national level or abroad.

Instances of trade secret misappropriation and typical actors *(questions II.4 and II.5)*

75 respondents (19% of all respondents), mainly companies (77%), but also citizens (15%), report to have suffered misappropriation of an important trade secret, either once or twice (38 respondents) or more frequently (37 respondents). Typical perpetrators of trade secret misappropriation are:

- former employees (indicated by 53% of respondents that have been subject to trade secret misappropriation),
- suppliers/customers (indicated by 52%), and
- competitors (48%).

The percentages do not add up as some respondents have suffered misappropriation more than once. In addition several actors may be involved in one instance of misappropriation (for example, one competitor acting together with a costumer or employee).

32% of the responding companies reported never to have been victims of trade secret misappropriation, whereas 46% have at some point suffered misappropriation of important trade secrets. (22% once or twice and 25% more often). The vast majority of companies from which trade secrets have been misappropriated are either active EU wide (24%) or operating from France (29%), Germany (14%) Austria, Spain or Poland (5% each).

Legal action against misappropriation of trade secrets *(question II.5)*

Respondents that have reported instances of trade secret misappropriation were asked to indicate whether they have sought legal redress. Given that half of them suffered trade secrets misappropriation more than once multiple choices were allowed and therefore percentages do not add up. On at least 33 instances no action was taken. On at least 18 instances action was taken but it was not successful. On 19 cases, at least action was taken but it was not sufficient to compensate for the damages suffered. On at least 3 instances, action was taken and damages were sufficiently compensated.

In order to cover other courses of action and outcomes respondents were given the possibility of submitting comments. This was used by some respondents to indicate that in some cases legal proceedings have been but subsequently settled out of court. In at least one case, the settlement was, in view of the respondent, for an "inappropriately low amount", a result essentially due to "inappropriate protection". Another respondent pointed out that it was unsuccessful in obtaining the destruction of the infringing goods. A respondent underlined that the decision not to initiate legal action was based on costs. Another one reported that once an injunctive order is obtained, claims for damages are often not pursued, due to complexity. In some cases, the legal action initiated by respondents was still pending.

Trade secrets and use of other forms of intellectual property *(questions II.7 and II.8)*

54% of all respondents use copyright, 38% trademarks, 32% patents and 24% designs.

Respondents do not have strong views on what could be a reason for not using patents, with 42% indicating 'no opinion'. Some respondents stated that sometimes they would not be using patents because they were expensive (19%), not effective (17%) or because they were not available for the subject matter at hand (17%). Within companies the reason most often indicated for not using patents is lack of availability (25%).

Respondents were even less assertive in respect of other intellectual property rights and possible reasons behind non-use of such forms of protection, with 'no opinion' rising to 47% in case of designs, 52% in case of trademarks, 49% in case of copyright and 53% in case of geographical indications.

V. Views of respondents by category

This chapter presents the findings of this consultation by category of respondents instead of by question.

What citizens say

Of the 152 participating citizens, nearly half (46%) are from Germany, 15% from Belgium, 11% from Sweden, 7% from France, 4% from Austria and 3% from Spain.

Most citizens regard trade secrets as having low importance for R&D (75%) as opposed to 18% that find them highly important. 77% do not believe that trade secrets are important for economic growth and jobs in the EU (77%). A similar majority considers that trade secrets are of medium importance for: (a) exploitation of innovation (i.e. turning an invention into a marketable product) (71%), (b) Innovative and competitive performance of SMEs (74%) and (c) Innovative and competitive performance of large companies which operate internationally (69%). While 55% of citizens find that trade secrets have no impact on consumer choice, 24% find that they have a strong negative impact on prices.

Three in four citizens regard existing legal protection of trade secrets as excessive at all levels (National, EU and International). 67% find that divergence of national laws has no impact on the protection of trade secrets against misappropriation and 75% do not see a need for an EU action,

(against 19% that are supportive of an action at EU level). A large majority of responding citizens finds that a EU legislation would have the following negative impacts: more court cases where companies try to raise market barriers for competitors (97%), waste of resources in duplicative research (96%); incremental innovation would be more difficult (94%), increase risk of abusive behaviour by competitors (88%).

What SMEs and micro enterprises say

SMEs

48 SMEs (excluding micro enterprises) participated in the consultation. 13 respondents are from France, 9 from Germany, 6 from Italy, 5 from Poland and 3 from Spain. The remaining come from Austria, Belgium, Denmark and the Netherlands (with either one or two participants).

SMEs tend to regard trade secrets as highly important for R&D (81%) and exploitation of innovation (i.e. turning an invention into a marketable product) (75%). 25% find trade secrets of medium importance to the innovative and competitive performance of SMEs, whereas 69% see trade secrets as highly important for that matter. 88% consider trade secrets an important tool to protect valuable information either complementing or replacing intellectual property rights.

A significant proportion of SMEs finds protection in the EU weak at national level (44%) and even more consider it to be weak on a cross-border level (52%). 80% find that having different/divergent national rules means that there is a higher business risk in the Member States with weaker protection and for 60% of the SMEs this implies that there is less incentive to undertake research and development activities in a cross border context. According to 54% SMEs different/divergent national rules reduces cross-border business activity. 10% do not see a negative impact.

Half of the respondent SMEs hold patents. The major reasons for not using patents are: nonavailability (indicated by one in three) and expensiveness (23%). 65% of SMEs consider trade secrets to be of crucial importance. 23% of SMEs were victims of trade secret misappropriation once or twice whereas 13% have been misappropriated more frequently. Thus, 36% of responding SMEs have suffered from trade secret misappropriation.

73% of the SMEs are in favour of having EU legislation on misappropriation of trade secrets, and 13% find that no such initiative is required. Those calling for action believe that such an initiative should cover: prohibition and definition of trade secrets (75%), empowering courts to order the stop of the use of the misappropriated trade secrets in the whole EU and rules ensuring confidentiality of trade secrets during litigation (73%) and empowering EU customs authorities to stop infringing goods at borders (71%).

Micro enterprises

11 micro enterprises participated in the consultation. 55% consider that trade secrets have low importance for R&D and are not an important tool to protect valuable information. At the same time 91% find that trade secrets have a medium to high importance in the innovative and competitive performance of SMEs. 55% find existing protection at national level excessive (against 36% that see it as too weak) and see no negative impact from having different national laws throughout the Union. 64% are of the opinion that no EU action is required in this field.

What business organisations say

32 business organisations responded to the consultation, a large portion being French-based and EU wide organisations (10 and 8, respectively). 81% of the business organisations consider trade secrets to be highly important for growth and jobs in the EU, and around 90% find trade secrets as highly important for: R&D, exploitation of innovation, innovative and competitiveness of SMEs as well of large companies operating internationally. Business organisations tend to find trade secret protection as weak at national level (40%) against 16% that find it appropriate and 3% that find it excessive. There is a broader consensus on the weakness of protection on an EU level (81%) and globally (75%).

For 94% legal protection against the misappropriation of trade secrets should be addressed at EU level. 50% favour the adoption of uniform EU legislation, 22% would prefer legislation establishing a comparable level of protection across the EU, whereas for 8% Member States should be invited to improve their laws.

All responding business organisations perceive negative impacts in having different/divergent national rules on the protection of trade secrets against misappropriation. These include: higher business risk in the Member States with weaker protection (91%), increased expenditure in preventive measures to protect information (88%), less incentive to undertake research and development activities in a crossborder context (78%), increased costs in adapting licensing models to different/divergent national rules (63%) and reduced cross-border business activity as trust in legal protection in other Member States diminishes 53%).

A vast majority (94%) see positive effects/impacts in an EU initiative, including: better protection against misappropriation (91%), a safer business environment with better opportunities for different players to cooperate in R&D and innovation projects (88%), more investment in R&D and innovation and greater expected returns from sharing, licensing or transferring know-how (78%), more reliable cross-border enforcement and lower litigation costs (72%) and better conditions for SMEs to raise funding or venture capital (69%).

Some business organisations have also indicated negative impacts associated with an EU initiative, such as more court cases where companies try to raise market barriers for competitors (13%), risk of abusive behaviour by competitors and less labour mobility (9%)

According to more than 87% of responding business organisations an EU initiative should address the following (1) prohibition of acts of misappropriation of trade secrets and definition of such acts; (2) empowerment of courts to stop unlawful use of misappropriated trade secrets throughout the EU, and (3) rules ensuring the confidentiality of trade secrets during court proceedings and hearings.

Business organisations do not support the setting up of EU rules on non-compete and/or nondisclosure clauses, and are split on whether the EU should put forward criminal penalties or fines on misappropriation of trade secrets (47% in favour and 41% against).

What Member States say

Sweden agrees that it is meaningful to examine the possible benefits of EU action, but notes that misappropriation of trade secrets involves not only economic issues but also difficult and sensitive issues of how EU legislation would interrelate with national rules on labour law, whistleblowing and freedom of expression, which have not been addressed in the consultation. As a possible initiative from the European Commission Sweden would favour a Green Paper or a Communication (not

limited to an economic or technical perspective) to be subsequently subject to a public consultation before any further action is taken.

Estonia finds trade secrets highly important for R&D, exploitation of innovation, innovative and competitive performance of both SMEs and large companies. It considers the protection of trade secrets against misappropriation weak at cross-border level in the EU and it favours the adoption by the European Commission of a recommendation inviting Member States to improve their respective national laws.

Denmark and France have sent written contributions outside the framework of the Internet based questionnaire.

Denmark attaches considerable importance to an effective protection of business and research information, which it considers of vital importance for competition in European markets, growth and employment in the European Economy and the international competitiveness of Europe as a whole. Legal protection against cross-border use of illegally acquired trade secrets can be improved. However, the public consultation in Denmark has resulted in no responses from stakeholders, and therefore the Danish Government finds that a more detailed examination of the issue, i.e. through a Green paper, should be carried out before taking any steps further towards legislation.

France considers that trade secrets have a strong positive impact on: (1) R&D in companies and research entities; (2) exploitation of innovation, innovation and competitive performance of SMEs and large companies; (3) growth and jobs as well as in competitiveness of the EU in the world, and (4) competitiveness of the EU in the world. France considers the existing legal protection of trade secret against misappropriation to be weak in the EU on a cross-border level and also at the global level. A definition of trade secrets at EU level should be inspired by the definition provided by TRIPS, and be sufficiently flexible to allow some margin of manoeuvre to Member States. France favours the dissemination of reliable information by a European body on the legal frameworks and the importance of protecting trade secrets as well as guidance on best practices. A possible EU legislation, or Recommendation, should comprise a definition of trade secrets and of misappropriation of trade secrets, and allow for court orders stopping unlawful use of trade secrets in the EU.

What trade unions say

Four trade unions have participated in the survey. The three Swedish trade unions do not favour an EU initiative of legal protection on the trade secrets against misappropriation as they fear that it may disrupt the existing balance between labour, civil and criminal law in Sweden and hinder job mobility.

Two of them further stressed the need to preserve transparency and freedom of expression, and expressed particular opposition to any EU initiative on criminal sanctioning of misappropriation of trade secrets.

A French association is in favour of an EU initiative leading to uniform EU legislation on the misappropriation of trade secrets.

What NGOs say

Five respondents have filed their replies to the public consultation as NGOs (Non-Governmental Organisations) although one of the contributions does not actually express any view on any of the questions asked. Two NGOs (Vrijschrift and European Digital Rights) do not see trade secrets as

having a positive role for in R&D, innovation, competitiveness or growth and jobs, and do not support an EU initiative in this field. Two others (Foundation pour le droit continental and ECTA – European communities Trade Mark Association) have the opposite view.

What patent owners say

122 respondents (31% of all respondents) are patent owners. Trade secrets are generally perceived as complementing other industrial property rights. The views expressed by patent holders strongly support this assertion. Between 79% and 82% considered trade secrets highly important for R&D, exploitation of innovation, innovation and competitive performance of SMEs, and for large companies operating internationally.

88% of responding patent owners consider trade secrets as either complementary or both complementary and alternative to intellectual property rights. One patent owner sees trade secrets exclusively as an alternative to intellectual property rights.

78% find that EU legislation should address misappropriation of trade secrets. 80% state that they hold trade secrets of crucial importance and 48% have been victims of trade secret theft, either once or twice (21%) or more frequently (27%).

What owners of design rights say

93 respondents (one in four of all respondents) own design rights. 82% of them hold trade secrets which they consider of crucial importance and they consider trade secrets as being complementary (39%) or both complementary and alternative to intellectual property rights (44%). 18% of design owners were once or twice victims of trade secret misappropriation and 30% have suffered from misappropriation of trade secrets more frequently.

76% find that the legal protection against the misappropriation of trade secrets should be addressed at EU level, in particular for the purposes of prohibiting misappropriation of trade secrets and providing a definition of what is misappropriation (81%), empowering courts to order all customs authorities in the EU to stop at the EU borders imports of products manufactured in a non-EU country using misappropriated trade secrets (75%), and ensuring that the confidentiality of the trade secrets/confidential business information is kept during court proceedings and hearings (75%).

ANNEX 3 – THE SPECIFIC INDUSTRY SURVEY

An industry survey (referred to as the "2012 Industry Survey") was undertaken in the context of the second external study carried out for Commission[307].

A3.1. Methodology and replies

Methodology

The 2012 Industry Survey followed, to the extent possible, the guidelines provided by the OSLO Manual 3rd edition (2005) for the collection and interpretation on innovation data, developed by the OECD and EUROSTAT.

The Target Population for the survey was a subset of the EU business enterprise sector, including both goods-producing and services industries. Enterprises belonging to the public administration were not covered.

The primary statistical unit is the "enterprise" according to the EU definition (see OSLO Manual, ch. 4): "*the smallest combination of legal units that is an organisational unit producing goods or services, which benefits from a certain degree of autonomy in decision making, especially for the allocation of its current resources. It may carry out one or more activities at one or more locations and it may be a combination of legal units, one legal unit or part of a legal unit*." In particular, for multinational corporations, local branches were considered as independent units.

In the statistical investigation, enterprises were classified according to their "size," according to the number of employees:

Small: 1-49 employees

Medium: 50-249 employees

Large: 250 employees and above

Economic activities were classified according to NACE rev. 2.

17 sectors were covered:

1. Manufacturing: Textiles
2. Manufacturing: Chemicals and chemical
3. Manufacturing: Basic pharmaceutical and Biotech
4. Manufacturing: Computer, electronic, optical
5. Manufacturing: Machinery and equipment
6. Manufacturing: Motor vehicles
7. Electricity, gas steam and air-conditioning supply and water supply; sewerage, waste management and remediation activities
8. Wholesale trade, except of motor vehicles and motorcycles
9. Transportation and storage
10. Information services activities

[307] Cf. Baker & McKenzie (2013), cf. p. 115 and Annex 17 of that study.

11. Publishing activities

12. Telecommunications and Computer programming, consultancy and related activities

13. Fast moving consumer goods

14. Financial and insurance activities

15. Scientific research and development

16. Advertising and market research

17. Legal and accounting activities

The sample frame includes the following (13) countries: Austria, Belgium, Czech Republic, France, Germany, Hungary, Italy, The Netherlands, Poland, Spain, Sweden, Switzerland, and the United Kingdom.

The sample was stratified so as to include at least two respondents for each activity and each country: one small-medium and one large enterprise. Thus, the theoretical sample includes 1 respondent x 2 enterprise sizes x 13 countries x 17 activities = 442 respondents.

For each country, a sample of firms belonging to the frame identified above was established. This sample was obtained by random selection from the official statistical sources. On top of the basic sample (with 442 elements), other companies willing to take part in the survey were allowed to participate.

The survey was carried out online, following standard CAWI (Computer Assisted Web Interviewing) methodology, and, where needed, on the phone (Computer Assisted Telephone Interview).

The time span for the interviews run from 14 November to 4 December 2012.

Replies

The 2012 Industry Survey received 537 responses from European companies (see Figure A3.1).

	AUSTRIA	BELGIUM	CZECH REPUBLIC	FRANCE	GERMANY	HUNGARY	ITALIA	NETHERLANDS	Other countries	POLAND	SPAIN	SWEDEN	SWITZERLAND	UK	Total
Manufacturing: Textiles	2	4	3	3	2	5	9	2		3	1	2		1	37
Manufacturing: Chemicals and chemical	2	6	1	5	6	2	4	1	2	2	2	3	3	3	42
Manufacturing: Basic pharmaceutical and Biotech		4	2	1		2	3	2	1	2	3	5	2	1	28
Manufacturing: Computer, electronic, optical	2	1	3	2	1	1	2	3		4	2	2	1	1	25
Manufacturing: Machinery and equipment	4	1	2		3	2	7	3		2	3	5	3	3	38
Manufacturing: Motor vehicles		2	3	1	2	1	5				2		1	1	18
Electricity, gas steam and air conditioning supply and Water supply; sewerage	2	2	2	3	2	3	2			6	2	1	1		26
Wholesale trade, except of motor vehicles and motorcycles	2		2	2	2	1	2	2		2	2	1	3	3	24
Transportation and storage	3	3	3	4	4	6	5	2		3	2	2	2	2	41
Information services activities	1	2	2	3	1	1	3	3		1	4	3	1	2	27
Publishing activities	4	2	2	2	2	1	3	3			2	2	2	3	28
Telecommunications and Computer programming, consultancy and related activities	5	4	4	4	3	3	2	2	1	1	2	4	4	4	43
Fast moving consumer goods	2	3	2	3	4	3	6	2	1	2	2	2	1	4	37
Financial and insurance activities	3	2	3	2	3	5	2	2		2	2	2	4	2	34
Scientific research and development	2	4		2	2	4	3	4	2	3	4	1	5	4	40
Advertising and market research	3	3	1	1	1	3	2	2			3		2		21
Legal and accounting activities	1	1	3	2	3	1	2	2		1	5	4	2	1	28
Total	38	44	38	40	41	44	62	35	7	34	43	39	37	35	537

Figure A3.1 – Responses to the 2012 Industry Survey by sector and geographical origin

Geographical origin of replies:

– 493 replies came from EU Member States: AT, BE, CZ, FR, DE, HU, IT, NL, PL ES, SE and UK.

– 37 replies came from Switzerland and 7 from other countries.

Size of respondents: SMEs accounted for 60% of the sample (323 companies).

A3.2. Findings of the survey.[308]

Highlights Survey Section A: Your Trade Secrets

Importance

The survey results strongly affirm the observations from the legal and economics literature that trade secrets and confidential business information ("TS/CBI") are critically important to the growth, competitiveness, and innovative performance of European companies.

Overall, 75% of the survey respondents ranked TS/CBI as being strategically important to their company's growth, competitiveness and innovative performance. The survey results also confirm the importance of TS/CBI to individual business sectors, although their relative importance varies by industry sector as previously observed. Sectors providing the largest share of "High Importance" responses are scientific research and development (55%), chemical manufacturing (52%), and motor vehicles manufacturing (44%). The industries with the lowest share of "high" responses include publishing activities (21%), information services activities (19%), wholesale trade (other than motor vehicles) (17%), and legal and accounting services (7%). Overall, the survey results indicate that TS/CBI represent very important components of intellectual property to both large and small/medium firms.

Nature of Trade Secrets

The survey responses confirm that TS/CBI of all types are viewed as valuable to European companies.

The most highly-valued types of TS/CBI relate to "Commercial bids and contracts, contractual terms", followed by "Customer or supplier lists and related data", and then "Financial information and business planning". TS/CBI information related to "R&D data", "Process know how and technology", "Formulae and recipes", "Product technology", and "Marketing data and planning" were also ranked by respondents as highly valuable. As suggested by prior economic research, there are significant differences among industries in terms of the relative importance assigned to different types of TS/CBI. Commercial bids and contracts are ranked as the most valuable in the chemical, computer, wholesale trade, telecommunications, fast-moving consumer goods, and scientific research and development sectors. In pharmaceuticals, the most valuable TS/CBI is associated with marketing data and planning, while customer and supplier lists are perceived as high value for the machinery and equipment, motor vehicles, transportation and storage, advertising and market research, and legal and accounting service sectors. Overall, large firms seem to attach greater value to each category of TS/CBI than small/medium firms, but the survey results make clear that all types of TS/CBI are important to firms of every size.

Relationship with other intellectual property rights

Consistent with the findings of the economics literature, the survey results confirm that European companies rely upon many forms of intellectual property protection in addition to TS/CBI, such as copyrights, patents, trademarks, and designs.

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308 Section A3.2 of this Annex is based on Baker and McKenzie (2013), p. 132 and seq. For the charts presenting the findings, see *ibid*. For more detail about the results and highlights, see *Ibid*. p. 119 and seq. as well as Annex 17 of that report.

Survey respondents indicated that copyrights were of medium-to-high importance (combined 43.7% of medium and high importance responses). Patents were also viewed as of medium-to-high importance (combined 49.4%) in addition to TS/CBI. As expected, reliance on other forms of intellectual property protection varies substantially across industries. Copyrights rank highly in the pharmaceutical, advertising, publishing, and telecommunications, and computer programming industries, whereas patents rank highly in the pharmaceutical, chemical, machinery and equipment, and scientific research sectors. Firms of all sizes rely upon other forms of intellectual property protection in addition to TS/CBI.

A significant number of respondents, however, assigned low importance to other categories of intellectual property rights, or otherwise indicated that such other categories were "Not Applicable". The large number of responses in these categories suggests that many firms may rely on trade secret protection exclusively, or to a much greater degree than reliance on other forms of intellectual property protection. Firms that rely exclusively or principally on trade secret protection may therefore benefit from strengthened protection independently of Commission initiatives with respect to other forms of intellectual property.

The survey confirms that there are many considerations faced by companies when choosing to rely on TS/CBI as compared to other potential forms of intellectual property protection.

The most important reason identified by survey respondents for relying upon TS/CBI concerns the preference to avoid disclosure of valuable information (52% positive responses). Non-disclosure was ranked as the most important reason for protecting knowledge by almost every industry sector (with the exception of motor vehicle manufacturing). The second most important reason for reliance on TS/CBI relates to the lack of eligibility of the knowledge for protection under other protection means (30% positive responses). The least important reasons for reliance of TS/CBI as compared to other intellectual property rights relates to the short duration of information (19%) and inadequate protection of other intellectual property rights (19%).

Trade Secrets sharing

Approximately 60% of survey respondents stated that they used or shared TS/CBI regularly or occasionally with third parties.

The sectors with the greatest amount of sharing occur in the scientific R&D, motor vehicles, and chemical sectors. Both large and small firms share TS/CBI with third parties, although larger firms appear to share more than smaller firms. Focusing on reasons why companies do not share TS/CBI with third parties, companies cited strategic reasons (49% positive responses) and concerns over losing confidentiality of information (39% positive responses) as the most important reasons. Concerns over confidentiality are viewed as most important to the chemical (67%), motor vehicle (61%), and pharmaceutical (57%) sectors. Fears over the loss of confidentiality and other strategic reasons are important to firms of all sizes, but were cited more heavily by large firms compared to small/medium firms.

Highlights of Survey Section B: Threats to Your Trade Secrets

Asked about primary means by which companies usually obtain information about products, services and strategies of other market players, survey respondents identified clients and customers as the most important means (34% of high responses), followed by suppliers (22%), employee mobility

(17%), and conferences (16%). Of special importance are acts of espionage. Survey respondents in the motor vehicle (39%) and pharmaceutical (21%) industries ranked espionage as high concern. Divulgation by regulators is regarded as particularly important by respondents in the pharmaceutical and motor vehicle sectors.

Threat of misappropriation

Companies were also asked about the extent to which various persons posed a risk of unauthorized access, disclosure, or leakage of TS/CBI.

Survey respondents indicated that threats were presented from many sources, including current and former employees, competitors, customers, and suppliers. In the telecommunications and financial sectors, former employees are considered of special concern to companies, whereas in the pharmaceutical, publishing, and financial sectors, competitors are of greatest concern. Regulatory agencies are also of concern to the pharmaceutical sector.

Risk of misappropriation over time

Companies were also asked whether the risk of exposure to TS/CBI misappropriation has increased over the last 10 years.

The majority of survey respondents perceives the risk of misappropriation as having increased over the last 10 years (38% affirmative responses) or remained constant (44.5% affirmative responses). The perception that the risk of misappropriation has increased is particularly strong in the chemical and pharmaceutical sectors.

Highlights of Survey Section C: Protection and Misappropriation of Your Trade Secrets

Differential treatment of TS across countries

Survey respondents were asked, if trading in more than one EU country, whether they apply different TS/CBI protection measures (e.g., confidentiality agreements, non-compete covenants, physical access restrictions, etc.) depending on the country in question.

In the aggregate, only 23% of survey respondents responded that they apply different measures. The percentage of affirmative responses varies significantly by industry, although the chemical and pharmaceutical industries show the highest level of affirmative responses. It is interesting to note, however, that the survey results vary significantly across member countries. For example, 41.5% of the survey respondents in Germany indicated that they would apply different TS/CBI protection techniques in different countries, whereas only 8.1% of Italian companies operating in more than one country reported that they apply different protection techniques.

Attempts/acts of misappropriation

Survey respondents also confirm they had suffered attempts or acts of misappropriation of TS/CBI over the last 10 years, both within and outside the European Union.

Out of the 537 respondents, 110 (20.5%) have suffered at least one attempt of misappropriation within EU countries. Companies experiencing such acts are found to be highest in the chemical, motor vehicle, and pharmaceutical sectors, with slightly lower rates in the telecommunications, electricity and gas, and computer sectors. Attempts or acts of misappropriation outside the European

Union also occurred frequently in the last 10 years, albeit at a lower frequency (91 instances out of a sample of 537 companies). The motor vehicle, scientific research, and chemical sectors reported the highest rates of attempts or acts of misappropriation outside the EU. Larger firms report a higher frequency of attempts or acts of misappropriation than small/medium firms both inside and outside the European Union.

The parties identified as being primarily responsible for the attempts or acts of misappropriation are the competitors (53% of positive responses), former employees (45%), and customers (31%).

Consistent with other survey questions, the results vary widely across sectors. Instances involving former employees are slightly more frequent for large firms. Occasional problems with regulators are reported by both the chemical and pharmaceutical industries.

Consequences of misappropriation

Companies report substantial adverse consequences as the result of attempts of acts of misappropriation of TS/CBI. Asked to indicate the consequences suffered as a result of attempts or acts of misappropriation, survey respondents indicated they had suffered a loss of sales, clients, and contracts (56% of affirmative responses); costs for internal investigation (44%); increased expenditure for protection (35%); costs for negotiating settlements (34%); and costs for prosecuting and litigating (31%).

The loss of sales, clients, and contracts are reportedly important in a wide variety of industries, including the chemical, pharmaceutical, computer, and machinery and equipment manufacturing sectors, and to both large and small/medium firms.

Highlights of Survey Section D: Litigation to Protect and Defend Your Trade Secrets

Of the 140 companies that reported attempts or acts of misappropriation in response to the Section C survey questions, only 57 (40.7% of responses) sought remedies in EU courts.

Of the 57 companies that sought remedies in EU courts, the following remedies were obtained by companies: Court orders to search and secure evidence of misappropriation (32%); award of damages or other monetary compensation (32%); criminal sanctions against the perpetrator (30%); and court orders stopping the unlawful use of misappropriated trade secrets (28%). Companies seldom obtained relief from a court order to seize goods at the EU border, and, in a significant percentage of instances (17.5%), companies listed “none of the above” for the remedy sought.

Survey respondents who indicated that they had obtained a court order from a national court to stop the use of misappropriated TS/CBI in the territory of the respective Member State were further asked whether they had sought to enforce the order in other Member States.

Out of the 57 companies concerned, 10 companies were successful in enforcing the orders in all Member States; 16 companies were not successful in all Member States; eight preferred to start separate legal actions; three companies reported that it was too costly; seven companies reported that the uncertainty was too great; and nine reported that there was no need, although the reason for not needing were not specified.

Companies deciding not to seek a legal remedy against misappropriation in the European Union cited a wide variety of reasons for not doing so.

Of particular importance, companies cited difficulty in collecting evidence (43% of positive responses); reputation (30% of positive responses); and litigation costs (30%). Less important factors were lack of trust of the judicial system of the relevant Member State; fear of losing TS/CBI during the court proceedings; and inability to identify the offender. Companies were also asked whether they had experienced in the past 10 years, as a defendant, abusive litigation by a competitor trying to intimidate the company with false accusations of misappropriation.

Abusive litigation

The survey responses indicate that abusive litigation is of some concern.

Sixty companies out of a sample of 537 report instances of abusive litigation within the EU. This concern appears to be particularly important to the motor vehicle, chemical, and pharmaceutical industries.

Highlights of Survey Section E: Added Value of Any EU Action in this Area

Surveyed companies were asked whether they believe that the European Commission should propose an EU legislation with a view to ensuring that the national rules providing relief against misappropriation of TS/CBI provide effective and equivalent protection across the EU. Significantly, 69% of the respondents indicated support for an EU proposal.

Companies supporting such an initiative outnumber those objecting or indifferent to such a proposal in all industries. Support rates for such a proposal are particularly high in the motor vehicles (83%), chemical (79%) and wholesale (79%) sectors. Conditional and unconditional support are roughly equal (34% and 35%, respectively). Large firms are marginally more supportive than small/medium-sized enterprises, although firms of all sizes appear to support such a proposal.

Scope of EC intervention

Companies were further asked whether they would benefit from common rules on various policy actions, such as clarifying the nature of TS/CBI to be protected, prohibition of acts of misappropriation of TS/CBI, and a definition of such acts, etc.

The survey responses indicate that companies would derive some benefits from all the measures listed. The measures that obtain the largest positive rates are: clarifying what TS/CBI is to be protected (55%), and prohibition of acts of misappropriation of TS/CBI and a definition of such acts (45%). Clarification of TS/CBI to be protected is regarded as providing a benefit by the majority of the companies in the advertising (81%), pharmaceutical (71%), chemical (71%), scientific research (65%), transportation and storage (58%), publishing (57%), legal (54%), and machinery (53%) sectors.

Prohibition of acts of misappropriation of TS/CBI and a definition of such acts is regarded as providing a benefit by the majority of the companies in the chemical (67%), motor vehicle (61%), pharmaceutical (57%), legal (53%), advertising (52%) and scientific research (50%) sectors. Rules on the calculation of damages are regarded as providing a benefit by the majority of the companies in the chemical (52%), scientific research (50%) and legal (50%) sectors. National court orders rank the least (28% of positive rates). Still, they are regarded as providing a benefit by majority of the companies in the pharmaceutical (50%) and motor vehicle (50%) sectors.

The final survey questions seek to identify potential costs and benefits of EU common rules with respect to the protection of TS/CBI.

On the positive side, companies regard deterrence as the most important factor (49% of positive responses), followed by greater legal certainty (43%). Somewhat less important is attached to better opportunities to cooperate (24%), less resources on company-specific protection measures (22%), higher investment in R&D and innovation (20%), greater returns from sharing, licensing or transferring know-how (18%), and better conditions for accessing funding (15%). Responses vary greatly across industries. Deterrence is highly ranked in the chemical (73%), motor vehicle (61%), pharmaceutical (61%), advertising (57%), machinery (55%), wholesale trade (54%) and legal (50%) sectors, while ranked less high in the telecommunications (28%), electricity (30%) and information services (30%) sectors. Better opportunities to cooperate ranks exceptionally high in the pharmaceutical sector (60%). The sector which seems to benefit less from EU common rules are the information service activities, where 48% of the companies perceive no positive benefits, and the electricity sector, where 38% of the companies perceive no positive benefits.

On the negative side, companies rank the following factors as potential costs. First, nearly one in four companies believe that “Competing trade secret holders could try to raise market barriers by carrying out abusing/intimidating litigation or similar behaviour” (23% of positive responses). A smaller fraction of companies think that EU common rules will make it difficult to carry out incremental innovation (17%), that there will be duplicative research (15%), and that there will be less labour mobility (6%). The latter factor is if some importance in the machinery sector (16%). On average, 76% of the companies perceive some potential negative effect (77% of small/medium firms, 75% of large firms). Nearly 30% of the respondents expresses no opinion.

ANNEX 4 – TRADE SECRETS AND THEIR SCOPE: THE RELATION WITH BUSINESS SECRETS AND PROFESSIONAL SECRECY

A4.1. What are trade secrets?

What are trade secrets?

Companies carry out their business on the basis of information and knowledge. The search of what can be sold, to whom, through which means, at what price, under what conditions and how to get it done or manufactured at the lowest cost possible while providing customer satisfaction is capital to companies. Acquiring, developing and continuously improving information and knowledge requires time, resources, talent and creativity. It also generates benefits that may pay off such efforts. A company that implements a new and more cost-efficient manufacturing method, unknown to other market players, will be in advantageous position vis-à-vis competitors. This company may try to preserve such advantage gain (i.e. to "appropriate" the results of the innovation) by preventing accidental or unauthorised disclosure of information not known to competitors. Thus, whenever a company holds valuable information that is not generally known and treats it as confidential, one can say that such company owns[309] a trade secret.

Thus, in economic terms, a trade secret may be defined as economically valuable information or knowledge[310] which is not generally known and which an entity (e.g. a company or research body) chooses to protect through secrecy rather than to disclose it in order to obtain an economic/commercial advantage[311].

A terminology problem?

The use of the term "trade secret" is not universal. Other expressions are often used with a similar or overlapping meaning: e.g. "confidential business information", "(secret) know-how", "technological know-how"[312], "proprietary information/technology", "undisclosed information"[313], "business secrets"[314], "commercial trade secrets"[315] etc. In this impact assessment, the term "trade secret" will be preferred.

The distinction between such expressions is not always self-evident. Their precise meaning may depend on the context in which they are used. For instance, "proprietary technology" is often used to refer to technology that a company considers to be of its own – be it because it owns a patent

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309 Companies treat and keep trade secrets as if they were property. However, the reference to ownership is used here purely for convenience; it does not imply that a proprietary right is involved. For a discussion on whether information can be treated as a form of property, see UK Law Commission (1997), p. 18 and seq.

310 The protected information must have some actual or potential economic value to someone else that the owner of the secret (that someone else need not be a competitor at the material time) to qualify as a trade secret. Not all confidential information has commercial value or is business-sensitive.

311 The owner must derive value from the secrecy of the information.

312 Expression used in Van Eecke & al. (2009) to refer to the acquisition, protection and exploitation of technology in the "*wider context of the protection of confidential information and trade secrets*". Ibid. p. 28. This study also states that "most European countries have developed legislation to protect technological 'trade secrets' or 'know-how'". *Ibid*. p. 281.

313 This is the expression used in TRIPS to refer to trade secrets.

314 This expression is often used in the context of the protection of the information which a business must disclose to regulatory authorities. See below Section A4.2 of this annex.

315 Lang (2003).

over it, because it holds it secretly, or because it is partially covered by patents, with secrecy being applied to the remainder.

In other cases, these terms are sometimes used interchangeably. This applies in particular to "know-how" which "*can be somewhat synonymous*"[316] with trade secrets. Indeed, in certain contexts, such as in a know-how transfer agreement with confidentiality clauses, the know-how subject to the transaction may be to a large extent formed by trade secrets; however, generally speaking "know-how" does not imply secrecy and it can be used as a reference to certain skills or expertise that have become of common knowledge within specialised circles.

A large overlap exists with the term "confidential business information" which is also often used as interchangeable with "trade secret". Not all the information generated or kept by a company is or should be confidential. Following IPR Helpdesk (see Figure A4.1), confidential information may refer to personal information (e.g. journals, pictures), professional information (e.g. information supplied in the course of professional duties) and information in the context of business, commerce or trade (e.g. trade secrets or secret know-how)[317].

Source: IPR Helpdek (2012), p.2.

Figure A4.1 – Confidential information

Trade secrets distinguish themselves from "custodial data" which companies are compelled to protect by legislation or regulation (e.g. because of data protection rules or other) such as customer data, employees medical records, payment means related data etc.[318]

Trade secrets, often alongside intellectual property rights (see Annex 5 on those rights), are encompassed by broader concepts used in the economic field, such as intangible assets or knowledge-based capital (see Annex 1).

Information and knowledge covered by a trade secret

316 IPR Helpdesk (July 2012), p. 2.

317 Searle (2010a) considers that know-how does not qualify for trade secret protection as it would involve tacit knowledge embedded in human capital. *Ibid*. p.4

318 See Forrester Consulting (2010).

The type of information covered by the trade secret concept is rather broad. It may cover an invention that may be eligible for patent protection, but it can also encompass other innovation steps that cannot be patented. Often, trade secrets cover information on processes that relates to a patented invention and which is of great relevance to its subsequent use in the market, including incremental improvements developed after the filing and granting of a patent.

Furthermore, trade secrets have a scope of application that goes beyond the realm of scientific inventiveness to embrace new business solutions and marketing strategies. Hence, the information can be of a technical (an invention or a manufacturing process) or commercial nature (lists of costumers, lists of suppliers); it can be strategic for decades (a recipe, a chemical compound) or more or less ephemeral (a patentable invention before the application for a patent is filed, the results of a marketing study, the name, price and date of a new product launch, the price offered in a bidding procedure, etc.).

Even negative information that certain applications or commercial strategies that are technically or commercially unfeasible may be of economic value[319].

Box A4.1 provides an attempt to categorise the information covered by the trade secret concept.

Box A4.1 – Categories of information that may constitute a trade secret

A Canadian report of 1986[320] established four broad categories of information covered by the definition of trade secrets.

1st category: secrets relating to highly specific products[321]. In such a case, the product is the secret and even if the secret is patentable, no patent has in fact been sought. It is a characteristic of this type of trade secret (a) that those who own it pass it down within a tightly controlled hierarchy; (b) that the product is freely available on the market, so that in principle a competitor could break the secret (e.g. through reverse engineering) and so imitate (or even replicate) the product; and (c) that the business, being wholly dependent on the secret, would be likely to be destroyed if the secret came into the hands of a competitor.

2nd category: technological secrets. The ability of an enterprise to flourish (or sometimes even to survive) is directly related to its success in acquiring, protecting and exploiting some aspect of modern technology. Knowledge of the processes that increase efficiency is usually referred to as technological know-how. By contrast with the first category of trade secret, an enterprise would not necessarily be ruined if information of this kind became available to others in the industry; but its market competitiveness would be reduced and may be less likely to invest in further new technological processes.

3rd category: strategic business information, such as internal marketing studies, industry forecasts and lists of customers. This type of insider information forms the data on which decisions on, for example, marketing or finance may be based. Its acquisition could alert a competitor to the business strategy likely to be adopted in a particular sector of the market, or save valuable start-up or expenditure in assembling the information.

4th category: private collations of individual items of publicly available information, the value of which lies in their "packaging" rather than on the individual items (which are useless in

319 Cf. Alberta Report (1986), p. 159.

320 Alberta Report (1986), p. 36 and seq. These categories were also considered by UK Law Society (1997), p. 32.

321 Famous examples of this kind, include the formula for Coke, the recipe for Kentucky Fried Chicken and the composition of metals used in the highest quality orchestra cymbals. As pointed out by the Alberta Report, trade secrets of this kind have existed since at least the time of the Greek Empire, and will likely always exist, regardless of the state of the law. Cf. Alberta Report (1986), p. 36 and 37.

themselves)[322]. These packages are sold like any other commodity. Information of this kind has become of much greater practical significance with the advent of the computer and the information society. This fourth category relates to information as a product in and of itself. However, as the Canadian report outlines, in this category, the problem could be conceived to be the protection of a database, rather than the protection of the trade secrets[323].

322 The information covered by this category might not, in everyday parlance, be regarded as a secret (Cf. UK Law Society (1997), p. 33). In other words: "*'secrecy' in such cases is something of a misnomer. It applies either because no one else has the equipment or know-how to collate the relevant information or has not invested the time and resources required to do so*." (cf. Alberta Report (1986), p. 38).

323 *Ibid*. p. 38,39.

Legal definitions of trade secret

Different definitions of trade secrets are used in legislation (see Box A4.2). The criteria of secrecy and value are usually included.

Box A4.2 – Definitions of trade secrets in legislation

World Trade Organisation TRIPS Agreement, Article 39:

Undisclosed information is protected "*so as long as such information:*

(a) is secret in the sense that it is not, as a body or in the precise configuration and assembly of its components, generally known among or readily accessible to persons within the circles that normally deal with the kind of information in question;

(b) has commercial value because it is secret; and

(c) has been subject to reasonable steps under the circumstances, by the person lawfully in control of the information, to keep it secret."

Sweden, Act (1990:409) on the Protection of Trade Secrets[324]:

"*a 'trade secret' means such information concerning the business or industrial relations of a person conducting business or industrial activities which that person wants to keep secret and the divulgation of which would be likely to cause a damage to him from the point of view of competition. The term "information" comprises both information documented in some form, including drawings, models and other similar technical prototypes, and the knowledge of individual persons about specific circumstances even where it has not been documented in some form*."

United States, Section 1(4) of Uniform Trade Secrets Act:

"*'Trade secret' means information, including a formula, pattern, compilation, program, device, method, technique, or process that:*

(i) derives independent economic value, actual or potential, from not being generally known to, and not being readily ascertainable by proper means by, other persons who can obtain economic value from its disclosure or use, and

(ii) is the subject of efforts that are reasonable under the circumstances to maintain its secrecy."

Japan, Article 2 of the Unfair Competition Prevention Act, according to which trade secret means:

(i) technical or business information useful for commercial activities such as manufacturing or marketing methods;

(ii) that is kept secret; and

(iii) that is not publicly known.

France, 2012 proposal for an Article 226-15-1 of the French Criminal Code[325]:

"*Constituent des information protégées relevant du secret des affaires d'une entreprise, quel que soit leur support, les procédés, objets, documents, données ou fichiers de nature commercial, industrielle, financière, scientifique, technique ou stratégique, ne présentant pas un caractère public, dont la divulgation non autorisée serait de nature à compromettre gravement les intérêts de cette entreprise en portant atteinte à son potentiel scientifique ou technique, à ses positions stratégiques, à ses intérêts commerciaux ou financiers ou à sa capacité concurrentielle, et qui ont, en conséquence, fait l'objet de mesures de protection spécifiques destinées à informer de leur caractère confidentiel et à garantir celui-ci.*"

[324] See Annex 10 of this Impact Assessment.

[325] Carayon (2012), p. 38 and 63.

The Commission antitrust regulation on knowledge transfer agreements contains a definition of know-how[326] which includes the criteria of secrecy and substantiality (which one could interpret as being similar to the value criteria put forward by the TRIPs definition). Article 1(1)(i) provides as follows:

> *"'know-how" means a package of non-patented practical information, resulting from experience and testing, which is:*
>
> *(i) secret, that is to say, not generally known or easily accessible,*
>
> *(ii) substantial, that is to say, significant and useful for the production of the contract products, and*
>
> *(iii) identified, that is to say, described in a sufficiently comprehensive manner so as to make it possible to verify that it fulfils the criteria of secrecy and substantiality".*[327]

A4.2. "Business secrets", "professional secrecy" and transparency rules: access to confidential business information held by public authorities

Companies, businesses are often required by law, regulation or administration compulsion to disclose confidential information to public authorities. This business-originated confidential information may, or may not, include trade secrets. The disclosure of such information to the competitors or third parties may harm the business concerned by the information. Therefore, EU rules have already addressed how to protect the confidential business information held by public authorities because of regulatory obligations: first and foremost as regards information held by EU institutions and bodies themselves, but also by national authorities.

In this section, a distinction will be drawn between the protection of such confidential business information, which is often referred to as "business secrets", and trade secrets as understood in Section A4.1 of this Annex. A reference to "professional secrecy" and the transparency obligations will also be made.

It should be noted that the specific protection of confidential business information held by public authorities and the rules regulating their disclosure is outside the scope of this impact assessment.

"Business secrets" are not identical to "trade secrets"

The EU already recognises the need to protect "business secrets":

- According to settled case-law of the European Court of Justice, "*the protection of business secrets is a general principle of European Union law*"[328]. The relevant case-law concern "business secrets" held by European institutions (e.g. the Commission) pursuant to regulatory obligations, mostly (but not exclusively) in the antitrust field.
- This principle is also included in relevant secondary legislation. For instance, in the antitrust field: "*[the parties] shall be entitled to have access to the Commission's file,*

326 Commission Regulation (EC) No 772/2004 of 27 April 2004 on the application of Article 81(3) of the Treaty to categories of technology transfer agreements, Official Journal L 123, 27.04.2004, p. 11.

327 Interestingly, this regulation states that "intellectual property rights" includes know-how alongside industrial property rights, copyright and neighbouring rights. Cf. Article 1(1)(g).

328 Judgment of the Court of 29 March 2012, Case C-1/11, *Interseroh Scrap and Metals Trading Gmbh v Sonderabfall-Management-Gesellschaft Rheinland-Pfalz mbH (SAM)*, § 43.
This is settled case law. See also, Case C‑450/06 Varec, § 49; Case C-36/92P, SEP, §37; Case 53/85 AZKO v Commission, §28; Case 85/76, Hoffman-LaRoche v Commission, §14.

subject to the legitimate interest of undertakings in the protection of their business secrets."[329]

– Moreover, this principle has been recently confirmed by Article 41(2)(b) of the Charter of Fundamental Rights of the European Union which provides as follows: "*This right [of good administration] includes: […] (b) the right of every person to have access to his or her file, while respecting the legitimate interests of confidentiality and of professional and business secrecy*" [emphasis added].

However, the concept of "trade secret", understood as defined in Section A4.1 of this Annex, is not identical to the one of "business secret", as understood by the Court of Justice:

– The Court of Justice has defined business secrets as "*information of which not only disclosure to the public but also mere transmission to a person other than the one that provided the information may seriously harm the latter's interest*"[330].

– The Court has also stated that three criteria need to be met: (a) it is necessary, first of all, that the information in question be known only to a limited number of persons; (b) it must be information whose disclosure is liable to cause serious harm to the person who has provided it or to third parties[331]; and (c) the interests liable to be harmed by disclosure of the information must be objectively worthy of protection[332].

In principle, the type of information protectable as "business secret" could possibly be wider than that protectable as "trade secret". It could possibly include confidential information generated by a company which do not have economic value *per se* but whose disclosure is likely to cause harm to the interests of the holder.

The protection of business secrets in EU law: the application of the professional secrecy principle to EU and national authorities

In this context, the general principle that undertakings are entitled to the protection of their business secrets finds expression in Article 339 TFEU as regards professional secrecy of the staff of the Union institutions and bodies:

"*The members of the institutions of the Union, the members of committees, and the officials and other servants of the Union shall be required, even after their duties have ceased, not to disclose information of the kind covered by the obligation of professional secrecy, in particular information about undertakings, their business relations or their costs components.*"[333]

It must be noted that the information covered by the professional secrecy is wider than "business secrets" or "trade secretes".

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329 Article 27(2) of Council Regulation (EC) No 1/2003 of 16 December 2002 on the implementation of the rules on competition laid down in Articles 81 and 82 of the Treaty, OJ L 1, 4.1.2003, p. 1.

330 See Case T-353/94, *Postbank v Commission*, §87.

331 As regards the harm, the Court of Justice ruled in the *Varec* case that the undertaking concerned might suffer *'extremely serious damage'* if there were improper communication of certain information to a competitor. Judgment of the Court of 14 February 2008, *Varec*, C-450/06, §54.

332 See Case T-198/03, *Bank Austria Creditanstalt v Commission*, §71.

333 The Court of Justice recognised that the duty of confidentiality placed on the Commission and its staff by Article 339 TFEU (Article 287 EC) was a general principle of law. See, for instance, Case 143/83, Adams v Commission, §34.

The professional secrecy principle has been implemented in secondary legislation, and extended beyond the staff of EU institutions and bodies (see Box A4.3).

Box A4.3 – Selected professional secrecy obligations.

Specific professional secrecy rules applicable to the EU regulatory agencies have been enacted, e.g. when cooperating with other authorities:

"[…] 2. Without prejudice to cases covered by criminal law, any confidential information received by persons referred to in paragraph 1 whilst performing their duties may not be divulged to any person or authority whatsoever, except in summary or aggregate form, such that individual financial institutions cannot be identified.

Moreover, the obligation under paragraph 1 and the first subparagraph of this paragraph shall not prevent the Authority and the national supervisory authorities from using the information for the enforcement of the acts referred to in Article 1(2), and in particular for legal procedures for the adoption of decisions.

3. Paragraphs 1 and 2 shall not prevent the Authority from exchanging information with national supervisory authorities in accordance with this Regulation and other Union legislation applicable to financial institutions.

That information shall be subject to the conditions of professional secrecy referred to in paragraphs 1 and 2. The Authority shall lay down in its internal rules of procedure the practical arrangements for implementing the confidentiality rules referred to in paragraphs 1 and 2."[334]

Professional secrecy rules have also been extended to national authorities: e.g. regulatory authorities when dealing with their own competencies[335] or when cooperating with EU institutions. For instance, EU rules regarding professional secrecy in the antitrust field[336] provide as follows:

"*2. Without prejudice to the exchange and to the use of information foreseen in Articles 11, 12, 14, 15 and 27, the Commission and the competition authorities of the Member States, their officials, servants and other persons working under the supervision of these authorities as well as officials and civil servants of other authorities of the Member States shall not disclose information acquired or exchanged by them pursuant to this Regulation and of the kind covered by the obligation of professional secrecy. This obligation also applies to all representatives and experts of Member States attending meetings of the Advisory Committee pursuant to Article 14.*"[337]

The protection of confidential business information in public procurement cases presents specific particularities, as this involves economic transactions between public authorities and businesses in which trade secrets (or confidential business information generally) could be disclosed to the public

334 Cf. Article 70 of Regulation (EU) No 1093/2010 of the European Parliament and of the Council of 24 November 2010 establishing a European Supervisory Authority (European Banking Authority), OJ L 331, 15.10.2010, p. 12.
Recital 62 of that Regulation states that: "*It is essential that business secrets and other confidential information be protected. The confidentiality of information made available to the Authority and exchanged in the network should be subject to stringent and effective confidentiality rules.*"

335 See for instance Article 25 of Directive 2004/109/EC of the European Parliament and of the Council of 15 December 2004 on the harmonisation of transparency requirements in relation to information about issuers whose securities are admitted to trading on a regulated market and amending Directive 2001/34/EC, OJ L 390, 31.12.2004, p.38.

336 There are specific rules protecting secrecy of confidential information during antitrust proceedings in the Member States too. All of them have measures aimed at protecting business secrets/confidential information from being disclosed during proceedings before national competition authorities, even if the procedural steps needed to obtain protection of secret information varies, to a certain extent, from jurisdiction to jurisdiction. In particular, the involved undertakings have the right to indicate the information that, in their opinion, shall not be divulged. According to Baker & McKenzie (2013), however, the secrecy of information may not be sufficient to prevent disclosure when such information is relevant to prove the infringement or for the right of defence of the parties (Bulgaria, Estonia, France, Germany, Greece, Italy, Luxembourg, Portugal). See Baker & McKenzie (2013), 52.

337 Article 28 of Regulation (EC) No 1/2003.

authorities. It is noteworthy that EU legislation specifically refers in this case to “trade secrets” rather than to “business secrets” (see Box A4.4).

Box A4.4 – The specific case of the protection of confidential business information in public procurement cases

Industry often expresses the fear that valuable confidential information (i.e. a trade secret) which is disclosed to a public authorities as part of a tender procedure for public procurement could not be sufficiently protected against misappropriation.

This concern has been addressed by EU legislation. Current EU rules provide for protection in this regard: "*Without prejudice to the provisions of this Directive, in particular those concerning the obligations relating to the advertising of awarded contracts and to the information to candidates and tenderers […] the contracting authority shall not disclose information forwarded to it by economic operators which they have designated as confidential; such information includes, in particular technical or trade secrets and the confidential aspects of tenders*."[338]

This protection is also integrated in the 2011 Commission proposal for a new directive on public procurement[339]:

Article 18 of that proposal[340] requires the contracting authority not to disclose information forwarded to it by economic operators which they have designated as confidential, including, but not limited to, technical or trade secrets and the confidential aspects of tenders. In addition, Article 19(2) of the proposal requires the contracting authorities to ensure, in all communication, exchange and storage of information, that the integrity of data and the confidentiality of tenders are preserved.

Other provisions in the proposal also require the contracting authorities not to reveal to the other participants in the tender solutions proposed or other confidential information communicated by a candidate participating in the "competitive procedure with negotiation[341]" or in the "competitive dialogue"[342] without its agreement. Such agreement shall not take the form of a general waiver but shall be given with reference to the intended communication of specific solutions or other specific confidential information.

The underlying rationale was explained by an English Court of Appeal judge as follows: "*...it is plain that there is a strong public interest in the maintenance of valuable commercial confidential information … If the penalty for contracting with public authorities were to be the potential loss of*

338 Article 6 of Directive 2004/18/EC of the European Parliament and the Council of 31 March 2004 on the coordination of procedures for the award of public works contracts, public supply contracts and public service contracts.

339 Commission proposal for a Directive of the European Parliament and of the Council on public procurement, COM(2011) 896 final, Brussels, 20.12.2011. Negotiations before the European Parliament and the Council are on-going.

340 "*Article 18*
Confidentiality
1. Unless otherwise provided in this Directive or in the national law concerning access to information, and without prejudice to the obligations relating to the advertising of awarded contracts and to the information to candidates and tenderers set out in Articles 48 and 53 of this Directive, the contracting authority shall not disclose information forwarded to it by economic operators which they have designated as confidential, including, but not limited to, technical or trade secrets and the confidential aspects of tenders.
2. Contracting authorities may impose on economic operators requirements aimed at protecting the confidential nature of information which the contracting authorities make available throughout the procurement procedure."

341 Cf. Article 27(4) of the proposal.

342 Cf. Article 28(3) of the proposal.

such confidential information, then public authorities and the public interest would be the losers, and the result would be potentially anticompetitive."[343]

[343] Veolia vs. Nottinghamshire CC [2010] EWCA 1214 per Rix LJ.

The transparency policy: balancing of interests

At the same time, EU institutions have a general policy of transparency and allow third parties to access to the documents they hold, under certain conditions. Given that businesses may disclose confidential business information to EU institutions in the context of specific procedures (e.g. a complaint against a Member State for failure to apply EU law etc.) the risk exists that such confidential business information could be disclosed to a third party[344].

This concern has been considered when adopting the EU general rules[345] dealing with access to documents held by a European institution. Regulation (EC) No 1049/2001[346] provides for the protection of business secrets when the information has been forwarded to an EU institution or body – although this protection is not absolute. Article 4(2) states in particular that

> "*the institutions shall refuse access to a document where disclosure would undermine […] the protection of the commercial interests of a natural or legal person, including intellectual property, […] unless there is an overriding public interest in disclosure*"[347].

However, as stated by the Court of Justice, the assessment as to the confidentiality of a piece of information requires the legitimate interests opposing disclosure of the information to be weighed against the public interest that the activities of the EU institutions take place as openly as possible[348].

Private sector professional secrecy

The professional secrecy principle may also apply to the private sector.

Financial intermediaries and some regulated professionals (e.g. lawyers, auditors) often know trade secrets owned by their customers. This is why (*inter alia*) they are subject to professional secrecy rules, which is a guarantee to their clients. As a result, they are prevented from disclosing their clients' confidential business information (including trade secrets).

Nevertheless, a specific issue may arise when public authorities require those intermediaries or regulated professionals to disclose to them, in the context of their supervisory functions, confidential information which is sensitive for their clients.

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344 This issue is of particular importance when businesses transfer trade secrets to EU regulatory agencies, such as the European Medicines Agency, the European Chemical Agency or the three European financial authorities.

345 There are specific rules for the access to file in competition cases, see above.

346 Regulation (EC) No 1049/2001 of the European Parliament and of the Council of 30 May 2001 regarding public access to European Parliament, Council and Commission documents. OJ L 145, 31.5.2001, p. 43

347 Therefore, this is not an absolute, but a relative, exception.
See Articles 118 and 119 of Regulation (EC) No 1907/2006 for a presumption that providing access to certain information would undermine the commercial interest of an undertaking. Cf. Regulation (EC) No 1907/2006 of the European Parliament and of the Council of 18 December 2006 concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH), establishing a European Chemicals Agency, amending Directive 1999/45/EC and repealing Council Regulation (EEC) No 793/93 and Commission Regulation (EC) No 1488/94 as well as Council Directive 76/769/EEC and Commission Directives 91/155/EEC, 93/67/EEC, 93/105/EC and 2000/21/EC, OJ L 136, 30.12.2006, p.1.

348 See Case T-198/03, *Bank Austria Creditanstalt v Commission*, §71.

EU rules have addressed this issue and exceptions to the principle of respecting professional secrecy have been established in exceptional circumstances. For instance, the EU anti-money laundering rules[349] require financial intermediaries and regulated professions to disclose to specific authorities (so-called financial intelligence units) data regarding situations suspected of involve money laundering.

In other cases, EU rules underlined the need to protect the business secrets of clients. A recent Commission legislative proposal indirectly addressed the protection of business secrets in the specific circumstance where an EU auditor would be required by a third country public authority, for their supervisory purposes[350], to disclose to it audit working papers containing business secrets of the audited entity. In accordance with this proposal, the EU auditor could only transfer the audit working papers to the third country authority provided that "*the protection of the commercial interests of the audited entity, including its industrial and intellectual property is not undermined*"[351].

349 Directive 2005/60/EC of the European Parliament and of the Council of 26 October 2005 on the prevention of the use of the financial system for the purpose of money laundering and terrorist financing, OJ L 309, 25.11.2005, p.15.

350 E.g. the audited entity may be an EU subsidiary of an audited entity of that third country.

351 Cf. European Commission Proposal of 30 November 2011 for a Directive of the European Parliament and of the council amending Directive 2006/43/EC on statutory audits of annual accounts and consolidated accounts, COM(2011) 778 final. See Article 1(23), introducing a point (ba) in Article 47(2) of Directive 2006/43/EC.

ANNEX 5 – INTELLECTUAL PROPERTY RIGHTS: THE EU LEGAL FRAMEWORK

A5.1. Intellectual Property Rights

The term "intellectual property right" refers to various types of legal instruments established in order to protect different kinds of creations of a mind (the so called intangible forms of property)[352]. In principle, an intellectual property right grants the rightholder an exclusive right on the economic exploitation of such intellectual property. The following box includes generally recognized types of intellectual property rights.

Box A5.1 – Generally recognised types of intellectual property rights

Patent: A patent constitutes an exclusive right granted to an inventor for a limited period of time in reward for the public disclosure of his invention. This right shall prevent third parties from making, selling, distributing, importing or using the invention, without appropriate licence or authorisation.

Utility model: Some countries provide for utility model as a separate form of protection. This so called "small patent" generally establishes an exclusive right similar to the one resulting from a patent, but is meant for innovations of lesser inventiveness, and is granted for a shorter time.

Design: A right for industrial design aims at protecting the appearance of an object resulting from its particular features. In order to qualify for protection, a design must be new and must have individual character. Protection is granted only for the elements of design that are not purely utilitarian. Right resulting from a design registration gives the owner an exclusivity to use it and entitles him or her to prevent any use of design made by a third party who has not obtained an owner's consent. Meanwhile, the owner of an unregistered design is only able to prevent a use of design resulting from an unauthorized copying.

Topography of semiconductor products: Topography of a semiconductor product, understood as a representation of the three-dimensional pattern of layers of conducting, insulating or semiconducting material in semiconductor products intended to perform an electronic function, may be protected by intellectual property law when it is a result of its creators own intellectual effort and is not commonplace in the semiconductor industry. The exclusive rights granted for its protection include the right to authorise or prohibit reproduction of a protected topography and the right to authorise or prohibit commercial exploitation or the importation for that purpose of a topography or of a semiconductor product manufactured using the topography.

Plant variety protection: A breeder of a variety of any botanical genera and species that is distinct, uniform, stable and new can be granted a plant variety right. This right gives the breeder an exclusive control over the propagating material and harvested material of the registered variety for a limited period of time.

Trademark: Trade mark law establishes grounds for protection of any sign that may be represented graphically and is capable of distinguishing goods or services of one undertaking from those of other undertakings. A right resulting from a trademark registration gives its owner an exclusivity to use a trademark and the possibility to prevent any unauthorized use of the trademark in the course of trade.

Geographical indications and designations of origin: A geographical indication and designation of origin refer to a name or a sign that may be used on a product/foodstuff in order to indicate its associated qualities, reputation or characteristics that result from the fact that this product/foodstuff originates from a specific geographic location. Once such a name has been registered it may only be used by operators marketing products/foodstuffs conforming to the corresponding specification.

Copyright and related rights: Copyright is vested on authors whereas related rights (or "neighbouring rights") are vested on performers, phonogram and film producers as well as broadcasting organisations. Copyright and related rights include so-called "economic rights" such as a right to reproduce, distribute, and communicate or "make available" to the public which – to different degrees – allow rightholders to control and to be remunerated for the use of their works and other protected subject matter (i.e. performances, phonograms, audiovisual productions and broadcasts). These rights normally take the form of exclusive rights who can be managed directly by the original

352 Traditionally we distinguish between industrial property rights on one hand, and copyright and related rights on the other. This division is however not exhaustive as it does not encompass newly developed categories of intellectual property rights such as *sui generis* right for databases.

rightholder, by those to whom the rights have been transferred or by a collecting society that is entrusted to do so by the rightholder. Some jurisdictions recognize also "moral rights" of the authors, such as the right of attribution, the right to have a work published anonymously or pseudonymously, and the right to the integrity of the work.

Protection of databases: Depending on whether a database can be perceived as original it can be protected either by copyright or by a *sui generis* right. In principle only databases that, by reason of a selection or arrangement of their contents, can constitute the author's own intellectual creation, can be protected by copyright. A *sui generis* protection of databases aims to reward the creators for their investment of time, money and effort, and does not depend on the originality of the database.

A5.2. Main differences between trade secret protection and formal intellectual property rights

There are some fundamental differences between trade secret protection, on the one hand, and formal intellectual property rights, on the other hand. Firstly, formal intellectual property rights grant their holder an exclusive right[353] on an innovation and allow for excluding others' use. This is not the case for trade secrecy. Secondly, the scope of protection is also different. Thirdly, there are differences on the term of protection. Fourthly, the cost of protection differs.

Owning a trade secret does not amount to having an exclusive right on its use

When a company's (or a research entity's) chooses to protect its valuable intangible assets through secrecy (i.e. as trade secrets), it does not have any "intellectual property right" granted by a State authority.

'Owning' a trade secret does not involve any administrative procedures as trade secrets do not require registration to qualify for protection[354]. Nor does it amount to having an exclusive/monopoly right on the information protected by secrecy or its use. Third parties may discover the same information through parallel research or reverse engineering[355] and they are not prevented from innovating and developing their own competitive (including similar or even identical) products, services, devices, recipes or methods. Therefore, trade secrets diverge from intellectual property rights which grant to their holders an exclusive right over an innovation during a limited period of time[356].

353 As underlined by Hall et al. (2012), p.4, from a social point of view, the justification for the granting of the exclusive right, in particular in the case of a patent, lies on the fact that the inventor is, in exchange for that exclusive right, required to disclose the innovation in a specific, standardised format. This disclosure would allow other inventors to avoid duplication of research and carry our incremental innovation. Endogenous growth theories underline the importance of knowledge spillovers among companies and sectors for sustained long-run growth (cf. Romer (199)).
On this point, however, it is important to note that there is research showing that companies do not necessarily use patent documents to obtain information. Lemley, for instance, explains that"*[m]any companies discourage their engineers from reading patents*". The main reason being to avoid awareness of potentially infringed patents and therefore charges of wilful patent infringement. See Lemley (2008), p. 332, 333 and footnote 89.

354 Indeed, an important motivation for protecting innovations through trade secrecy is to avoid the disclosure required by other forms of intellectual property. Disclosure of new inventions could be particularly detrimental to SMEs since disclosure of a key invention could mean catastrophic loss in value and future performance for the inventing firm. Cf. Baker and McKenzie (2013), p. 83.

355 Disassembling a product to figure out how it operates. This practice is legitimate and in no way prohibited or legally restricted. Reverse engineering has however its limitations and usually does not provide relevant insights on manufacturing processes.

356 E.g. patents (20 years), design rights (25 years), copyrights (70 years after the death of the author) and rights related to copyright (generally 50 years after the death of the rightholder), rights on the topographies of semiconductor products (10 years) or *sui generis* rights on databases (15 years)

Of course, a trade secret may *de facto* grant some monopoly value to its owner for as long as the owner manages to keep the relevant information secret. However, such *de facto* monopoly is not imposed or protected by law. It merely results from the investments made by the owner of the secret and it only lasts until competitors catch up with the same, similar or alternative solutions (i.e. it is contestable at any time).

Scope of protection.

The subject matter of a trade secret is very diverse. The scope of protection of trade secrets is wider than that of (formal) intellectual property rights (in particular than that of patents). For instance, in contrast to patent law, which provides specific criteria for inventions to be patentable, no specific categories exist for defining (or limiting) the subject matter that qualifies for trade secret protection[357].

Almost any information maintained as a secret, not generally known to competitors, and which enhances firm value and provides a competitive advantage, is potentially protectable by trade secret law. This broad definition of trade secrets encompasses innovations that are patentable, but also innovations that may not qualify for patent protection.

Thus, a company (or a research entity) may protect valuable information as a trade secret which could not be validly protected by patents or other intellectual property rights but still requires investment to be developed and is important for its competitiveness: e.g. new business solutions, marketing strategies etc. As a result, trade secrets allow companies to be ahead of their competitors even when using mature technologies. This is often achieved through continuous investment in research and development for more efficient processes.

In other terms, trade secrets protection is a mechanism that allows for greater appropriability of innovation than, for instance, patents. As Arrow noted, patent laws "*would have to be unimaginable complex and subtle to permit such appropriation on a large scale*"[358].

The term of protection.

Moreover, whereas patents are granted protection for a definite, but limited term, trade secrets have no definite term of protection: trade secret protection continues as long as it remains secret and enhances firm value and business performance. Consequently, a trade secret can exist for an indefinite period of time, or can cease to exist at any time upon disclosure, perhaps by mistake, or by lawful means such as reverse engineering or independent discovery by third parties[359].

Thus, with trade secrets, predictions as to the protectable life of the trade secret and its economic value is less certain as compared to patents or copyrights where lifetime and value may be more readily ascertainable. As long as maintaining secrecy around its valuable intangible assets (e.g. a hard to imitate non patentable innovation) gives it a competitive advantage, a company/research entity will most likely take steps to preserve the confidential nature of that information. The owner of the

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357 Intellectual property rights normally require a certain degree of originality in the innovation to allow for its protection. Patents, for instance, can only be granted (upon application and after examination by a granting authority) to absolutely novel inventions in the pre-specified subject matter fields (for example, business methods and software cannot be patented in the EU).

358 Arrow (1962), at 617.

359 Beckerman-Rodau (2002), p. 383-84.

secret information will in most cases have worked to discover or create it and has therefore a (private) economic interest in the information and in its remaining secret[360].

Cost of protection.

Compared to trade secrets, patent protection may be more costly than trade secret protection. For example, preparation of a patent application can involve a significant amount of fixed cost, amounts that can be particularly burdensome to SMEs. In addition, the protection of a patent or copyright may involve substantial cost to monitor possible infringement and even greater expenditure to pursue legal recourse when infringement is detected[361].

A5.3. The EU legal framework on Intellectual Property Rights

Legislative steps undertaken on the EU level aim on one hand to harmonize the protection for the intellectual property rights throughout the Member States, and on the other hand, where it is possible and advantageous, to create unitary rights, enforceable in all Member States.

Areas of harmonization

Harmonisation measures have been adopted in relation to certain aspects of copyright, trademark law and design law. This legislation has been complemented by various practical measures, adopted by both public authorities and private sector bodies, at national and international levels in order to improve existing knowledge about counterfeiting and piracy and to enhance the cooperation of all actors involved in fighting this phenomenon[362].

Although there is no unitary approach to copyright law within the EU, the harmonization process have touched upon several important copyright-related areas. Four horizontal directives has been adopted, regarding: rental right, lending right and certain related rights[363]; facilitation of cross border transmission of audiovisual programs[364]; harmonisation of the terms of protection of copyright and neighbouring rights[365]; and adapting existing legislation to reflect technological developments[366]. In

360 It should be noted that, when the information amounts to a patentable innovation, the inventor may prefer to obtain a patent, which implies a limited in time exclusive right to use such innovation in exchange of its public disclosure.

361 Erkal (2005), p. 430-431.

362 One example is the creation of the European Observatory on Counterfeiting and Piracy in April 2009 by the European Commission. This observatory (renamed as European Observatory on Infringements of Intellectual Property Rights) was entrusted in 2012 to the Office for Harmonisation in the Internal Market. See Regulation (EU) No 386/2012 of the European Parliament and of the Council of 19 April 2012 on entrusting the Office for Harmonisation in the Internal Market (Trade Marks and Designs) with tasks related to the enforcement of intellectual property rights, including the assembling of public and private-sector representatives as a European Observatory on Infringements of Intellectual Property Rights, OJ L 129, 16.5.2012, p. 1..

363 Directive 2006/115/EC of the European Parliament and of the Council of 12 December 2006 on rental right and lending right and on certain rights related to copyright in the field of intellectual property, OJ L 376, 27.12.2006, p. 28.

364 Council Directive 93/83/EEC of 27 September 1993 on the coordination of certain rules concerning copyright and rights related to copyright applicable to satellite broadcasting and cable retransmission, OJ L 248, 6.10.1993, p.15.

365 Directive 2006/116/EC of the European Parliament and of the Council of 12 December 2006 on the term of protection of copyright and certain related rights, OJ L 372, 27.12.2006 p. 12. Directive 2006/116/EC was recently amended by Directive 2011/77/EU of the European Parliament and of the Council of 27 September 2011 (OJ L 265, 11.10.2011, p.1), which extended the term of protection for performers and sound recordings to 70 years.

addition to the above three vertical directives were implemented creating conform EU standards for protection of computer programs by copyright[367], new exclusive 'sui generis' right for database producers[368] and granting the resale right to the authors of an original work of art[369].

The latest developments in the area of copyright concern a directive on the establishment of permitted uses of orphan works[370] and a Commission's initiative concerning governance of collective rights management[371].

In case of both trade mark[372] and design law[373], the main aim of the harmonization was to "approximate" the national laws of the Member States. The respective directives unified the fundamental rules governing law of individual Member States on trademarks, designs and their registration. Yet, it is not a complete harmonization as there are still some differences left, e.g. on what concerns the recognition of the "passing off" offence or the possibility to protect an unregistered trade mark or design on the national level.

Protection of topographies of semiconductor products was also harmonized on what regards general principles of national law[374].

European unitary rights

In addition to the above examples of harmonization, specific intellectual property titles were created within the European Union in order to provide for a unitary level of protection. Such is the case of the Community trade mark[375], the Community design[376], and the Community plant variety right[377], where one registration provides protection in all of the Member States. EU legislation also provides

366 Directive 2001/29/EC of the European Parliament and of the Council of 22 May 2001 on the harmonisation of certain aspects of copyright and related rights in the information society, OJ L 167, 22.6.2001, p.10.

367 Directive 2009/24/EC of the European Parliament and of the Council of 23 April 2009 on the legal protection of computer programs, OJ L 111, 5.5.2009, p. 16.

368 Directive 96/9/EC of the European Parliament and of the Council of 11 March 1996 on the legal protection of databases, OJ L 77, 27.3.1996, p. 20.

369 Directive 2001/84/EC of the European Parliament and of the Council of 27 September 2001 on the resale right for the benefit of the author of an original work of art, OJ L272, 13.10.2001, p.32.

370 Directive 2012/28/EU of the European Parliament and of the Council of 25 October 2012 on certain permitted uses of orphan works, OJ L 299, 27.10.2012, p. 5.

371 Commission Proposal of 11 July 2012 for a Directive of the European Parliament and of the Council on collective management of copyright and related rights and multi-territorial licensing of rights in musical works for online uses in the internal market, COM(2012)372.

372 Directive 2008/95/EC of the European Parliament and of the Council of 22 October 2008 to approximate the laws of the member states relating to trade mark, OJ L 2999, 8.11.2008, p.25. This Directive replaced Directive 89/104/EEC of 21 December 1988.

373 Directive 98/71/EC of the European Parliament and of the Council of 13 October 1998 on the legal protection of designs, OJ L 289, 28.10.1998, p. 28.

374 Council Directive 87/54/EEC of 16 December 1986 on the legal protection of topographies of semiconductor products, OJ L 24, 27.1.1987, p.36.

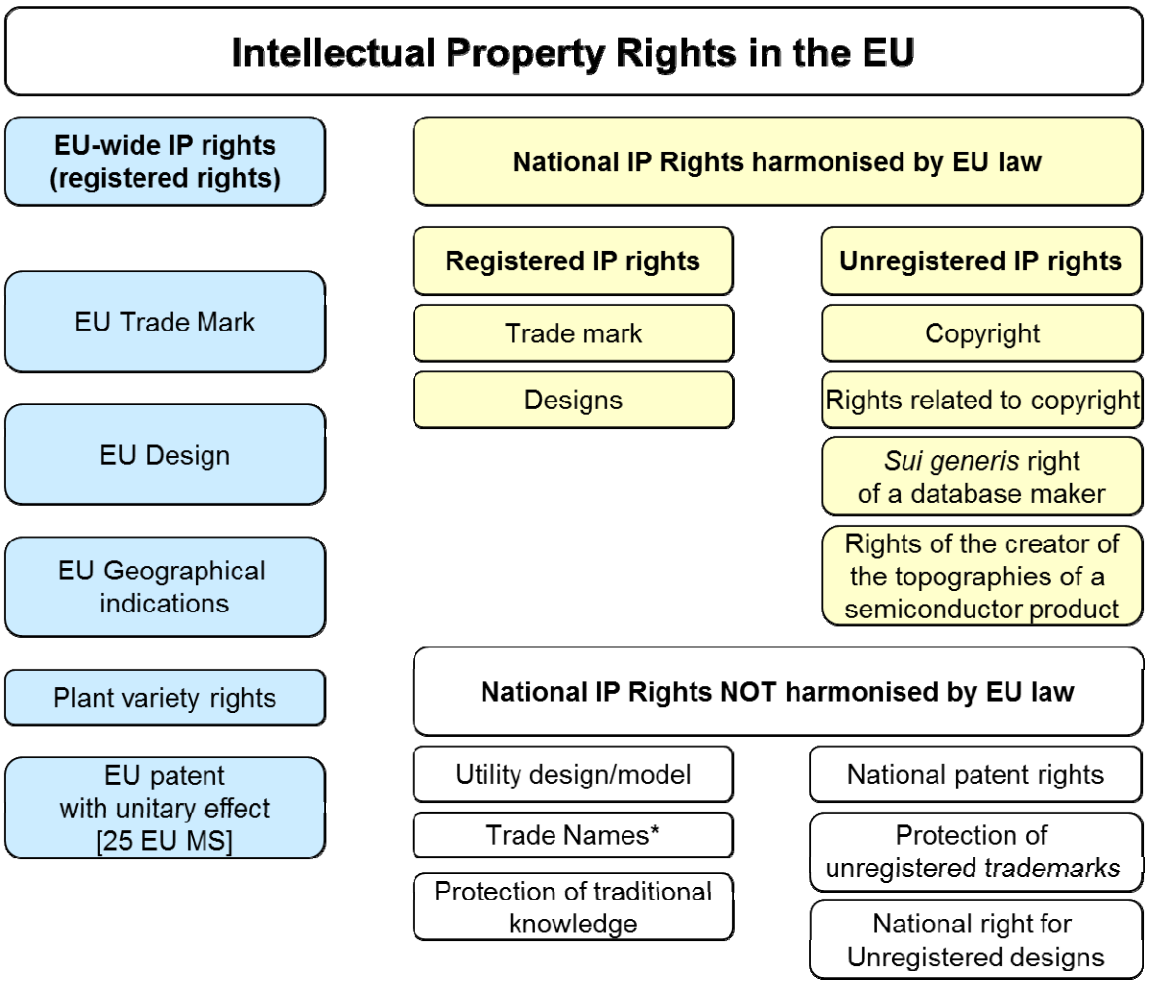
375 Council Regulation (EC) No 207/2009 of 26 February 2009 on the Community trade mark, OJ L 78, 243.2009, p.1.

376 Council Regulation (EC) No 6/2002 of 12 December 2001 on Community designs, OJ L 3, 5.1.2002, p.1. This Regulation was amended by Regulation 1891/2006 of 18 December 2006 to give effect to the accession of the European Community to the Geneva Act of the Hague Agreement concerning the international registration of industrial designs (OJ L 386, 29.12.2006, p.14).

377 Council Regulation (EC) No 2100/94 of 27 July 1994 on Community plant variety rights, OJ L 227, 1.9.1994, p.1.

for unitary protection for geographical indications of agricultural products and foodstuffs[378], wines[379], spirit drinks[380] and aromatised wines[381].

A European Union patent has recently joined the group of the EU unitary rights[382]. This unitary patent, however, will only apply to 25 EU Member States[383].



* In so far as trade names are protected as exclusive property rights in the national law concerned.

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378 Council Regulation (EC) No 510/2006 of 20 March 2006 on the protection of geographical indications and designations of origin for agricultural products and foodstuffs, OJ L 93, 31.3.2006, p.12.

379 Council Regulation (EC) No 1234/2007 of 22 October 2007 establishing a common organisation of agricultural markets and on specific provisions for certain agricultural products, OJ L 299, 16.11.2007, p. 1.

380 Regulation (EC) No 110/2008 of the European Parliament and of the Council of 15 January 2008 on the definition, description, presentation, labelling and the protection of geographical indications of spirit drinks and repealing Council Regulation (EEC) No 1576, 89, OJ L 39, 13.2.2008, p. 16.

381 Council Regulation (EEC) No 1601/91 of 10 June 1991 laying down general rules on the definition, description and presentation of aromatized wines, aromatized wine- based drinks and aromatized wine-product cocktails, OJ L 149, 14.6.1991, p.1.

382 Regulation (EU) No 1257/2012 of the European Parliament and of the Council of 17 December 2012 implementing enhanced cooperation in the area of the creation of unitary patent protection, OJ L 361, 31.12.2012, p.1. This Regulation is complemented by Council Regulation (EU) No 1260/2012 of 17 December 2012 implementing enhanced cooperation in the area of the creation of unitary patent protection with regard to the applicable translation agreements, OJ L 361, 31.12.2012, p. 89.

383 It does not apply to Italy and Spain. This limited geographical application followed the use of the enhanced cooperation mechanism, as authorised by Council Decision 2011/167/EU.

Table A5.1 – Summary of the EU and international legal framework regarding the protection of intellectual property rights	
Intellectual Property Right	**EU legislation**
Generally	EU Charter of Fundamental rights: Article 17(2) Article 118 Treaty on the Functioning of the European Union
National intellectual property rights harmonised by EU law	
Copyright and rights related to copyright	Directive 2006/115/EC of 12 December 2006 on rental right and lending right and on certain rights related to copyright in the field of intellectual property Directive 93/83/EEC of 27 September 1993 on the coordination of certain rules concerning copyright and rights related to copyright applicable to satellite broadcasting and cable retransmission. Directive 2006/116/EC of 12 December 2006 on the term of protection of copyright and certain related rights Directive 2001/29/EC of the Council of 22 May 2001 on the harmonisation of certain aspects of copyright and related rights in the information society Directive 2009/24/EC of 23 April 2009 on the legal protection of computer programs. Directive 2001/84/EC of 27 September 2001 on the resale right for the benefit of the author of an original work of art
Sui generis right of a database maker	Directive 96/9/EC of 11 March 1996 on the legal protection of databases
Rights of the creator of the topographies of a semiconductor product	Directive 87/54/EEC of 16 December 1986 on the legal protection of topographies of semiconductor products.
National trademark rights	Directive 2008/95/EC of 22 October 2008 to approximate the laws of the member states relating to trade mark
National design rights	Directive 98/71/EC of 13 October 1998 on the legal protection of designs
EU intellectual property unitary rights	
EU trademark rights	Regulation 207/2009 of 26 February 2009 on the Community trade mark
EU design rights	Regulation 6/2002 of 12 December 2001 on Community designs
Geographical indications	Regulation 510/2006 of 20 March 2006 on the protection of geographical indications and designations of origin for agricultural products and foodstuffs Regulation 1234/2007 establishing a common organisation of agricultural markets and on specific provisions for certain agricultural products Regulation 110/2008 on the definition, description, presentation, labelling and the protection of geographical indications of spirit drinks Regulation 1601/91 laying down general rules on the definition, description and presentation of aromatized wines, aromatized wine- based drinks and aromatized wine-product cocktails
Plant variety rights	Regulation 2100/94 of 27 July 1994 on Community plant variety rights
EU Patent with unitary effect (25 Member States)[384]	Regulation (EU) No 1257/2012 of the European Parliament and of the Council of 17 December 2012 implementing enhanced cooperation in the area of the creation of unitary patent protection, OJ L 361, 31.12.2012, p.1. This Regulation is complemented by Council Regulation (EU) No 1260/2012 of 17 December 2012 implementing enhanced cooperation in the area of the creation of unitary patent protection with regard to the applicable translation agreements, OJ L 361, 31.12.2012, p. 89.

[384] Italy and Spain do not take part in this EU Patent with unitary effect.

National intellectual property rights not harmonised by EU law	
Patent rights, including rights derived from supplementary protection certificates	No general EU legislation on patents in force, but proposed (see above). But EU legislation on supplementary protection certificates concerning medicines.
Utility design/model rights; National protection of unregistered trademarks; National right for unregistered designs; Trade names	No EU legislation. National legislation may protect them as exclusive property rights.

Intellectual property rights established on a national level

Certain types of intellectual property rights protection have been established only on the basis of national legislation of particular Member States. Among those types we can distinguish:

– national patent rights,
– national rights for unregistered designs,
– protection of unregistered trademarks,
– protection of utility designs,
– protection of traditional knowledge; and
– protection of trade names, in so far as they are protected as exclusive property rights in the national law concerned.

A5.4. The EU rules on enforcement of intellectual property rights

Directive 2004/48/EC[385] represented the first attempt to achieve an efficient and proportionate European civil enforcement framework in case intellectual property rights were infringed[386]. Article 3 of Directive 2004/48/EC requires Member States to provide for the measures, procedures and remedies necessary to ensure the enforcement of the intellectual property rights covered, so as to achieve a similar level of protection for all rightholders across the EU. These measures, procedures and remedies should be (i) fair and equitable and shall not be (ii) unnecessarily complicated or costly nor (iii) entail unreasonable time-limits or unwarranted delays. Moreover, according to paragraph 2 of that article, they must also be (i) effective, (ii) proportionate (iii) dissuasive, (iv) applied in such a manner as to avoid the creation of barriers to legitimate trade and (v) provide safeguards against their abuse.

This Directive does not specify the intellectual property rights to be protected and, allegedly, this would be a matter for national law. However, the European Commission published a statement in 2005[387] in which it considered that the following intellectual property rights are covered by the scope of the Directive:

– copyright;
– rights related to copyright;
– *sui generis* right of a database maker;
– rights of the creator of the topographies of a semiconductor product;
– trademark rights;
– design rights;
– patent rights, including rights derived from supplementary protection certificates;
– geographical indications;

385 Directive 2004/48//EC of the European Parliament and of the Council of 29 April 2004 on the enforcement of intellectual property rights, OJ L 195, 2.6.2004, p.16.

386 The Community trademark and the Community design regulations also contain some specific (and limited in scope) enforcement rules.

387 Statement by the Commission concerning Article 2 of Directive 2004/48/EC of the European Parliament and of the Council of 29 April 2004 on the enforcement of intellectual property rights, OJ L 94, 13.4.2005, p.37.

– utility model rights;
– plant variety rights; and
– trade names (in so far as these are protected as exclusive rights in the national law concerned).

A5.5. The international legal framework for the protection of intellectual property

At the international level, the Agreement on Trade-Related Aspects of Intellectual Property Rights (TRIPS), administered by the World Trade Organization (WTO), establishes minimum standards of protection for copyright and related rights, trademarks, geographical indications, industrial designs, patents, layout-designs (topographies) of integrated circuits and undisclosed information. This Agreement also provides for civil and administrative procedures and remedies as well as criminal procedures, establishes some special requirements related to border measures and lays ground for the use of dispute settlement mechanism. This Agreement has universal scope as it binds all WTO members.

Among the most important international initiatives on the protection of intellectual property rights the following should be put forward:

– Berne Convention for the Protection of Literary and Artistic Works,
– Paris Convention for the Protection of Industrial Property,
– European Patent Convention and Patent Cooperation Treaty in the field of patent protection,
– Madrid system for the international registration of trademarks,
– Hague system for the international registration of industrial designs, and
– Convention for the Protection of New Varieties of Plants.

ANNEX 6 – TRADE SECRETS, TRADE SECRETS LAW AND INNOVATION

A6.1. Introduction

Confidential business information is as old as business itself[388]. Trade secrets have been used by entrepreneurs, creators, researchers and inventors before and after the advent of intellectual property law. They are used in the absence of trade secret law and despite the existence of trade secret law. What then may justify a specific branch of law focusing on trade secrets? And why trade secrets misappropriation is considered to be a crime in the majority of jurisdictions?

The reason is that trade secrets are considered an indispensable tool to promote the creation of added value information, generating knowledge and progress. Trade secret law protects information as a valuable asset, and helps creators and innovators repealing dishonest or improper practices of parasitism aimed at ripping off the results of their efforts. By doing so trade secret law provides some reassurance to innovative companies, by raising their ability to:

- appropriate the information they have developed,
- use it to increase their competitiveness,
- exploit the information as a transactional asset, contributing to a more efficient and productive allocation of intellectual capital, and
- collect rewards for their investment in R&D.

A6.2. The appropriation of innovation: the need to protect intellectual property as an incentive to develop innovation

"Appropriation" is a key feature of trade secrets as innovation enablers. Economists[389] have long recognized that protection of intellectual property (in the wide sense, thus here understood as encompassing trade secrets) encourages innovation by helping inventors capture ("appropriate") the returns to innovative activity, typically manifested by resulting financial rewards.

Appropriability is indeed a concern for investors since one of the outputs of inventive and innovation activity is often knowledge, an intangible asset; hence it is difficult to exclude others from using this knowledge at a fraction of the initial cost of the invention development[390].

The desire to encourage innovation stems from the findings of economists who have concluded that innovation and its diffusion are critical determinants of economic growth and development[391]. In the absence of any legal protection, innovators would not be able to appropriate the full rewards of their invention; all or a substantial portion of the benefits from the innovation would go to "free riders," who invest nothing in the innovation but nevertheless seek to use the valuable innovation without paying for it. Without means to appropriate the returns to innovation, underinvestment in innovative activity would likely occur, adversely impacting competitiveness and economic growth.

The importance of capturing the rewards to innovation was highlighted in a seminal article published fifty years ago by Arrow (see Box A6.1).

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388 Almeling (2009), p.772.

389 See generally Baker & McKenzie (2013), p. 83.

390 Cf. Hall et al. (2012), p. 4. It is noted, however, that in some cases the fraction may be fairly large, in that successful imitation is costly even when the imitator has acquired the relevant knowledge. *Ibid*.

391 See for instance Acemoglu, (2009).

Box A6.1 – Arrow (1962)

Arrow (1962) interpreted invention broadly as the production of knowledge through the use of research inputs, a process considered risky in the sense that the output of the production process cannot be predicted perfectly from the applied inputs. Arrow also viewed information obtained through invention as "indivisible," meaning that one person's use of the information does not limit its use by others[392]. Information thus obtained from an invention process may be easily transferred at low or zero cost, making it relatively easy for others knowledgeable in the field to take advantage of the transmitted information.

Under such circumstances, information will remain of commercial value only if other firms are prevented from using the information obtained (i.e., only if the owner is able to keep the information secret or otherwise assert rights that prevent others from using the information for their own benefit). If competitors can easily obtain and use the secret information, inventive firms may choose not to engage in the innovative activity, understanding that there will be little prospect for financial reward to an innovation investment. Arrow argued that, absent some mechanism to protect the valuable information, a suboptimal amount of investment in innovation will occur along with the adverse consequences of such underinvestment.

As suggested by Arrow, and many other economists since, firms have an incentive to invest in innovation only if they reasonably expect to receive an appropriate return. For instance:

> "*Scientific knowledge, for example, is generally the product of much time and effort. It is expensive to produce. Whether rational actors will engage in the production of costly information depends on whether they can recoup enough of the benefits the knowledge brings to make the search worth their while*"[393]
>
> "*To have the incentive to undertake research and development, a firm must be able to appropriate returns sufficient to make the investment worthwhile*"[394]

If potential innovators are limited in their ability to capture this value, they will not have the appropriate incentive to engage in the socially optimal amount of innovative activity.

A6.3. Trade secrets as a strategy to appropriate innovation

Trade secrets, like patents, allow companies to appropriate R&D outputs and benefit from an advantage vis-à-vis their competitors[395]. Seeking and obtaining such advantage is generally the underlying motivation behind business R&D. If outputs of business R&D are consistently made public and without any sort of protection being sought, the company investing in innovation will support all the inherent costs without getting in return much advantage towards its competitors. This can make it harder for the company to recuperate the investment made and as a consequence it may weaken its ability to capture new funds to further finance its research activity. By protecting trade secret holders against acts of misappropriation, trade secret law like patent law, avoids the risk of

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392 Economists typically refer to goods with such properties as "public goods".

393 Scheppele (1988), p. 29.

394 Levin et al. (1987), p. 783.

395 "*One of the common assumptions made in economic models of innovation has been that innovators always patent their innovations. As a consequence of this assumption, the economics literature has given a considerable attention to the design of optimal patent policy. However, an analysis of firm behaviour reveals that trade secret protection is used at least as widely as patent protection*" Erkal (2004), Part I. The author argues that "*if innovators regard secrecy as an alternative to patenting, the relevant policy question is not how much patent protection to have, but how much patent and trade secret protection to have*". *Ibid.*
At the same time, there are other means that patents to appropriate the rewards of innovation. Hall et al. (2012) categorises these other means as "informal intellectual property". For them, informal intellectual property takes various forms: commonly secrecy, confidentiality agreements, lead time or complexity of design. The "informal" label does not imply, however, the absence of legal contracts and obligations. Cf. Hall et al. (2012) p.5.

underinvestment inherent with public goods, which are more costly to invent than to imitate once invented.

Although trade secrets protection does not grant any exclusive rights on the use of the information in question[396], secrecy can provide a *de facto* exclusivity. For as long as competitors are not in possession of the information in question, secrecy ensures some form of appropriation. Arguably, the less obvious the information is, the longer it will take for competitors to annul such advantage by reaching the same, similar or better results through their own efforts. Until then, the trade secret holder will be able will have a lead time advantage and remain the sole user of the information at stake, having also the option of sharing it at a price through technology or know-how transfer agreements with confidentiality clauses. In other words, *de facto* exclusivity grants the holder of a trade secret with an advantage similar to that offered by patent protection[397].

Trade secrets are therefore used by companies to manage competitiveness gains steaming from strategic information and knowledge, increasing the potential for business performance based on innovation.

At the same time; trade secrets create competition in innovation by keeping market players committed to constant improvement in order to catch up or outshine their peers. Because appropriation provided by trade secrets is much less intensive than that afforded by exclusive IP rights, *maxime* patents, competitors are not constrained by legal fences which would otherwise force them to either work around a given technical solution or pay a price to obtain access to it – such when it happens when inventions are patented.

Lemley considers the incentive justification for encouraging new inventions straightforward:

> "*Granting legal protection for those new inventions not only encourages their creation, but enables an inventor to sell her idea. And while we have other laws that encourage inventions, notably patent law, trade secrecy offers some significant advantages for inventors over patent protection. It is cheaper and quicker to obtain, since it doesn't require government approval, and it extends to protection of types of business and process information that likely would not be patentable.*"[398]

The flexibility featured by trade secret is particularly well suited form of protection for rapidly evolving technologies[399].

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396 Trade secrets does not impose constrains on independent development and use by third parties of the invention kept secret. Third parties are also free to use any legitimate means of secret discovery including through "reverse engineering" – such as disassembling a product to examine its composition and to find out how it operates. This practice is legitimate and in no way prohibited or legally restricted. Reverse engineering has however its limitations and usually does not provide relevant insights on manufacturing processes. Literature and surveys on the issue suggest that companies are more likely to use secrecy, as a form of appropriation, in relation to process innovation than in product innovation, given that the latter is more exposed to reverse engineering.

397 As Lemley explains, trade secret protection addresses some of the concerns raised by Arrow. Trade secret protection "*gives the developer of new and valuable information the right to restrict others from using it, and therefore the prospect of deriving supracompetitive profits from the innovation.*" Although competitors are not prevented from developing the same idea independently or reverse engineering a product to learn the trade secret, trade secret protection provides "*sufficient advantage in terms of lead time or relative costs to minimize or eliminate the public goods problem.*" Cf. Lemley (2008), p. 330.

398 Lemley (2008), p. 313.

399 Almeling (2009), p. 784.

A6.4. Trade secrets and intellectual property rights, two different ways of appropriating innovation

Not surprisingly, much of the literature examining the role of trade secrets trade in innovation uses patents as a reference. In doing so, researchers work on the basis of assumptions and models that tend to present trade secrets and patents as mutually exclusive, at least as from the point where research brings to life an invention that can be patented. This is done for analytical reasons, that is, to better capture the distinguishing features of each path and provide comparative findings.

Reality shows, however, that patents and trade secrets are often used hand-in-hand to protect different parts of a package of information relating to inventions. Additionally, trade secrets are used in areas where patent protection does not reach. Trade secrets are therefore an appropriation instrument that complements patents and other IP rights.

Trade secrets complementing patents

Trade secrets have a territory of their own, filling the gap left by the inherent scope limitations of patents, copyright, designs, and intellectual property rights in general. There is an extensive field of information and knowledge – and innovation outputs - that cannot be captured by existing intellectual property rights. Patents, copyright, designs and other intellectual property rights have each a defined scope of applicability, leaving unattended large portions of intellectual creations which business feel the need to appropriate and protect. This is the case of non-technical business innovation, incremental improvements of technical nature that do not meet patent requirements, and all sort of scientific discoveries[400]. As a result, some sectors of industry may benefit less from the patent system. As pointed out by Lemley: "*The additional incentive provided by trade secret law is important for innovation. Trade secret law reaches into a number of corners patent law cannot*."[401]

The services industry, for example, does not rely much on patents, at least when compared to the manufacturing sector – yet, the services sector is very dynamic and innovative. It also represents around 70% of the whole economy. Commenting on the challenges faced by service innovation a Finnish study notes that:

> "*meeting the requirements for patent protection may be quite impossible. Novelty and inventiveness might be achieved, but demonstrating industrial application and technical characteristics is likely to be too challenging (see Andersen and Howells 1998). In fact, only around five percent of service firms have applied for a patent (Blind et al. 2003)*"[402]

In other areas patents and trade secrets are used in a combined fashion. The combined use of trade secrets and other intellectual property rights creates synergies which are attractive to intellectual property assets management (for instance, patenting an invention while keeping collateral data

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400 Beckerman-Rodau provides the following examples of R&D outputs that cannot be patented: "*the first person to discover a revolutionary mathematical relationship, a new law of nature, a new plant growing naturally or a new mineral cannot obtain patent coverage for the discovery even if it has great value and utility. Additionally, the results of extensive research efforts are not protectable via patent law if the discovery amounts to something that occurs naturally in nature. New uses for existing compounds or machines are likewise not eligible for patent protection.*" Beckerman-Rodau (2002), Part I..
In Europe, where there is more stringer delimitation of patentable subject matter, a few other examples can be mentioned: new business methods, software, etc.

401 Lemley (2008), p. 331.

402 Hurmelinna-Laukkanen & Ritala (2010), point 3.2.

confidential, such as information and know-how that is vital for the commercial viability of the invention).

The complementarity between patents and trade secrets should not be underestimated. Trade secrets are important to the well-functioning of the patent system, which requires novelty and therefore absence of previous disclosure. Business research is normally conducted in secrecy so to not jeopardise patentability of respective outputs. Secrecy is therefore used in the pre-patent phase of the creating inventions.

In reality, all intellectual property rights (trademarks, copyrights, patents, designs, etc.) start by being a trade secret.

Commenting on the interaction between optimal patent policy and optimal trade secret policy, Erkal notes the following:

> "*The process of innovation starts with the conception of an idea. During the development of the idea until the stage of commercialization, innovators explore the potential of the idea and identify the ways in which it is novel. Patent and trade secret policy are complementary to each other during this process to the extent that one plays a role that cannot be fulfilled by the other one. This may be the case for innovations that are not developed enough to qualify for patent protection or for innovations that are outside of the subject matter that can be patented under the patent law. In both of these cases, it is the strength of trade secret protection that shapes the investment incentives of innovators*"[403].

But trade secrets are also used after a patent is obtained.

Confidentiality is many times used to protect valuable information relating to an invention, but not included in the patent specification. Most notably, trade secrets will cover the type of information that is not subject to public disclosure by patent law but which is paramount to the bringing of ideas (inventions) into real innovation (products), producing the sort of market impact that generates growth and jobs. This is obviously true in respect of information that is not yet available when an early patent filing strategy is used: the best mode, for commercial manufacture and use remain to be developed at a later stage. However, even if available, at the time of filing, patent applicants are not required to disclose manufacturing details or production specifications[404].

In addition, inventions are subject to constant improvements, much of those being incremental and not patentable. Throughout the lifespan of a patent, more know-how is aggregated; the patented invention is enriched with valuable information that is protected through secrecy.

As a result, patents may sometimes protect only a portion of the total technology involved in the commercial exploitation of an invention as "*Considerable expenditure of time, effort, and capital is necessary to transform an [inventive concept] into a marketable product*"[405].

Trade secrets are in fact an important component of many patent licensing agreements. According to some authors trade secrets "*can increase the value of a license for the licensee and the licensor up to 3 to 10 times the value of the deal if no trade secrets are involved*."[406]

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403 Erkal (2004), part 6.

404 Chisum (1997).

405 Rosemberg (2001), vol.2, 3.08..

Trade secrets as an alternative to patents

Zooming into the field of technical inventions ready to be patented, there are circumstances in which a company may opt for using secrecy instead. The relative attractiveness of secrecy over patents depends of many factors, including, firm size and financial strength, the nature of invention in question, the functioning of the patent system and considerations of pure strategy. Seeking to understand what factors may influence such an option may shine a light on the role of trade secrets.

If patent eligibility of the invention at stake is doubtful or uncertain and therefore risky, secrecy may be preferred. If the invention cannot be easily be discovered by competitors through reverse engineering the case for secrecy is stronger. This is usually the case with process innovation, as opposed to product innovation: it is generally easier for a third party to find out how a device works than discovering the process used in its manufacturing. At the same time, patents over process innovations are harder to enforce than product innovations, given that infringements and copying are harder to detect.

The attractiveness of secrecy over patents also depends of the manner in which patent system is perceived. If obtaining a patent is considered as too slow, complex or expensive a procedure, than certain companies (and in particular SMEs – see Box A6.2) may prefer to use secrecy. Maintaining, enforcing and defending your patent rights may also require substantial financial strength.

A6.2 – Trade secrets, patents and small-sized companies

Informality, simplicity and cheapness are features of secrecy that are particularly appealable to small firms:

"*large high technology development firms employ many lawyers, all with sophisticated expertise in this subject are. Extensive strategy sessions are held to determine the best mode of protection of a particular development. Outside such entities, advise on the intricacies of this area of the law is difficult to come by, and expensive. Small firms tend to get on with the job of development without paying a great deal of attention to such issues. If trade secret protection was abolished, such firms would be disadvantaged*"[407]

While preparing and obtaining a patent may already be harder to small companies, managing a patent portfolio presents greater challenges:

"*The patent is effective to the extent the innovator has the funds to enforce the patent. That is, the degree of protection that innovators receive depends on how successful they are in detecting infringement and in defending their rights in court*"[408].

"*Even if adequate funds exist to obtain patent protection sufficient capital must exist to enforce patent rights against infringers. Typically, patent infringement litigation, which often costs millions of dollars, is among the most expensive litigation to engage in. This enables accused infringers to aggressively exploit the limited funds available to a patent owner. For example, a well financed infringer can respond to a patent owner's assertion of infringement by filing a declaratory judgment action asserting the patent is invalid. This can seriously threaten the finances of a small enterprise that owns patents*"[409].

406 Jager (2002). p. 127.
407 Alberta Report (1986), p. 120.
408 Erkal (2004), part 4.
409 Beckerman-Rodau (2002), part III (B)(16).

Such considerations are particularly pertinent to SMEs and start-ups. Smaller organisations are generally less able to monitor the market for possible infringers, and not sufficiently robust, financially, to litigate over enforcement and patent validity disputes[410].

In other words obtaining a patent does not, on its own, necessarily deliver effective appropriation. Further activity and expenditure is required.

Using the results of the 1993 Community Innovation Survey CIS, Arundel notes that small firms are less likely than large firms to find patents to be of greater value than secrecy - a possible explanation being, he adds, that small firms lack the financial reserves to protect their patents from infringement[411].

Discussing the results of a survey collecting the views of 1478 R&D labs in the American manufacturing sector in 1994, a paper published by the National Bureau of Economic Research, indicates that "*the costs associated with patents, particularly their defence, disproportionately dissuades small firms from availing themselves of patent protection*"[412].

Reviewing the surveys and studies on the use of patents Mogee concludes that "*Most studies, however, have found that small businesses do not use the patent system much, use it ineffectively or do not regard patents as important as informal mechanisms for protecting IP such as proprietary know-how and trade secrets. These findings are consistent with a major survey of large firms conducted in 1987 by Levin et al. That study found that trade secrets and being the first to the market were viewed the most important forms of intellectual property (IP) protection while patents were low on the list of effective mechanisms of IP protection*"[413].

As Almeling puts it: "*Study after study confirms that small businesses rely disproportionately on trade secrets, instead of patents, to protect their innovations*"[414].

Thus, trade secrets may be attractive in order to avoid the costs inherently associated with intellectual property ownership (see above in respect of small firms) as well as in offsetting some of the possible limitations and inefficiencies of the patent system.

Interrelationship between trade secrets and patents: theoretical studies

The interrelationship between trade secret and patent policy has been summarized succinctly by Erkal (2005)[415]. The author differentiates between innovations that are sufficiently developed to be patentable, as compared to innovations that are potentially patentable if developed further. The distinction is important given that one goal of trade secret policy is to protect knowledge that has not

410 According to an economic survey conducted in the USA, patent litigation is three times as expensive as trade secret litigation: high-end patent litigation costs a median of $3 million per side through discovery, and $5 million per side if it goes to trial; high-end trade secret cases, by contrast, cost a median of $1 million through discovery and $1.75 million through trial). See American Intellectual Property Law Association (2007).

411 According to Arundel "*this difference is unlikely to be due to smaller firms having few patentable innovations, because the analyses have intentionally excluded firms that do not perform R&D and are, therefore, less likely to develop patentable inventions*". Cf. Arundel (2001), p. 623.

412 Cohen et al. (2000), p. 25.

413 Mogee (2003), p. 5.

414 Almeling (2009), p. 786.

415 Erkal notes that trade secret protection is used at least as widely as patent protection, and that policy makers must consider the interactions between optimal trade secret policy and optimal patent policy to develop and implement a consistent intellectual property policy. Cf. Erkal (2005), p. 427.

reached the patentable stage, or may not ever reach the patent stage. Erkal emphasizes the importance of trade secrets at different stages of the innovative process:

– Trade secret law and patent law are complementary in the early stages of innovation by allowing innovators to develop their ideas further and avoid early disclosure. Trade secret protection may continue to be important later in the innovation process for innovations that are ultimately determined to be ineligible for patent protection. In both cases, it is the strength of trade secret protection that determines the investment incentives faced by inventors. "*As long as innovators use patent and trade secret protection in order to protect themselves against misappropriation in different stages of the innovation process, the two methods supplement each other*."[416]

– After innovations become patentable, however, patent and trade secret protection become alternative forms of protection available to innovators, and innovators must then choose the form of protection that maximizes the likely returns to the innovative activity[417].

The interrelated nature of patent and trade secret protection has been further discussed by Jorda (2008) and Sherwood (2008):

– Jorda (2008) focuses on collateral trade secrets that are essential for the use of patented technology, typically licensed to users as part of a package technology license. Although patents may be the centerpiece for the protection of an innovation, other forms of protection may be valuable for protecting unpatented subject matter, or for strengthening exclusivity, invoking additional remedies in litigation, and serving as a back-up if the primary protection right is determined to be invalid[418]. Jorda concludes that patent and trade secret protection "*are not mutually exclusive but are highly complementary and mutually reinforcing*."[419]

– Sherwood (2008) describes how the use of trade secrets by innovating firms can create value by facilitating the commercialization of partially-finished innovations, or innovations that do not meet the requirements for patent issue. The author notes, similar to Erkal (2005), that trade secret protection can be critical at various phases of the innovation process. For example, trade secrets can play a critical role in securing private funding to begin or continue research into the commercialization of innovations prior to patenting or for those innovations that will never be patented.

Based on the review of literature, economists and other commentators have identified certain benefits and costs (from the point of the view of the innovator) associated with the protection of innovations as trade secrets relative to patent protection. The benefits and costs may be summarized as follows (Table A6.1):

Table A6.1 - Trade Secret Protection Compared to Patent Protection

416 *Ibid*. p. 431-432

417 In some countries, a one year grace period is granted from the time of discovery. Once this period has elapsed, the innovator forfeits the right to apply for a patent. An issue that can arise is whether an innovation that has been kept secret can be patented at a later stage by an independent inventor. Different legal systems provide different solutions. In most EU countries, late innovators can patent, but the first secret inventor retains the right to use the innovation. This issue is analysed by Denicolo & Franzoni (2004), who argue that prior user rights are not part of an optimal patent policy.

418 Jorda (2008), p. 13.

419 Jorda (2008), p. 19: *"The question is not whether to patent or padlock but rather what to patent and what to keep a trade secret, and whether it is best to both patent and padlock."*

Benefits	Potential Costs
No formal registration required Excessive registration costs avoided Unlimited term of protection	Invention not protected against lawful copying through reverse engineering, independent discovery, or inadvertent disclosure
Broad range of protectable subject matter Protection available for inventions that may not qualify for patent protection Applies to innovation in early stages of innovative process	
Disclosure of invention not required	Requires substantial investments and on-going expense for internal controls to protect trade secrets from misappropriation Require explicit non-disclosure and covenant-not-compete clauses in employee contracts Employee contract arrangements may inhibit employee mobility or payment of excessive wage premia Non-disclosure of inventions may inhibit the low cost dissemination and adoption of invention by others.
May be used in combination with other IP protection mechanisms to protect complex inventions Assists in appropriating returns to innovation investment Assists in arranging for financing of further commercial development	
Availability of legal remedies upon misappropriation	Application of trade secret laws uncertain and remedies may vary by enforcement jurisdiction

The economics literature underlines concludes that trade secret and patent protections are separate, but nevertheless compatible and mutually reinforcing parts of the overall scheme of "intellectual property" protections available to inventive firms. The selection of trade secret presents both benefits and costs relative to the use of patent protection for new innovations. Firms can thus select the types of protection mechanism best suited to protect their innovations at different stages of the innovation process, balancing the costs and benefits of patent protection against cost and benefits of non-disclosure permissible under trade secret protection.

Interrelation between patents and trade secrets: empirical studies

Empirical studies (see also Annex 7) suggest that not only smaller companies, but indeed companies from all sizes tend to rate secrecy as a more efficient form of appropriation of innovation outputs.

– Erkal observes that "*Studies carried out in the US (Cohen et al., 2000; Levin et al., 1987), Europe (Arundel, 2001; Harabi 1995) and Australia (McLennan, 1995) consistently report that manufacturing firms regard secrecy as a more important protection mechanism than patenting*"[420]

– The 1993 Community Innovation Survey CIS, for example, indicated that a higher percentage of R&D-performing firms in all size classes find secrecy to be a more

[420] Erkal (2004), part 5.

effective means of appropriation than patents[421]. Research conducted in the USA lead to similar results.

– Discussing the results of a survey collecting the views of 1478 R&D labs in the American manufacturing sector in 1994, a paper published by the National Bureau of Economic Research, indicates that "*most firms in complex product industries do not consider patents, but first move advantages, secrecy and the exploitation of complementarity capabilities as the key means of protecting their inventions*"[422].

– A survey conducted in the USA in 2003[423] showed the relative importance of the patent system: two thirds of respondents indicated that the competitive advantage of their company would quickly erode without patent protection, while 80% stated that the same would happen without trade secret protection.

– Having analysed the Mannheim Innovation Panel, a survey conducted yearly by the Centre for European Economic Research on behalf of the German Federal Ministry of Education and Research (BMBF), focusing on the firms' innovation behaviour, Katrin Hussinger concluded that while the survey results show that there more companies using trade secrets than those using patents, the latter have a greater impact on sales of new products. She concludes that "*patent protection is used to secure monopoly profits, where they are large. Secrecy, however, may be rather applied for early-state inventions that will enter the market in a later period. Another explanation might be that firms use secrecy to protect their process inventions, which is not captured by the sales figure of new products*."[424]

Empirical evidence therefore shows that business, regardless of form size, generally regard both patents and trade secrets as two instrument that support their efforts for innovation, which complement each other.

Interrelationship between trade secret protection and copyright

To a large extent, copyright and trade secret protection are co-extensive. For example, as described by Risch (2011), one might protect computer software source code as a copyrighted work and also as a trade secret because copyright registration does not require disclosure of trade secret source code[425]. Thus, the two protection mechanisms complement one another and are employed simultaneously for certain types of inventions.

As with patents, there may be instances where the valuable information, such as ideas, facts, and processes, may not be copyrightable. Examples might include unwritten business plans, initial product ideas, and customer names and telephone lists that may be copied without copyright infringement liability. Such information, on the other hand, may be protectable by trade secret law: trade secret law is "*designed to protect certain types of information that copyright law expressly disclaims*."[426] In this sense, trade secret law supplements copyright law for innovations relating to the creation of information not subject to copyright protection.

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421 Arundel (2001).

422 "*Exploitation of complementarity capabilities*" refers to the use of complementary sales and service capabilities.

423 Cockburn & Henderson (2003).

424 Hussinger (2005), p. 750.

425 Risch (2011), p. 174.

426 *Ibid*. p. 175.

Economists have not focused extensively on the relationship between trade secret and copyright law. However, as explained by Baker & McKenzie (2013), the available discussion suggests that trade secret protection is interrelated to copyright protection and the two mechanisms are also fully compatible and mutually re-enforcing[427].

A6.5. The protection of trade secrets and social and economic welfare

The role of trade secret protection in promoting disclosure and innovative efficiency[428]

Arrow and others have considered whether non-disclosure of the information about inventions, although perhaps optimal for individual firms, may not be optimal from a social standpoint. Spillovers and diffusion of knowledge are considered important determinants of dynamic economic efficiency as innovations spread through industries and economies over time. For this reason, economists and other commentators have considered whether it is preferable from a social standpoint for inventions to be patented because, in addition to protecting the returns to innovation, the disclosure required by patents encourages further innovation as others build upon the original idea in future periods.

For instance, it is argued that "*[s]ecrecy, as an alternative to patents, could decrease public welfare by reducing the flow of ideas among firms, thus reducing the overall rate of innovation. Consequently, from a policy point of view, patents are more desirable than secrecy and other alternative protection measures*"[429].

Some authors have further noted that intellectual property policies should encourage invention at the lowest possible economic cost[430]. Costs in this context may encompass not only the cost of the original innovation, but also the costs associated with registering the intellectual property (in the case of patents and copyrights), implementing internal controls to protect the intellectual property, and pursuing legal actions against possible infringement and misappropriation that occurs through unlawful means.

However, a distinction must be made between secrecy and trade secret law. While secrecy may be the opposite of disclosure, one should focus not on secrecy in itself but on the impact that trade secret law has on secrecy and disclosure. In this context, although trade secret law may appear to encourage secrecy and non-disclosure, commentators have convincingly argued that trade secret laws instead encourage innovative efficiency and disclosure. These objectives are accomplished through at least two separate channels: (1) trade secret law provides serves as a partial substitute for excessive investments in physical security of trade secrets,[431] and (2) trade secret law facilitates disclosure in contract negotiations over the use or sale of the invention that otherwise would not occur in the absence of such protection.[432]

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427 Cf. Baker & Mc Kenzie (2013), p. 94.

428 Baker & McKenzie (2013), p. 87.

429 Thumm (2003), p. 66.

430 Besen & Raskind (1991), p. 5-6.

431 Risch (2007) states that trade secrets are "*justified by the economic benefits that flow from their existence, most notably incentives for businesses to spend less money protecting secret information or attempting to appropriate secret information.*" Risch (2007), p. 5.

432 Lemley (2008), p. 332-337. The second channel serves as a practical solution to what has been referred to as Arrow's Information Paradox. Arrow (1962), p. 615 (sellers will not disclose information to buyers in the absence of legal protection, preventing buyers from being able to value the information): "*In the absence of any legal protection, the developer of a potentially valuable but secret idea will have a difficult time selling that idea to someone who could make more efficient use of it. In order to sell the*

Paradoxically", using the words of Lemley, "*trade secret law actually encourages broader disclosure and use of information, not secrecy*"[433]. By establishing a safer environment, trade secret law facilitates the exchange of information[434]. In other words, trade secret law promotes diffusion of knowledge.

The obligation of firms to take reasonable steps to protect trade secrets is an integral part of the trade secret protection scheme. Although economists have not performed studies of the costs incurred by firms to protect trade secrets, the measures required of firms to prevent disclosure of trade secrets, such as sophisticated IT controls, investments in physical security, management of employee contract arrangements[435], etc., are undoubtedly costly and distract management from the day-to-day operation of the business. Trade secret protection policies that help to reduce the resources expended by firms on such controls assist firms in maximizing the returns to innovation investments. Framed in this manner, trade secret protection plays an important role in innovative efficiency and encouraging the disclosure and dissemination of inventions beyond levels that would occur if such protection was not available.

The protection of trade secrets do not provide perpetual protection

Another feature of trade secrets that raises reservations is the potential for overpassing the temporary limits of patent protection. Trade secrets may in theory last for ever. In practice, they last for an uncertain amount of time, and cease to exist due to reasons that are beyond the control of the trade secret holder.

The likelihood of a long lasting secrecy is increasingly shorter. As long as there is need and demand, competition in innovation will sooner or later lead to the end of secrecy. In this respect, it is interesting to note that, while trade secrets are extensively used, most companies feel that secrecy is a short term affair. 80% of respondents (precisely the same percentage that perceive trade secrets as crucial to their competitiveness) find that it is very difficult to keep new technology secret for long, given the speed at which new technology diffuses in their industry.

Thus a trade secret will normally only last for the period time needed for the involving community and competitors to come up with an independent discovery or reverse engineering. As mentioned above, the less obvious the information is, the longer it will take for competitors to reach the same, similar or better. In other words, protection will last for a period of time that is proportionate to the merits of the inventor.

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idea he will have to disclose it to allow the buyer to evaluate it, but disclosing it destroys the value inherent in its secrecy" Lemley (2008), p. 336.

433 Lemley (2008), p. 333.

434 Without legal protection of trade secrets against misappropriation companies and research bodies would more be reticent to share strategic knowledge. Network research and collaborative innovation would be riskier. R&D would be carried out mostly in-house on closed doors. Exchange of valuable information is also needed outside collective R&D. Companies are compelled to share information when they interact with other players and business partners (entering into joint ventures, negotiating with suppliers or costumers, or seeking investment or financial support for their projects). In an optimal scenario they should be able to do so without the additional costs, burdens and constrains of risk and fear. In a more realistic scenario, companies should at least expect that counterparts have little incentive to spy, deceive or infringe agreements. Competition should take place under the common understanding that deceiving, corrupting and spying, however cheap, however attractive, are poor alternatives to carrying out in R&D or acquiring know-how and technology through transfer agreements.

435 Concerning the impact of trade secret protection on labour mobility and wages, see Baker & McKenzie (2013), p. 88 and Annex 24 of this Impact Assessment.

Trade secrets and models of economic welfare maximisation[436]

In recent papers, economists have analyzed issues of optimal trade secret protection using modelling frameworks that jointly consider innovation incentives and maximization of social economic welfare. The rich model structures presented in these papers allow for simultaneous consideration of intellectual property protection policies and market competition issues.

These state-of-the art models emphasize the interrelationships between trade secret and patent policy and compare policy alternatives based on a consistent comparative evaluation of social welfare outcomes. The complexity of these models demonstrates the difficulty of determining the optimal trade-off between protecting the returns to first inventors as compared to promoting disclosure and the range of inventions that may result as firms duplicate or improve on the original invention.

For example, Denicolo and Franzoni (2004) present a model of optimal patent design where innovators can rely on secrecy and patents to protect innovations. Noting the empirical work of Levin et al. and Cohen et al., the authors consider whether the prevalence of trade secret protection by innovating firms is socially desirable. The authors present a model with two stages: an innovation stage and a duplication stage. In the innovation stage, the innovator chooses the level of R&D effort, and also decides whether to adopt trade secret or patent protection. In the duplication stage, a follower decides how much to invest in replicating the innovation. In deciding whether to patent, the innovator must weigh the limits of patent protection against the risk of disclosure of the secret invention.

The authors frame their model in a way that facilitates a comparison of the impact of different trade secret and patent policies on economic welfare. The model allows for alternative market structures and competitive conditions. To keep the model tractable, the authors assume that patent rights are "strong," focusing on optimal patent life as a critical variable affecting innovator choice between patent and secret protection.[437]72 The model structure is specifically designed to consider the impact of prior user rights, patent duration, and competitive conditions. The analysis of social welfare compares the "deadweight loss" under the monopoly conditions of patent ownership to the deadweight loss stemming from duplication of inventions by followers. Successful replication by the follower causes a shift in competition conditions from monopoly to a duopoly market structure. The authors also confirm that selection of patent life materially affects the determination of whether patents or secrecy is socially desirable.

Denicolo and Franzoni (2012) refine their earlier analysis, in particular by allowing for the possibility of knowledge spillovers. The analysis presented in the paper demonstrates the difficulty of determining the optimal trade-off between protecting the incentives to engage in innovative activity versus achieving the benefits of disclosure, spillovers, and diffusion. The authors note that patents provide a strong form of protection since they grant an exclusive right to use patented technology for a defined period of time. Trade secret law, by contrast, provides weak and non-exclusive protection, prohibiting misappropriation of knowledge and know-how by unlawful means, but not duplication through reverse engineering or parallel development. As the authors state: "*Where strong exclusive*

436 Baker & McKenzie (2013), p. 89.

437 The model set forth by the authors does not consider the case where patent rights may be weak. Thus, the model sets aside the conditions that might result in the choice for secrecy due to the inability to protect the returns to innovation.

protection of IPRs is ostensibly intended to ensure a large reward for the innovator, weak protection aims to foster imitation and competition. Policy, then, must solve a difficult trade-off between incentives for innovation and the need to encourage diffusion."[438]

Allowing for knowledge spillovers, the authors investigate the relationship between the structure of intellectual property rights and the nature of the innovation process. As in their prior paper, the authors incorporate considerations of market structure, comparing the deadweight loss under monopoly conditions to the dead weight loss under a more competitive market structure. The authors find that knowledge spillovers change the analysis in significant ways. Regarding trade secret policy, the authors conclude that strong exclusive rights are preferable from a social welfare standpoint in highly innovative sectors where firms compete aggressively for major innovations, where research knowledge is jealously guarded, and where product competition is weak. In the absence of such industry conditions, trade secrecy may be socially optimal.

Ottoz and Cugno (2011) present a model analyzing optimal trade secret policy based on the optimization of economic welfare and incorporating elements of game theory and alternative specifications of competitive conditions. The model assumes that an incumbent firm has a proprietary product whose technology consists of at least two components, one of which is patented while the other is kept secret. The authors specify a model in which social costs associated with a mixture of trade secrets and patents includes, in addition to dead-weight losses and innovative R&D costs, the costs borne by an entrant trying to duplicate the part of a technology protected by trade secret. The authors then focus on the relationship between duplication costs by legal means and social welfare.

A special feature of the authors' model is the relationship between duplication expenses, the probability of duplication success, and the scope of trade secret law. Another unique feature of the model is the explicit incorporation of considerations of employee mobility including restrictions imposed by contractual and legal restrictions, such as postemployment non-disclosure or covenants not-to-compete, intended to limit spillovers of proprietary and non-patented information.[439] The authors conclude that a strong trade secret protection may be collectively efficient by allowing society to save on duplication costs that would be incurred by the new entrant. Such savings may be sufficient to more than compensate the dead-weight losses incurred over time associated with a low probability of duplication success.[440] In this rich model structure, the authors find conditions under which a strong trade secret policy is desirable.

Trade secrets protection in alternative market structures[441]

The economic theoretical literature suggests that trade secrets play an important role in protecting the returns to innovative activity in a variety of innovation market structures. The following paragraphs present recent economic studies discussing the consequences of trade secret protection under alternative assumptions of competitive behaviour and market conditions in which innovations occur.

Trade secret protection when patents are defined broadly

438 Denicolo and Franzoni (2011), p. 2.
439 Ottoz and Cugno (2011), p. 220.
440 *Ibid*. p. 226.
441 Baker & McKenzie (2013), p. 94.

Ottoz and Cugno (2008) consider the implications for an optimal patent-secret mix for "complex" products that incorporate a mixture of patents and trade secrets in a single innovative product. As the authors note, electronic products tend to incorporate a large number of patents, and often a mixture of patent, copyright, and trade secret technology. In the case of complex innovations, firms can rely on more than one protection mechanism to protect a product. Under some circumstances, the innovator has no choice but to use trade secret protection since certain components may not qualify for patent. In many instances, however, innovators can choose the extent of protection through trade secret versus patent protection. Consequently, trade secret protection may be important not only during the patent application process, but also during the term of and after expiration of a patent.

Ottoz and Cugno (2008) present a model where an innovator, possessing all the complementary pieces of the new technology and using the pieces directly, choose an optimal patent-secret mix. The authors conclude, somewhat counter intuitively, that an increase in the level of patent protection may induce an innovator to rely more on secrecy. The intuition for the authors' conclusions is as follows: an increase in the patented and disclosed knowledge decreases the likelihood that a rival will invent around the patented knowledge, but also increases the probability that the remaining trade secret leaks out (since there is less knowledge to leak). Because of these two opposing effects, the optimal disclosure is somewhere between none and all of the knowledge. In addition, although an increase in patent breadth causes innovators to substitute patent for trade secret protection, an increase in patent breadth allows the innovator to disclose a lower fraction of knowledge, inducing the innovator to rely more on trade secrets. Thus, the opposing economic incentives cause innovators to choose a combination of patent and trade secret protection. This article illustrates how the availability of both trade secret and patent protection enable firms to select the optimal combination of protection that maximizes the rewards to the inventive activity. In addition, the article is contrary to the usual view that an increase in patent breadth necessarily implies that innovators would rely less on trade secret protection.

The effect of trade secret protection on subsequent innovations

Erkal (2005) examines the use of patents and secrecy when the innovative environment is characterized by a process of cumulative innovation. Cumulative innovation occurs when a first innovating firm develops an idea, and then there is a race by a second firm (or firms) to build on and develop an improved version of the first innovation. Erkal shows that if innovators can rely on secrecy after the first stage of R&D, competitors must allocate substantial resources to duplicate the R&D output of the first stage. The investments designed to copy the first innovation are assumed to reduce competitiveness in the second stage of R&D. This in contrast to patent innovations where the competitors can use the disclosed patent of the innovator in order to compete on equal terms in the second R&D stage. The decision by the first innovator to use trade secrets or patents in the first stage then affects the investment required and returns to the second stage innovator. Models of cumulative innovation demonstrate how the use of trade secrets and patents in various stages of the innovative process interact, impacting both the incentive to innovate and the level of investment in subsequent R&D races.

The likelihood of simultaneous invention can impact the choice between patent and trade secret protection

In Kultti et al. (2006, 2007), the authors examine the implications for optimal patent policy by considering simultaneous innovation, situations where separate firms operating separately develop the same invention simultaneously. The authors demonstrate that the possibility of simultaneous innovations changes the firms' decision dynamics: firms may choose patents instead of secrecy for defensive purposes, "*since the choice is no longer between patenting or resorting to secrecy, but between patenting or letting competitors patent*."[442] The models developed by Kultti et al. (2006, 2007) demonstrate that the choice between secrecy and patenting is the result an optimization process whereby the innovator must consider the likelihood that the invention will be disclosed and by the strength of the patent protection: a strong patent protection system militates in favour of patent, whereas a weak system militates in favor of secrecy. The authors conclude: "*For intermediate levels of patent protection, … the model predicts a mixed equilibrium where both secrecy and patenting coexist*."[443] The authors further find that, whether an innovator may prefer patent versus trades secret protection, depends on the probability that a competitors will discover the same invention simultaneously. A strong likelihood of simultaneous invention diminishes the gains from secrecy and encourages innovators to patent new inventions even though the protection afford by the patent may be weaker than protection provided by continued secrecy. A low probability of simultaneous invention can have the opposite effect.

Trade secret protection when patents are weak

The role of secrecy in an environment where patent rights are "weak" has been considered by Anton & Yao (2004), and by Anton, Greene, & Yao (2006). The authors note that patents vary substantially in the degree of protection provided against unauthorized imitation. Weak patents are defined as patents that have a significant probability of being overturned or being circumvented relatively easily. The authors note that, if patent or copyright laws could fully protect all economically important inventions, circumvention and possible infringement would be of less importance to the management of intellectual property by firms. Under such circumstances, maintaining inventions in the form of trade secrets would be of less importance. The authors note, however, citing to empirical studies, that firms do not view patents as providing strong appropriability. The authors conclude that, in an innovation setting where the breadth and scope of patent protection is viewed as potentially weak, such conditions encourage firms to rely more heavily on secrecy. Thus, secrecy may be viewed as a rational alternative to patenting or copyright where inventors conclude that there is a reasonable probability that a patent may be overturned or easily circumvented. As a result, the choice between patent versus trade secret protection depends in part of the innovator's view regarding the relative strength or weakness of a patent.

442 Kultti et al. (2006), p. 82.
443 Kultti et al. (2007), p. 36.

ANNEX 7 – THE USE BY AND IMPORTANCE OF TRADE SECRETS FOR EU COMPANIES

Economic empirical studies in Europe and elsewhere consistently find that innovators routinely use means other than patents (and generally intellectual property rights) to protect innovations and appropriate the returns to their innovation investment. The use of trade secrets is prominent among these alternative protection methods.

A7.1. The importance and relevance of trade secrets for EU companies

Empirical studies in the EU

The 2012 Industry Survey[444] carried out by Baker & McKenzie for the Commission in 2012 confirms that trade secrets are highly valuable for companies in the EU, both as regards technical information and business/commercial information[445]. The most highly-valued types of Trade secret relate to "Commercial bids and contracts, contractual terms", followed by "Customer or supplier lists and related data", and then "Financial information and business planning". Trade secret information related to "R&D data", "Process know how and technology", "Formulae and recipes", "Product technology", and "Marketing data and planning" were also ranked by respondents as highly valuable.

Concerning the importance of trade secrets for the competitiveness/innovative growth performance of their company, 74% of the respondents attached medium or high importance to trade secrets[446] (see Figure A7.1).

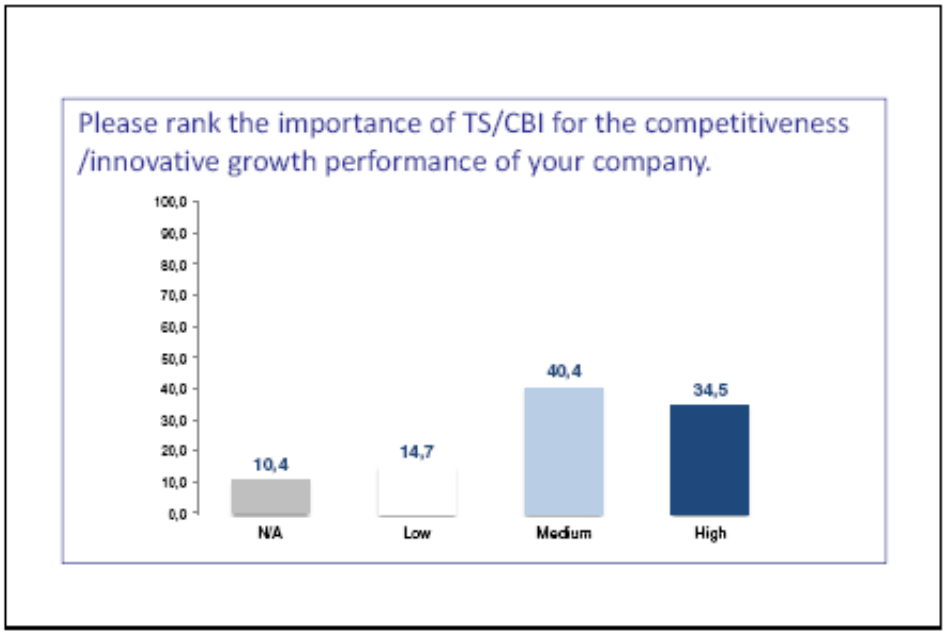

Figure A7.1 – Importance of trade secrets for the competitiveness/innovative growth performance of businesses. Source: 2012 Industry Survey.

444 See Annex 3 of this Impact Assessment and Baker & McKenzie (2013), p. 117.
445 Cf. Baker & McKenzie (2013), p. 121-122.
446 Cf. Baker & McKenzie (2013), p. 122.

Other empirical studies in the EU also show that companies, irrespective of their size, often value secrecy as equally important or more important than patents and other forms of intellectual property as a way to appropriate and exploit knowledge (see Box A7.1).

Box A7.1 – Empirical studies in the EU

Brouwer and Kleinknecht (1999) analyzed the Netherlands portion of the European Community Innovation Survey ("CIS")[447] for 1992 and 1988 covering 1,300 manufacturing firms[448]. The authors observe, consistent with other studies, that secrecy is "*more important than patent protection*" in protecting both process and product innovations[449].

Arundel (2001) also analyzes European firm preferences in 7 countries for the use of secrecy versus patents as an appropriation mechanism, using data from the 1993 European CIS[450]. The results show that a higher percentage of firms in all size classes rate secrecy as more valuable than patents. However, with respect to product innovations, the authors find a statistically significant trend towards declining importance of trade secrets as firm size increases.

Hussinger (2005), using German data[451], also analyzes whether companies prefer patents versus secrecy to protect their innovations. Hussinger finds (similar to other studies) that firms tend to use patents more for the protection of product innovations, which are subject to re-engineering, whereas secrecy may be more favourably applied to protect process innovations. In addition, different protection tools may be used at different stages of the innovation process, and firms may protect different elements of a single invention through the combination of different protection tools. Hussinger finds that, for German manufacturing firms in 2000, patents are more important to protect innovations embodied in products sold in the marketplace, whereas secrecy is important for inventions that are not yet commercialized.

Gonzalez-Alvarez and Nieto-Antolin (2007) similarly analyze the selection of protection mechanisms by Spanish manufacturing companies. Appropriations methods considered by the authors are patents, industrial secrets, cost and time for imitation, and continuous innovation. Manufacturing industries where trade secrets were found to be more important than patents as an appropriability mechanism are food and kindred products; textile mill products; apparel and other textile products; lumber and wood products; paper and allied products; printing and publishing; chemicals and allied products; leather and leather products; stone, clay, glass and concrete products; primary metals; fabricated metal products; and transportation equipment.

447 The Community Innovation Survey (CIS) is a survey of innovation activity in enterprises covering EU member states, EU candidate countries, Iceland and Norway. CIS provides information on the characteristics of innovation activity at the enterprise level. The survey allows monitoring of Europe's progress in the area of innovation, creating a better understanding of the innovation process, and analyzing the effects of innovation on EU member economies. The survey concepts are in line with the recommendations of the Oslo Manual (2d edition 1997). As part of the 1993 CIS, the questionnaire asked recipients to evaluate the effectiveness of various protection methods for both product and process innovations of patents, registration of design, complexity of process design, lead time advantage over competitors, and secrecy. Questions related to preferred protection mechanisms were eliminated in later CIS.

448 Similarly to other studies, a weakness of the study by Brouwer and Kleinknecht (1999) is that it focuses exclusively on manufacturing industries and does not evaluate the role played by trade secrets in non-manufacturing industries such a retail or wholesale trade or business service industries.

449 Brouwer & Kleinknecht (1999), p. 617. The survey asked respondents questions about both product and process innovations, as well as questions about the relative effectiveness of patents and other means of protecting innovations. The questionnaire also sought information about the relative effectiveness of other factors such as lead time, retaining qualified people, secrecy, complexity of product or process design, and other factors.

450 The author uses data from the 1993 European CIS for approximately 2,849 R&D-performing firms to analyze the relative importance of secrecy versus patents. The 1993 CIS requested information on the value of both secrecy and patents for manufacturing firms in Norway plus six EU countries: Germany, Luxembourg, the Netherlands, Belgium, Denmark, and Ireland. The survey asked questions about the relative effectiveness of lead-time advantages, secrecy, product complexity, patents, and design registrations for protecting innovations.

451 Based on survey data from the Mannheim Innovation Panel, Hussinger analyzes the importance of patenting versus secrecy for German manufacturing firms for the year 2000. Non-manufacturing industries are not analyzed.

Empirical studies outside the EU

Studies in the US obtained similar results (see Box A7.2).

Box A7.2 – Empirical studies in the US

Levin et al. (1987) analysed the most important mechanisms by which US firms are able to appropriate returns to investments in innovation[452]. Analysis of the survey data revealed that firms in many manufacturing industries consider protection mechanisms other than patents more effective in appropriating returns from innovation. For example, lead time, speed down the learning curve, and sales and service efforts were all found to be more effective than patents with respect to both process and product innovations. Secrecy was found to be more effective than patents for process innovations, but slightly less effective than patents for product innovations.

Cohen et al. (2000) conducted another well-known study of appropriability mechanisms in the US[453]. Similar to Levin et al. (1987), the authors observed that firms capture the returns to innovations using a range of protection mechanisms, including patents, secrecy, lead time, and complementary marketing or manufacturing capabilities. The authors found that patents tend to be the least emphasized by firms in the majority of the manufacturing industries, whereas secrecy and lead time tend to be emphasized most heavily.

Png (2011) also provides an empirical analysis of the importance of trade secrets for US manufacturing for the period 1976-2006. The authors examines the impact of the adoption of the Uniform Trade Secrets Act (UTSA) by US states on R&D and the decision whether to patent or hold inventions as trade secrets. The results imply that trade secrets matter for R&D investment and, for some industries, whether to patent technical innovations. Png concludes: "*In the realm of public policy, my results suggest that policy-makers concerned about technical innovation should look beyond patents, and give more attention to trade secrets.*"[454]

Jankowski (2012) summarizes the business use of intellectual property protection following a National Science Foundation survey[455]. In this survey trademarks and trade secrets are identified by the largest number of businesses as important forms of intellectual property protection. Nevertheless, when only the replies made by firms with R&D activity are counted, trade secrets comes first: it is cited as an important protection method by more than 60% of the respondents with R&D activity[456].

452 The authors' results are based on a survey questionnaire to high-level R&D executives, asking opinions about firm and industry technology and economic environment. The survey questionnaire employed semantic scales to ask the R&D managers their views regarding the relative effectiveness of alternative protection mechanisms for US manufacturing industries. The authors received 650 individual responses representing 130 lines of manufacturing business. The study focused exclusively on manufacturing industries and did not address appropriability conditions in other industries, such as business services or retail or wholesale trade. The manufacturing industries found to rely on secrecy and other appropriability means included pulp, paper and paperboard; cosmetics; organic and inorganic chemicals; drugs; plastics materials; petroleum refining; steel mill products; pumps and pumping equipment; motors, generators, and controls; computers; communications equipment; semiconductors; motor vehicles and parts; aircraft and parts; measuring devices; and medical instrument industries. Cf. Levin et al. (1987), p. 797, table 2.

453 The authors analyzed the responses of a survey questionnaire sent to 1,478 R&D labs in the US manufacturing sector in 1994. The population sampled are all R&D labs located in the US conducting manufacturing industries as part of a manufacturing firm. The sample was restricted to firms with at least five million ($US) in sales or business units with at least twenty people. The survey observations are grouped into thirty four International Standard Industrial Classification (ISIC) codes at the two and three digit industry classification level.

454 Png (2011), p. 27.

455 A Business R&D and Innovation Survey (BRDIS) was launched by the National Science Foundation in 2009. Businesses located in the US were asked to report on the importance of various types of intellectual property protection to their company during 2008. Specifically, they reported whether utility patents, design patents, trademarks, copyrights, trade secrets, and mask works (copyright protection for semiconductor products) were "very important", "somewhat important", or "not important". The data were weighted by industry category and size, and they were collected for businesses with and without R&D activity.

456 Jankowski (2012), p.5.

These findings are also confirmed by studies in other European countries (see Box A7.3).

Box A7.3 – Empirical studies in Switzerland

Harabi (1995) conducted a survey of 358 Swiss R&D executives, spanning 127 lines of business mainly in the manufacturing sector[457]. The author reports survey results that are broadly similar to those of Cohen et al. (2000). Secrecy, lead time, moving quickly down the learning curve, and superior sales and service were all found to be at least as effective, if not more effective, than patents for appropriating the returns to product and process innovations[458]. The author concludes: "*Facing the decision of either patenting or keeping an innovation secret, innovators tend to choose secrecy in cases of process innovations and patenting in the case of product innovations*"[459].

A7.2. The particular case of SMEs and start-ups

European research shows that trade secrets are important to all sizes of firms, but SMEs and start-ups seem to rely on trade secrets more intensively than larger companies[460]. The literature suggests that SMEs and start-ups may be using trade secrets not only as supplements/complements to patent (or other intellectual property right) protection, but also as substitutes for it (see Box A7.4).

Box A7.4 – Trade secrets and SMEs in the EU

Arundel and Kabla (1998)[461] found that patent propensity rates tend to increase with firm size, i.e., smaller firms file patent applications for a smaller percentage of their innovations than larger firms. This result was observed for both product and process innovations.

From a German perspective, **Blind et al. (2006)** also found that the importance of patents grows with increasing company size[462].

Drawing upon the results of case studies of eight Finnish firms in 2007, **Olander et al. (2009)** find that SMEs prefer to rely on informal protection measures, such as trade secrets, in protecting their intellectual property[463]. They also show that firm size and the business type affect the preferred method for the protection of innovations.

457 The questionnaire used was a slightly modified and augmented version of the survey questions employed by Levin et al. (1987).

458 The author performed detailed analysis of ten different industry groups. Secrecy was found to be more effective in protecting process innovations in the electronic, chemicals, food, synthetics and paper, and private research laboratory sectors. With respect to product innovations, secrecy was found to be most effective in the food, synthetics and paper sectors.

459 Harabi (1995), at 984

460 Interestingly, respondents to the industry survey carried out by Baker & McKenzie for the Commission seem to have diverging views. According to the results of the survey, large firms seem to attach greater value to trade secrets and to regard them as more important than small/medium-sized firms. In any event, they survey results make clear that all types of trade secrets are important to firms of every size. Cf. Baker & McKenzie (2013), p. 120-122.

461 Based on the results of pan-European survey on innovation among European firms, Arundel and Kabla analysed firms' propensity to patent, expressed as the percentage of innovations for which a patent application is filed. This study found support for the view that large European firms rely more on patents as compared to secrecy to protect their innovations. The survey included European firms in a wide range of industries and sizes.

462 Large firms may patent for strategic reasons, tending to build large patent portfolios, raising potential entry barriers for competitors into the respective markets. Similar to Arundel (2001), the authors observe that SMEs are disadvantaged in comparison to large companies regarding patenting. The disadvantage to SMEs is not only due to the cost of patenting, but also on the benefit side with respect to blocking further concentration by competitors and in dealing efficiently with patent claims of other companies.

463 The authors found that SMEs prefer informal protection methodologies, such as contracts, human resource management and secrecy, over formal intellectual property rights, such as patents, which are considered more difficult to obtain among SMEs. The preferred protection mechanism, however, was very much dependent on the business/industry in which the company operates.

Additional support for the observed reliance of small firms on trade secrets was provided by **Pajak (2009).** This author found that the use of patents as an intellectual property protection tool for process innovations, as compared to using trade secrets, increases with firm size[464].

Leiphonen & Byma (2009) also found that small firms prefer to rely on informal intellectual property protection measures, such as speed to market or secrecy[465].

In a report to the UK Intellectual Property office, **Hughes & Mina (2010)** showed that small firms are less likely to use patents as a means of protecting innovation investments as compared to other means such as confidentiality agreements, secrecy, or being first to market[466].

Similar findings result from US research (see Box A7.5).

Box A7.5 – Trade secrets and SMEs in the US

The results of **Lerner (1995)**[467] suggest that smaller, less established firms tend to employ trade secrecy more intensively than larger, longer established firms, due in part to the substantial direct and indirect costs of patenting and protecting against infringement.

Cordes et al. (1999) determined that small high technology firms often prefer informal intellectual property protection mechanisms, such as trade secrets and gaining lead time, over formal intellectual property rights protection, such patents, copyrights and trademarks to protect innovation[468]. Cordes et al. (1999) conclude that the two main reasons why small, high technology firms may choose secrecy over patents are the costs involved in enforcing patent rights and the requirement to disclose the innovation as part of the patent application[469].

Cohen et al. (2000) confirm a positive correlation between patent effectiveness and firm size, suggesting that patents may play a more central role at large firms. Analysis of survey results suggests that the costs associated with patents, particularly their defense, disproportionately dissuade small firms from using patent protection as an appropriability measure[470]. The authors state: " … *larger firms are better able to spread the fixed costs of applying for and defending patents over greater levels of output*"[471].

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464 Pajak examined the use of formal (patents) and informal (secrecy) intellectual property protection measures among firms of different sizes using data collected in the European 2004 Community Innovation Survey. However, the results for product innovations do not seem to support this claim.

465 Based on an analysis of small, innovative Finnish manufacturing and service firms, the authors conclude that most of the small firms analyzed find informal means of protection, such as speed to market or secrecy, more important than patenting. However, in some situations, firms may have a preference between speed to market versus trade secrecy. For example, firms that cooperate in innovation with horizontal partners, or significantly depend on vertical partners, tend to prefer speed, whereas process innovators with modest R&D investments or few cooperative R&D activities display a preference for trade secrets.

466 The authors analyse the use of alternative appropriability measures based on the UK portion of the European CIS for 2004. The authors analyse several different appropriability measures, including leadtime advantages, complexity of design, secrecy, copyright, confidentially agreements, patents, trademarks and registration of design. They also drawed on UK, European and US data sources.

467 Relying on a sample of US state and federal court cases over a four and a half year period, Lerner (1995) analyzed the importance of trade secrets relative to other forms of intellectual property protection. The sample encompassed litigations for 530 manufacturing firms. Lerner found statistical evidence supporting the view that intellectual property cases litigated by smaller firms disproportionately involve trade secrets, suggesting the critical importance of trade secrets to smaller firms.

468 The study was based on a survey among 198 small US firms operating in high technology sectors, See Cordes et al. (1999), Tables 39 and 40, p. 56-57.

469 Other observations from the authors' survey regarding why small firms choose non-patent mechanisms to protect innovations include: "high enforcement costs (74%); competitors can legally invent around most patents (72%); portfolio of patents is too expensive to maintain (61%); rapid changes in technology limit patent protection (57%). *Ibid*. p. 58.

470 Cohen et al. (2000), p. 25.

471 *Ibid*.

Searle (2010b) concludes that "*there is a negative relationship between firm size and the intensity of trade secrecy*": i.e. smaller firms prefer trade secrets as an appropriability mechanism over patents[472]. Because smaller firms face high costs for obtaining patents, secrecy may be perceived as "*a more efficient method of protecting innovations*"[473].

A7.3. The importance of trade secrets with regard to different industry sectors

The 2012 Industry Survey shows that the protection of trade secrets is important to EU industries, irrespective of their economic sector or geographical origin, although their importance varies depending on the type of trade secret.

– While this survey confirms that trade secrets of all types are viewed as valuable to European Companies, there are significant differences among industries in terms of the relative importance assigned to different types of trade secrets. Commercial bids and contracts are ranked as the most valuable in the Chemicals, Computer, Wholesale Trade, Telecommunications, Fast moving consumer goods, and Scientific Research and Development sectors. In Pharmaceuticals, the most valuable trade secrets are associated with Marketing data and planning, while Customer and supplier lists are perceived as high value for the Machinery and Equipment, Motor Vehicles, Transportation and Storage, Advertising and Market Research, and Legal and Accounting services sectors[474].

– Concerning the importance of trade secrets for the competitiveness/innovative growth performance of their company[475], this survey confirms the importance of trade secrets to individual business sectors, although their relative importance varies by industry sector. Sectors providing the largest share of "High Importance" responses are Scientific Research and Development (55%), Chemicals Manufacturing (52%), and Motor Vehicles Manufacturing (44%). The industries with the lowest share of "High" responses include Publishing Activities (21%), Information Services activities (19%), Wholesale Trade (other than motor vehicles) (17%), and Legal and Accounting services (7%).

In manufacturing industries, US research showed that secrecy is considered very important in particular for process innovation (not only for product innovation), which spans many more sectors (see Box A7.6).

Box A7.6 – Secrecy for process and product innovation

In an above-mentioned study[476], **Cohen et al. (2000)** presented the effectiveness of different appropriability mechanisms for product innovations separate from those for process innovation in different US manufacturing industries.

For product innovations, the mean effectiveness as an appropriability mechanism of lead time and trade secrecy exceeds that of patents on average for all industries, followed in importance by complementary sales and service and complementary manufacturing. The relative effectiveness of trade secrets varies significantly across industries and is viewed as most important in the miscellaneous chemicals, metal, textiles, petroleum, machine tool, and semi-conductor industries.

472 This study analysed the relationship between firm size and trade secret usage, relying on a regression analysis of data from 95 US Economic Espionage Act cases from 1996 to 2008.

473 Searle (2010b), p. 19-21.

474 Cf. Baker & McKenzie (2013), p. 120.

475 Cf. Baker & McKenzie (2013), p. 122.

476 See above, Section A7.2 of this Annex. These authors had observed that firms capture the returns to innovations using a range of protection mechanisms, including patents, secrecy, lead time, and complementary marketing or manufacturing capabilities. The authors found that patents tend to be the least emphasized by firms in the majority of the manufacturing industries, whereas secrecy and lead time tend to be emphasized most heavily.

With the exception of two industries – special purpose machinery and medical equipment – the effectiveness of trade secrets as an appropriation mechanism exceeds that of patents in all other industries. See Table A7.1, below.

Similar industry patterns hold for the effectiveness of appropriability mechanisms for process innovations. On average across all industries, lead time and secrecy are found to be the two most important appropriability mechanisms. The effectiveness of trade secrets exceeds that of patents by more than a 2-to-1 margin for process inventions. The relative effectiveness of trade secrets for product innovations varies significantly across industries and is viewed as most important in the miscellaneous chemicals, drugs, metal, plastic resins, and textile industries. The authors further observed that the effectiveness of trade secrets exceeds that of patents in every industry with only one exception, medical equipment[477]. See Table A7.2, below.

Table A7.1 - Mean Percentage of Product Innovations for which Mechanism Considered Effective

Industry	Mean Percentage of Innovations						
	N	Secrecy	Patents	Other Legal	Lead Time	Complementary Sales/Services	Complementary Manufacturing
Miscellaneous Chemicals	29	70.69	39.66	25.52	55.52	55.17	48.97
Metal	6	65.83	20.00	5.00	50.83	58.33	61.67
Textiles	23	63.70	20.00	25.87	58.26	55.22	58.26
Petroleum	15	62.00	33.33	6.33	48.67	40.33	35.67
Machine Tools	10	61.50	36.00	9.00	61.00	43.00	34.50
Semiconductors & Related Equipment	18	60.00	26.67	22.50	53.33	42.22	47.50
Food	89	58.54	18.26	21.18	53.37	39.83	51.18
Rubber & Plastic	35	56.86	32.71	10.14	40.86	34.29	37.71
Plastic Resins	27	55.93	32.96	18.15	38.33	44.63	46.11
Aerospace	48	55.10	32.92	16.15	58.02	34.58	46.88
Paper	31	55.00	36.94	26.45	47.10	40.00	39.84
Drugs	49	53.57	50.20	20.82	50.10	33.37	49.39
Chemicals	65	52.77	37.46	21.62	48.62	44.92	41.31
Medical Equipment	67	50.97	54.70	29.03	58.06	52.31	49.25
Motor & Generator	22	50.91	25.23	19.09	48.86	47.27	45.23
Auto Parts	30	50.83	44.35	15.65	64.35	44.84	53.06
TV & Radio	8	50.00	38.75	35.63	53.75	24.38	38.75
Other Manufacturing	84	49.29	33.81	26.61	63.51	42.56	45.30
General Purpose Machinery	74	49.19	38.78	20.88	52.23	41.15	43.65
Search & Navigational Equipment	38	48.95	28.68	24.08	46.84	32.89	40.53
Basic Chemicals	35	48.00	38.86	11.57	38.29	45.86	44.71
Precision Instruments	35	47.29	25.86	20.86	54.14	49.57	45.57
Communications Equipment	34	47.21	25.74	20.15	65.59	42.06	41.18
Glass	6	46.67	30.83	11.67	50.00	62.50	70.00
Mineral Products	18	46.11	21.11	12.22	39.72	37.78	40.00
Special Purpose Machinery	64	45.08	48.83	23.05	59.69	46.33	51.09
Concrete, Cement, Lime	10	45.00	30.00	17.50	38.00	45.50	40.00
Computers	25	44.20	41.00	27.20	61.40	40.20	38.00
Metal Products	44	43.07	39.43	18.18	48.18	37.05	40.11
Car & Truck	9	42.22	38.89	19.44	65.56	41.67	42.22
Electrical Equipment	22	39.09	34.55	15.00	33.41	32.27	31.82
Steel	10	37.00	22.00	11.50	61.50	34.50	42.00
Electronic Components	26	34.04	21.35	20.19	45.58	50.00	51.15
Printing & Publishing	12	32.50	12.08	21.67	48.33	66.25	60.42
ALL	1118	51.00	34.83	20.71	52.76	42.74	45.61

Source: Cohen et al. (2000), (re-ranked highest to lowest based on trade secret intensity)

Table A7.2 - Mean Percentage of Process Innovations for which Mechanism Considered Effective

[477] See Baker & McKenzie (2013), p. 97 and seq. and 111.

Industry	Mean Percentage of Innovations						
	N	Secrecy	Patents	Other Legal	Lead Time	Complementary Sales/Services	Complementary Manufacturing
Miscellaneous Chemicals	28	76.25	27.32	15.71	33.93	40.36	54.46
Drugs	48	68.13	36.15	16.04	35.52	25.21	44.17
Metal	6	65.83	31.67	12.50	66.67	46.67	50.00
Plastic Resins	27	62.96	21.30	7.22	23.70	25.19	34.26
Textiles	23	60.65	25.22	24.35	48.70	44.35	53.91
Rubber & Plastic	35	59.14	19.86	11.43	35.86	23.00	37.43
Paper	31	58.87	27.58	19.35	34.52	20.65	34.03
Basic Chemicals	35	58.43	29.71	11.71	25.71	26.71	40.14
Glass	6	58.33	30.83	18.33	31.67	42.50	50.00
Semiconductors & Related Equipment	18	57.50	23.33	8.33	47.78	32.22	42.50
Petroleum	15	57.33	36.67	6.33	32.00	27.67	31.33
Auto Parts	31	56.45	24.35	15.16	50.16	36.94	55.97
Food	89	55.84	16.40	15.00	41.91	29.78	46.52
Concrete, Cement, Lime	10	54.00	18.50	15.50	26.50	31.50	33.50
Chemicals	63	53.65	20.40	12.86	27.14	28.41	42.30
Other Manufacturing	79	51.65	23.42	20.76	44.56	31.39	38.29
Aerospace	47	49.26	21.38	13.30	42.23	28.40	44.89
Medical Equipment	66	49.24	34.02	22.27	45.15	32.12	49.55
Mineral Products	18	48.89	23.33	11.11	28.61	27.50	46.94
Machine Tools	10	48.00	18.00	9.50	43.00	34.00	39.00
TV & Radio	8	47.50	18.75	18.75	38.75	32.50	46.88
Electronic Components	26	46.54	15.19	15.00	42.69	42.31	55.77
Metal Products	42	46.19	22.50	15.36	39.05	35.36	47.38
Search & Navigational Equipment	37	43.65	13.24	16.35	39.05	31.89	42.97
Precision Instruments	31	43.55	16.77	15.81	35.48	32.74	40.81
Motor & Generator	21	42.62	22.14	17.86	44.52	31.67	39.29
Computers	20	42.50	30.25	16.75	39.75	23.50	35.50
Special Purpose Machinery	63	41.83	28.57	16.03	44.92	35.48	41.27
Steel	10	41.00	15.50	11.50	42.00	25.00	42.00
General Purpose Machinery	69	37.54	23.62	16.30	34.86	28.33	40.00
Communications Equipment	33	35.30	14.70	13.94	43.03	33.64	40.61
Car & Truck	9	34.44	21.67	17.22	34.44	26.67	41.11
Electrical Equipment	22	31.59	19.09	6.82	19.09	11.82	18.86
Printing & Publishing	11	20.45	8.64	10.91	33.64	50.91	63.64
ALL	1087	50.59	23.30	15.39	38.43	30.73	43.00

Source: Cohen et al. (2000), (re-ranked highest to lowest based on trade secret intensity)

While most of the empirical studies, both in the EU and in the US, focus exclusively on manufacturing industries (and do not evaluate empirically the importance of trade secrets in non-manufacturing setting) a few of them have also looked at the non-manufacturing sector. This research shows that trade secrets are also relied upon in the services sector[478], including the business services area[479] or the information services, and in the sectors characterised by products/services or processes with a short lifecycle (see Box A7.7).

Box A7.7 – Use of trade secrets in non-manufacturing sectors

Baker & McKenzie (2013), based on French data[480], ranked industries according to the intensity of use of trade secrets as an appropriability mechanism. In addition to manufacturing industries, the CIS

478 See above, regarding the 2012 Industry Survey carried out for the European Commission.

479 Publishing, advertising, information services etc.

480 CIS survey results for France in 2004, using (French classification) NES 36 industries: mans of protecting innovation activities used between 2002 and 2004; commercial firms with 10 employees or

data for France shows that many important non-manufacturing industries also rely on trade secret protection. The service and trade industries with significant reliance on trade secrets include water, gas, and electricity; advisory and assistance; financial services; wholesale trade; operational services; real estate; car trade and repair; hotel and restaurant; transports; and retail trade.

Two US studies, using litigation data, also confirm the importance of trade secrets in non-manufacturing industries.

Searle (2010a) is the only published US study that provides evidence of the importance of trade secrets in non-manufacturing industries. In a doctoral thesis, Searle reports the results of an economic analysis of litigated trade secrets cases, relying on data collected from prosecutions under the US Economic Espionage Act for the period 1996-2008. Drawing on court filings and other financial data, the author classified victim companies according to Standard Industrial Classification (SIC) code. Consistent with other studies, Searle (2010a) finds that approximately 57% of the victim companies were classified as manufacturing firms. Of the manufacturing firms, the major manufacturing industries represented in the litigation claims were electronic and other electrical equipment and components (excluding computer equipment, but including semi-conductors), chemicals and allied products, and industrial and commercial machinery and computer equipment). Significantly, service companies represented 17% of the total number of victim companies, with business services specifically representing 12% of the total. Finance, insurance, and real estate companies represented 4% of the total victim service companies, followed by transportation, communications, electric, gas and sanitary services (3%), and wholesale trade (2%). Although focused on US litigation patterns, the results reported by Searle (2010a) nevertheless confirm the importance of trade secrets to non-manufacturing industries, such business services and wholesale trade.

In addition, **Lerner (2006)** reported the results of an analysis of trade secret litigation cases from California and Massachusetts, coding the cases by name and number, parties, procedural posture, date, industry, whether a violation occurred, whether injunctive relief was granted, whether damages were granted and the amount of damages. Lerner found that computer programming industry (SIC 737) topped the list of eight industries ranked in terms of cases brought, followed by miscellaneous business services (SIC 738); insurance agents, brokers and services (SIC 641); electronic components and accessories (SIC 367); professional and commercial equipment (SIC 504); services to dwellings and other buildings (SIC 734); laundry, cleaning and garment services (SIC 721); eating and drinking places (SIC 581).

Finally, **Jankowski (2012),** using data of a National Science Foundation survey[481], explains that a diverse group of industries reported trade secrets as very or somewhat important to their businesses. Included among the top six industries are both high-technology manufacturers (electrical equipment, appliance and components) and low-technology manufacturers (food), manufacturing industries serving well-established industrial bases (chemicals) as well as more recent entries to the economic landscape (computer and electronic products), and businesses most directly representative of the knowledge-intensive service economy (publishing and Internet services providers). Among 4-digit NAICS industries, more than 70% of software publishers (NAICS 5112), pharmaceutical and medicine manufacturing businesses (NAICS 3254), and basic chemical manufacturing businesses (NAICS 3251) reported trade secrets as important to their operations. Further, 98% of businesses in the semiconductor machinery industry (NAICS 333295) reported trade secrets as important – no other NAICS industry reported a higher share of any type of intellectual property right as important[482].

Interestingly, Jankowski also explains that businesses in the information sector[483] rated (copyrights, trademarks and) trade secrets considerably more important than did businesses in the manufacturing sector (see "Figure 1", below)[484]

more innovative between 2002 and 2004 (in products, processes or operating under discontinued operations). Cf. Baker & McKenzie (2013), p. 112.

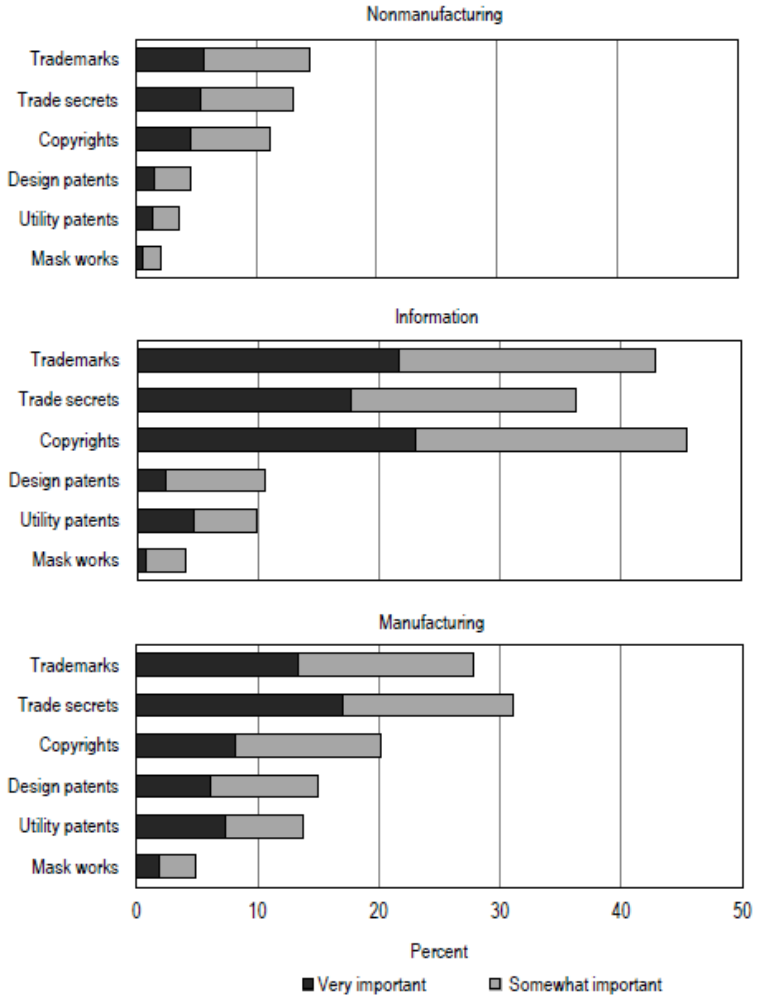
481 See above, Section (A) of this Annex.

482 Jankowski (2012), p.4.

483 Including notably software publishers (NAICS 5112); telecommunications (NAICS 517); and Internet service providers, Web search portals, and data processing services (NAICS 518).

484 Jankowsky (2012), p. 3.

FIGURE 1. Businesses reporting IPR as very or somewhat important, by type of industry sector and type of IPR: 2008



IPR = intellectual property rights.

SOURCE: National Science Foundation/National Center for Science and Engineering Statistics, Business R&D and Innovation Survey: 2008.

ANNEX 8 – MISAPPROPRIATION OF TRADE SECRETS

A8.1. What is misappropriation of trade secrets?

When a company protect information and knowledge as trade secrets, it is also taking a decision as to when, how and to whom such information and knowledge lawfully under its controlled will be, if ever, disclosed to other parties or to the public. However, other parties may attempt at obtaining such information without the consent of the owner of the trade secret either through espionage, hacking, bribery of employees, breach of contract etc. The use of an "improper" mean to acquire the information constitutes the essence of the misappropriation concept.

While there is no definition of misappropriation in EU law, the definition in the WTO TRIPS agreement may be used as a proxy to frame the debate. The **TRIPS** agreement addresses the question of misappropriation as follows:

> "*Natural and legal persons shall have the possibility of preventing information lawfully within their control from being disclosed to, acquired by, or used by others without their consent in a manner contrary to honest commercial practices…*"
>
> For the purposes of this provision, "*a manner contrary to honest commercial practices" shall mean at least practices such as breach of contract, breach of confidence and inducement to breach, and includes the acquisition of undisclosed information by third parties who knew, or were grossly negligent in failing to know, that such practices were involved in the acquisition.*"[485]
>
> According to academic research, this definition of the concept of contrariety to honest commercial practices implies the adoption of a subjective standard of analysis (i.e. a standard based on a finding of bad faith)[486]. The type of prohibited behaviours are:
>
> – Unauthorised disclosure of a trade secret;
> – Acquisition of a trade secret[487]; and
> – Use of the trade secret[488].

In the **US**, the definition of misappropriation in the US Uniform Trade Secrets Act of 1985 is more detailed. Misappropriation means:

> *"(i) acquisition of a trade secret of another by a person who knows or has reason to know that the trade secret was acquired by improper means; or*

485 Cf. Article 39 of TRIPS.

486 Peter & de Werra (2010), p. 113. These authors cite Pires de Carvalho (2008), p. 231, footnote 473, citing WTO document IP/Q3/AUS/1 of 22 October 1997, p. 9 (referring to a "*broader principle of equity concerned with ensuring that persons do not suffer from an exercise of bad faith on the part of another*").

487 Acquisition of a trade secret is clearly distinguished in Article 39(2) TRIPS from the use of the trade secret. This means that the acquisition by itself would be sufficient for finding a violation of Article 39 of the TRIPS, irrespective of a potential use of the confidential information by the person which has unlawfully acquired it or by a third party which would have obtained such information. This is highlighted as an important issue from a practical perspective because "*it will frequently be quite difficult to establish the effective use of the confidential information by the infringing party*". Cf. Peter & de Werra (2010), p. 114.

488 The TRIPS article, as such, does not require that the misuse of the trade secret (an unfair behaviour) leads to an advantage gain (an unfair result).

(ii) disclosure or use of a trade secret of another without express or implied consent by a person who

(A) used improper means to acquire knowledge of the trade secret; or

(B) at the time of the disclosure or use, knew or had reason to know that his knowledge of the trade secret was

(I) derived from or through a person who had utilized improper means to acquire it;

(II) acquired under circumstances giving rise to a duty to maintain its secrecy or limit its use; or

(III) derived from or through a person who owed a duty to the person seeking relief to maintain its secrecy or limit its use; or

(C) before a material change of his [or her] position, knew or had reason to know that it was a trade secret and that knowledge of it had been acquired by accident or mistake."

'Improper means' includes "*theft, bribery, misrepresentation, breach or inducement of a breach of a duty to maintain secrecy, or espionage through electronic or other means*".

In **Sweden**, the Swedish Act applies to "*unwarranted infringements of trade secrets*", but there is no single definition of misappropriation, for the purposes of civil action, at such. However, Articles 5 to 8, define conduct which triggers civil liability.

Article 5 refers to the following conduct triggering civil liability: unlawful acquisition (by reference to Articles 3 and 4 of the Act which contain criminal provisions in this regard); and/or subsequently exploiting or revealing the trade secret without authorisation.

"*5. Anyone who commits an offence under Article 3 or 4 shall pay a compensation for the damage caused through the offence or through the fact that the trade secret is, without authorization, exploited or revealed.*"

Articles 6 to 8 refer to other specific cases of exploitation and revelation of the trade secrets by persons who did not originally obtained the trade secret in an unlawful manner (i.e. business partners, employees, or in the course of legal proceedings). Article 9 refers to the absence of authorisation for the exploitation/revelation as a factor.

"6. Anyone who wilfully or through negligence exploits or reveals a trade secret in a person's business or industrial activity of which he has been informed in confidence in connection with a business transaction with that person shall compensate the damage caused through his action."

"7. Anyone who wilfully or through negligence exploits or reveals the trade secret of his employer of which he has been informed in the course of his employment under such circumstances that he understood, or ought to have understood, that he was not allowed to reveal it, shall compensate the damage caused by his action.

Where the action took place after the termination of the employment, the first paragraph shall apply only where there are extraordinary reasons for it."

"8.Anyone who wilfully or through negligence exploits or reveals a trade secret which, according to what he understands or ought to understand, has been the

subject of an action under this Act shall compensate the damage caused through his action. The same applies in where a person otherwise wilfully or through negligence exploits or reveals a trade secret, which, according to what he understands or should understand, has been revealed contrary to the provisions in the Secrecy Act (1980:100).”

A8.2. Protective measures against the misappropriation of trade secrets

Companies try to protect their trade secrets through different protective measures[489] to maintain control of the trade secret and avoid its misappropriation. The EU IPR Helpdesk, for instance, gives guidance on trade secret protection management[490]. It suggests that any company should take measures and implement a range of best practices to maintain confidentiality of trade secrets, in particular as regards the following issues:

– (1) identification of trade secrets and establishment of a trade secret protection policy: e.g. confidentiality policies restricting the persons who can have access to the information etc.;

– (2) store confidential information safely: e.g. use of safes/locks for physically stored information, use of technology to protect electronically stored information (e.g. use of passwords to access systems, automated control enabling to trace additions/changes back to the originator);

– (3) employee awareness: training of employees, applying non-disclosure clauses and non-compete agreements with key employees, monitoring employee activity, marking confidential document;

– (4) business partner commitment: ensuring the appropriate management of confidential information by confidentiality, licence and joint-venture agreements.

In addition, sharing a trade secret with a partner in a foreign country may pose specific challenges, requiring additional safeguards (see Box A8.1 for suggestions in this regard)[491].

Box A8.1 – Protective measures when sharing a trade secret with a foreign partner

CREATE (2012)[492] suggests that companies need to take 5 steps in order to protect their trade secrets against misappropriation:

(1) conduct a strategic assessment of their trade secrets: e.g. establish an internal trade secret policy which identifies the confidential information and the consequences for its improper use or disclosure; integrate that policy into the company’s supplier code of conduct; consider which trade secrets should be transferred to suppliers; consider how best to structure operations to minimize vulnerabilities (e.g. segmenting the manufacturing process, either among suppliers or across different locations);

(2) undertake appropriate pre-contractual due diligence: conduct an assessment to ensure that potential suppliers are able to adequately protect the company’s trade secrets; evaluate the supplier’s track record as regards intellectual property-related issues; scrutinize the supplier’s employment and non-disclosure agreements; perform due diligence with respect to the supplier’s sub-contractors, where possible;

489 Protective measures are in principle voluntary, but trade secrets owners are *de facto* compelled to take them in order to keep the secrecy of information. Also, whenever a trade secret owner seeks judicial redress against another party who has allegedly misappropriated the trade secret, courts will normally examine – when assessing if a piece of information constitutes a trade secret worth being protected – whether the plaintiff took reasonable steps (depending of the nature and value of the information) to keep the relevant information confidential.

490 IPR Helpdesk (July 2012), p. 5. See also IPR2 (February 2011), p. 7.

491 See also Pagnattaro (2012) as regards protection of trade secrets in China.

492 CREATE (2012), p. 21 and seq. See also Parker (2011).

(3) employ strong contractual protections, backed by enforceable audit rights and penalties: the company's contract with the supplier should ensure strong protections for the duration of the business relationship and afterward (including the right to enforce violations of the contractual provisions, obtain damages for breach, and seek injunctive relief); consider specifying the recourse to arbitration/mediation and the applicable law; consider entering into agreements directly with the supplier's employees; consider contractual protections against misconduct by the supplier' subcontractors;

(4) utilize appropriate operational and security measures during the life of the business relationship: build a culture of compliance so that the supplier's employees understand and are able to fulfil their obligations to protect confidential information; consider physical security measures to protect trade secrets (e.g. marking documents, transfer protocols, restrictions on physical access etc.).; technological safeguards; systematically engage with the supplier to ensure that these personnel, physical and technological measures are working effectively;

(5) take appropriate action after business relationship has ended (both with respect to the supplier and the supplier's employees): remind departing employees of their continuing obligation not to disclose trade secrets; ensure that former business partners do not leak trade secrets.

However efficient such protective measures are, it is difficult to guarantee absolute secrecy: information may still be accidently disclosed or could be stolen.

While protective measures often include some sort of contractual protection (e.g. confidentiality or non-compete clauses with employees or licensees), to the extent allowed by labour, civil/commercial or antitrust law[493], which is enforceable before courts, they are hardly enough and certainly inefficient vis-à-vis third parties.

A8.3. Vulnerability to the misappropriation of trade secrets.

In recent years trade secrets have become increasingly vulnerable to misappropriation. The main reasons for the increased vulnerability of trade secrets to misappropriation are the following[494]:

– (1) technology has changed the nature of modern business in a number of respects. Business has become a race against time and technology – which are both the essential vectors of competitive performance – and as a consequence competitive advantage is volatile and short lived. The combination of this market pressure with globalisation, intensifies greatly the need for any business to know what its competitors are doing. This may give raise to an increase of dishonest practices in the marketplace for business information;

– (2) labour mobility is now greater than at anytime in history[495]: as a result, valuable information is often placed in "*less controllable loyal hands*"[496]. It has also become easier for an employee to leave a company and compete directly with his ex-employer[497];

493 Labour law or antitrust law may not allow for non-compete clauses in all circumstances.

494 See generally Alberta Report (1986), p. 39 and seq. and Mathon et al. (2009), p. 7.

495 See also Almeling (2012), p. 1101. Almeling points out that "*[a]s uncomfortable as it can be for companies to acknowledge, current and former employees are the groups most often sued for trade secrete misappropriation [in the US]." Ibid.*

496 Alberta Report (1986), p. 40.

497 Almeling also points out at sociological changes. Younger generations do not generally feel that their jobs are secure, nor do they value loyalty to their current employees. He also underlines that the perception of secrecy is evolving as the debate on ownership of information and intellectual property (essentially in relation to copyright) growths. Almeling (2012), p. 1103.

– (3) as a result of globalisation, networking has increased and supply chains have lengthened, making the transfer and processing of information more vulnerable[498];

– (4) technology has made espionage *per se* simpler[499]. Information and communication technologies (ICT) – including enhanced data exchange capabilities and the increased use of the internet – have been revolutionised business models and allow for the swift processing of information within a business. Valuable proprietary information can and is stored electronically, which allows it to be more easily managed, copied and transferred[500]. However, corporate ICT networks are not immune to third party infiltration[501], including hacking[502], and the use of ICT makes it easier to copy and transfer huge volumes of information almost instantly. Indeed, unauthorised access by outsiders (including hacking attempts) is considered to be one of most disruptive incidents for businesses[503];

– (5) the value of intangible assets is increasing[504].

Stakeholders' perception in the EU also confirms that trade secrets are increasingly vulnerable to misappropriation (see Figure A8.1). For 38% of the respondents to the 2012 Industry Survey carried[505], the risk of exposure to trade secret misappropriation has increased, either moderately or significantly, in the past ten years. Only 5,8% thought that the risk has decreased. The perception of a significant increase is particularly strong in the Chemical (29%) and Pharmaceutical (29%) industries.

498 See also CREATE (2012), p. 11 and seq. (on the risks of trade secret theft when companies extend their supply chain overseas) and Almeling (2012), p. 1109 and seq. (he points out that a major issue with the rise of international trade secret misappropriation is the difficulty in enforcement, including the determination of jurisdiction).

499 See also CREATE (2012), p. 6 and Almeling (2012), p. 1098.

500 And if files cannot be accessed through electronic networks, traditional theft of hardware can make the deal. According to US sources, German officials noted that business travellers' laptops are often stolen during trips to China. See US ONCIX (2011), p. B-2.

501 A 2011 report showed that 73% of companies surveyed had been hacked via their web applications within the past 24 months; nonetheless, 88% of them spent more on coffee than on securing their web applications. Cited in CREATE (2012), p. 21.
A recent KPMG report pointed out that more than half of the respondents to an industry survey considered that the overall level of e-crime risk faced by the respondent's organisation increased in the previous year. KPMG (2011), p. 6.
See also CREATE (2012), p.6.
See also the recent papers disclosed by McAffee on the "Operation Aurora" (an attack which proved successful in targeting, exploiting, accessing and exfiltrating highly valuable intellectual property from businesses) and the "Operation Shady RAT" (an investigation of targeted intrusions into more than 70 global companies, governments, and non-profit organisations during the last five years and included at least 4 EU-located victims). See McAffee (2010) and McAffee (2011).

502 For instance, in the US, the FBI handled nearly 1500 hacking cases while in 2010 it handled more than 2500. Cf. Almeling (2012), p. 1100.
In a 2010 barometer on data losses, KPMG claims that, between 2007 and June 2010, over 249 million people have been affected by hacking (more people than any other case of data loss); KPMG (2010).
One should note in this regard that hackers are often effective at covering their tracks, so hacking actions are not always discovered.

503 PWC (April 2012), p. 16, figure 36.

504 See ASIS (2007): "*as much as 75 percent of most organizations' value and sources of revenue (or wealth) creation are in intangible assets, intellectual property and proprietary competitive advantages*."
See also Forrester Consulting (2010): *"[enterprises in highly knowledge-intensive industries like manufacturing, information services, professional, scientific and technical services, and transportation accrue between 70% and 80% of their information portfolio value from secrets*."
Almeling (2012) also points at this factor (cf. p. 1104).

505 See Baker & McKenzie (2013), p. 126.

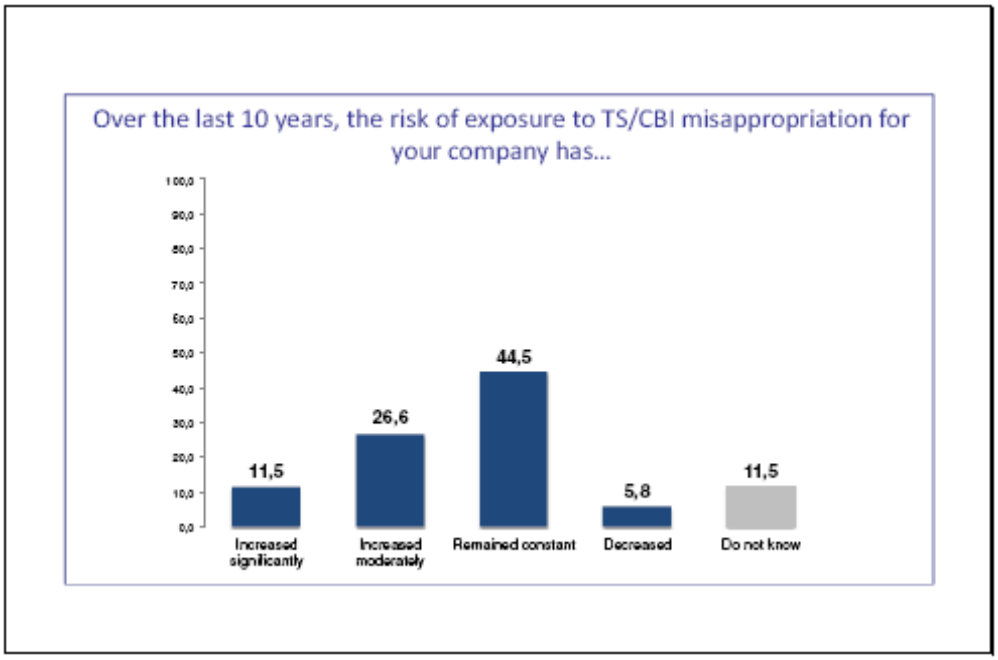


Figure A8.1 – Risk of exposure to trade secrets misappropriation. Source: 2012 Industry Survey.

It is particularly noticeable as well that about a quarter of the respondents (9% ranked this issue as of high concern, while 17% of medium concern) believed that espionage is one of the primary means, in their own business sector, by which companies usually obtain information about products, services, strategies of other market players (see Figure A8.2). According to the replies, the most exposed sectors are the motor vehicles (39% of respondents ranked espionage of high concern) and the pharmaceutical industries (21% of respondents ranked espionage of high concern).

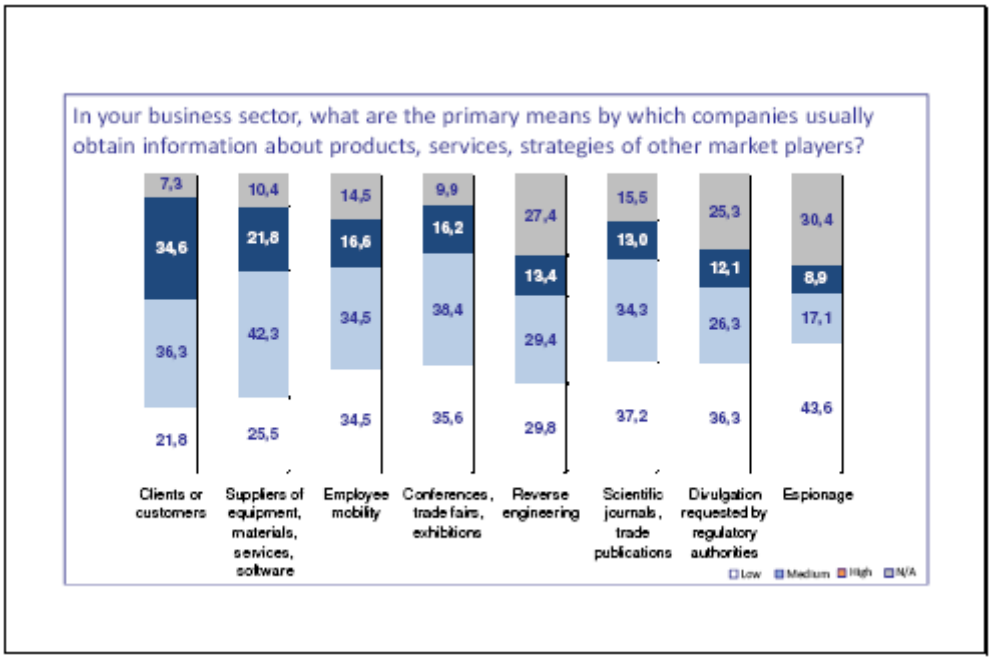


Figure A8.2 – Means of acquiring information about products, services and strategies of other market players. Source: 2012 Industry Survey.

In this context, studies are also pointing at the problem of state-sponsored trade secrets (and intellectual property generally) misappropriation or theft. Some countries are perceived as undertaking sophisticated (and often successful) efforts to access (and misappropriate) proprietary

information/trade secrets from companies[506]. This threat was at the origin of the US federal Economic Espionage Act of 1996, which criminalises certain types of misappropriation of trade secrets: one of the Act's two main provisions criminalizes misappropriating trade secrets with the knowledge or intent that the misappropriation will benefit a "foreign power"[507].

Trade secret owners have their own responsibility in those vulnerabilities. Recent research by an international consultancy firm reveals that mid-market companies are not good at protecting their information, notably because of complacency, ignorance and poor management[508].

A8.4. Threat of misappropriation of trade secrets: typologies.

Studies show that just as trade secrets are increasingly more open to espionage attacks *from the outside*[509], so they are also more and more threatened by misappropriation *from within* the company (e.g. employee theft of sensitive information[510]) or *from business partners* (such as licensees, suppliers/service providers, consultants, joint-venture associates etc.)[511].

The misappropriated trade secrets may be further disclosed to a third party, who may apply it in bad faith (i.e. knowing the origin of the secret) but also in good faith (e.g. a licensee transferring know-how to a third party claiming to have the permission of the know-how owner despite the contractual clause not to do so in the original licence contract) or simply may have acquired a valuable piece of information through gross negligence (that is, in circumstances which would normally suggest that the information that is being transmitted has been improperly acquired)[512].

Data from the 2012 Industry Survey carried out by Baker & McKenzie for the Commission show the respondents' perception about the main threats in this regard (see Figure A8.3). The risk of trade secret misappropriation seems to stem from a variety of sources, generally ranked of medium

506 See for instance Mandiant (2013), explaining that China may be behind important advanced persistent threats to comutre security breaches at hundreds of organizations around the world). See also US ONCIX (2011), referring to Chinese actors as the world most active and persistent perpetrators of economic espionage and indicating that Russia's intelligence service are conducting a range of activities to collect economic information and technology from US targets (p.1). This report also explains that the Germany's Federal Office for the Protection of the Constitution (BfV) noted that Russia uses computer network exploitation and e-mail interception to save billions of dollars in R&D in the energy, information technology, telecommunications, aerospace, and security sectors (p. B-2).
See also Almeling (2012), p. 1109 and seq. (he notably explains that of the 7 Department of Justice prosecutions under the Economic Espionage Act in 2010, six involved a link to China) and CREATE (2012), p.5 and seq. (indicating that billions of dollars would be lost each year due to economic espionage) and p. 19 (claiming that in some countries governments may be facilitating or even participating in trade secret theft).

507 18 USC § 1831.

508 PWC (March 2012), p. 4. The Survey concerned 600 mid-sized businesses (with 250-2500 employees) in 6 European countries (DE, ES, FR, HU, NL and UK).

509 See e.g. Bundesministerium des Innern (2009).

510 A KPMG barometer on data losses (lost and stolen information) points at the "growing threat from within" explaining that there has been rapid growth in the data loss attributed to 'malicious insiders' (N.B. the type of lost and stolen information covered by this barometer goes beyond trade secrets, but the barometer nevertheless provides certain indication of the trends), KPMG (2010.
According to a private sector study, employee theft of sensitive information, e.g., is ten times costlier than accidental loss on a per-incident basis. See Forrester Consulting (2010).

511 Two recent studies analysing trade secret litigation in US courts showed that in over 85% and 93% of the trade secret cases respectively, the alleged misappropriator was someone the trade secret owner knew: either an employee or a business partner. See Almeling et al. (2010) and Almeling et al. (2011).

512 It should be recalled, in this regard, that acquiring knowledge of the content of a trade secret through independent invention, observation or reverse engineering does not amount to misappropriation. In the US, those are referred to as "proper means".

importance (current and former employees, competitors, customers and suppliers). Slightly greater risk is posed by former employees (25% of high responses) and competitor (23%). In the telecommunication and the financial sectors, former employees are a special reason of concern (above 30% of high responses), in the pharmaceutical, publishing, and the financial services, competitors are a special reason of concern; while in the pharmaceutical sector, regulatory agencies are a special reason of concern.

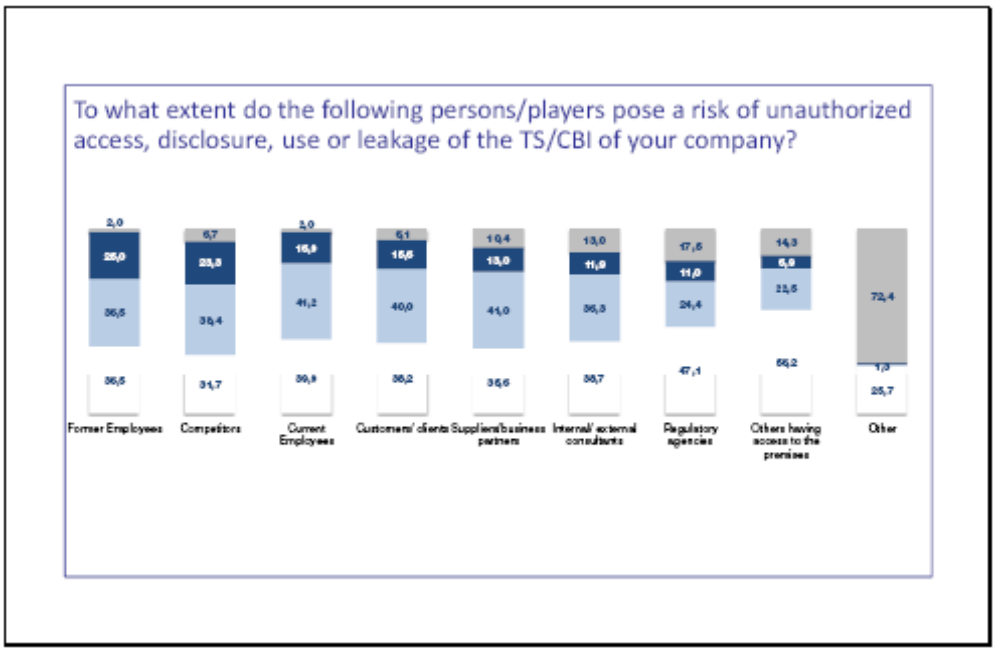


Figure A8.3 – Risk of unauthorised access, disclosure, use or leakage of trade secrets. Source: 2012 Industry Survey

A8.5. Trade secrets misappropriation trends.

While the risk of trade secret misappropriation is real, reliable figures on actual trade secret misappropriation cases in the EU is a difficult task. There are no official statistics on this issue and data is scarce within the EU. Sometimes, companies do not realise they have been the subject of an attack, in particular when carried out through electronic means: for instance, Alperovitch, vice-president for Threat Research at McAffee, recently stated that he "*divide[s] the entire set of Fortune Global 2000 firms into two categories: those that know they have been compromised and those that don't yet know*"[513]. In other cases, for reputational reasons, EU businesses are often reluctant to disclose that they have been the victims of trade secret misappropriation and/or to openly litigate trade secret cases. For instance, in the words of French deputy Carayon, "*[d]'autres [entreprises], bien que conscientes de l'attaque dont ells ont été victims, hesitant à deposer plainte, pour éviter de médiatiser l'atteinte dont ells on fait l'object et de pas degrader leur image de marque*".[514] Finally, when companies choose to litigate on the misappropriation of trade secrets, national judicial statistics do not necessarily identify them as trade secret cases. It has been argued that studying and research this subject in a professionally robust manner in the EU is a real challenge[515].

513 McAffee (2011), p. 2.
514 Carayon (2012), p. 9.
515 Wilkof (2012).

By way of comparison, data in the US are easier to collect and companies seem to have less problems to litigate trade secret misappropriation cases (see box A8.2).

> ***Box A8.2. – Litigation on trade secrets in the US***
>
> Two empirical studies on civil law trade secret litigation in the US (in Federal courts and in State courts) show that:
>
> (a) trade secret litigation is growing exponentially in federal courts (while federal litigation has decreased overall). Trade secrets cases doubled in the seven years from 1988 to 1995, and doubled again in the nine years from 1995 to 2004. Only for the year 2008, at least 482 cases before US district courts dealt with trade secrets claims;
>
> (b) in State courts, the growth rate is much lower (the empirical study analysed appellate decisions only), however the growth of trade secret cases is generally faster than the growth of (general) litigation in state courts[516].

Nevertheless, according to the industry survey carried out by Baker & McKenzie for the Commission in 2012, **20,5% (15,3 + 5,2) of the respondents (110 out of 537) claimed to have suffered attempts or acts of misappropriation within the EU over the last 10 years** (see Figure A8.4).

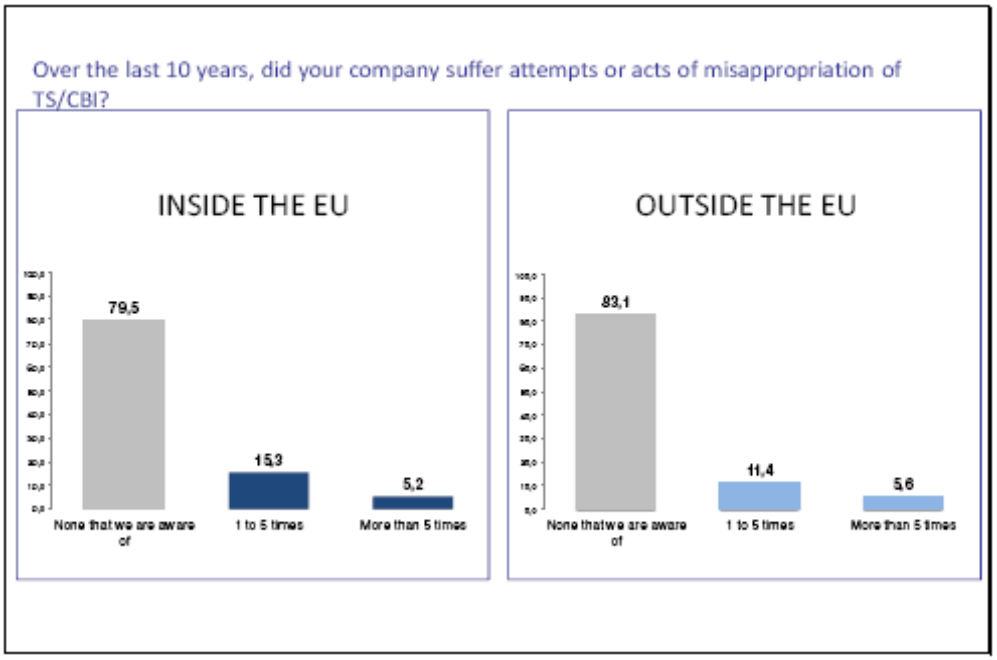


Figure A8.4 – Attempts or acts of misappropriation of trade secrets. Source: 2012 Industry Survey

A quarter of those respondents further claims that such attempts or acts happened more than 5 times in that period. The share of the companies with such an experience is largest (about one out of 3) among the chemicals, motor vehicle, pharmaceuticals sectors and lest (about one in ten) among the telecommunications, electricity and gas and computer sectors.

516 Almeling et al. (2010), p.293 and 301; Almeling et al. (2011), p. 67.
The enactment of the Uniform Trade Secrets Act (in particular its 1986 revised version) seems to have influenced this growth rate. The point made by commentators is that widespread adoption of the uniform act has increased awareness of trade secret law (among lawyers, companies, judges and others) and has provided greater consistency in the application of trade secret law and in the laws themselves. This act has established a template for legal remedies to trade secret misappropriation: when a company protects its valuable information as trade secrets, there is a large, growing well-developed and relatively consistent body of law on which that company can rely to protect the information. Cf. Almeling (2012), p. 1106.

A similar trend can be noticed regarding conduct outside the EU, with about 17% of these EU respondents (91 instances out of the 537 replies) claiming to have been victims of attempts or acts of trade secrets misappropriation. The Motor Vehicle, Scientific Research, and Chemicals sectors reported the highest rates of attempts or acts of misappropriation outside the EU. Larger firms report a higher frequency of attempts or acts of misappropriation than small/medium firms both inside and outside the EU.

The parties identified as being primarily responsible for the attempts or acts of misappropriation (see Figure A8.5) are competitors (53% of positive responses), former employees (45%), and customers/clients (31%). Consistent with the other survey questions, the results vary widely across sectors. Instances involving former employees are slightly more frequent for large firms. Occasional problems with regulators are reported by both the chemical and pharmaceutical industries.

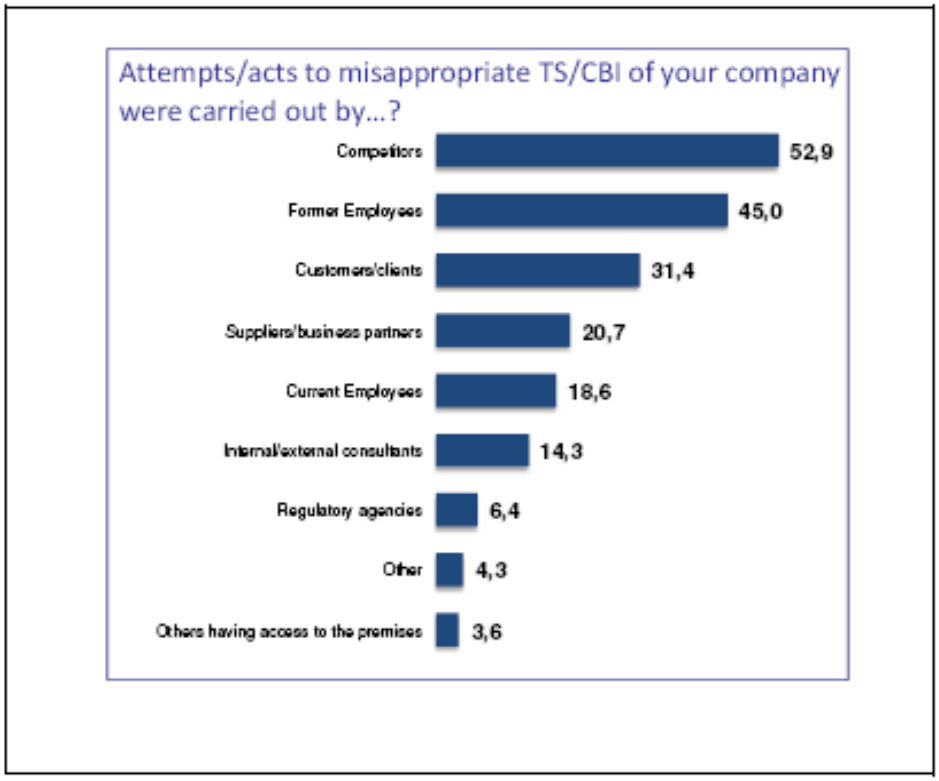


Figure A8.5 – Authors of attempts/acts of misappropriation. Source: 2012 Industry Survey

National data comes in support of those trends.

– For instance, a Spanish report prepared by corporate investigators explained that corporate fraud (involving misappropriation of confidential information) was detected in 27% of the 4000 investigations they carried out in Spain in 2008, leading to a 60% increase that year[517].

– In France, according to economic intelligence official sources, 1000 economic attacks took place in 2010, of which a quarter qualified as trade secrets misappropriation[518].

– In a survey on security breaches (including trade secrets misappropriation) in the UK[519], the vast majority of respondents reported incidents of security breaches: nine

517 Cited by Millán (2009).
518 Carayon (2012), p.9.

tenths of large organisations reported malicious breaches and two-thirds of them had a serious incident; while three quarters of small businesses reported a breach and half of these were serious[520]. Moreover, they expect this trend to continue: almost two-thirds of them expect the number of breaches to increase in the next year[521]. The survey also reports that attacks by unauthorised outsiders (including hacking attempts) are increasing and affected three quarters of large organisations[522]; also that one in eight large companies had had intellectual property stolen by an outsider[523] and that one in eleven respondents reported that an outsider had stolen confidential data[524].

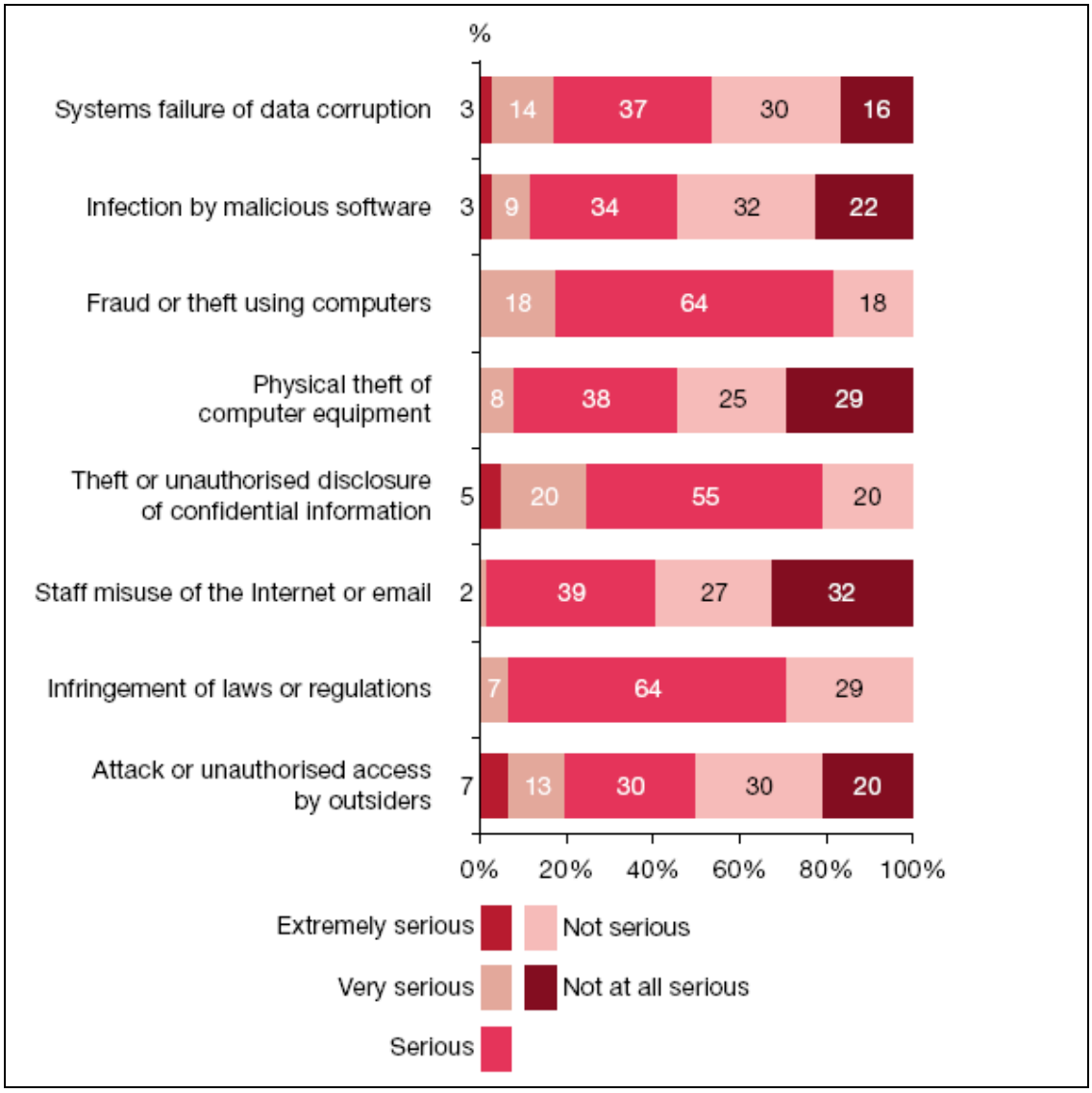


Figure A8.6 – How serious were the incidents reported in PWC (April 2012)[525]

Figure A8.6 gives an indication of the seriousness of those incidents, in particular as regards the misappropriation of trade secrets: theft or unauthorised disclosure of confidential information was considered "serious", "very serious" or "extremely

519 PWC (April 2012). In total, 447 organisations completed this survey.
520 *Ibid*., p. 10, figure 19.
521 *Ibid*., p.10, figure 21.
522 *Ibid*., p. 11, figure 22.
523 *Ibid*., p. 13, figure 27.
524 *Ibid*., p. 15.
525 *Ibid*., p. 13, figure 28.

serious" in 80% of the cases. Only in 20% of the cases, incidents were "not serious". To be noted that in none of the cases, incidents related to theft or unauthorised disclosure of confidential information were considered (not at all serious).

Concerning the involvement of staff in those incidents, the survey notes that staff accidentally lost confidential information at half of large organisations and one fifth of small organisations and, more importantly, staff actively misused confidential information at a third of the large corporations and about 13% of the small organisations[526].

A8.6. Misappropriation of trade secrets: selected cases.

The following is a selection of recent cases of misappropriation of trade secrets[527]. All but one are connected to a European company.

Cases 1 and 2 present how the misappropriation of a trade secret can affect the R&D phase of a new product.

– **Case 1**[528]. The owner lost the competitive advantage in terms of lead time before marketing the new product.

The French tyre manufacturer *Michelin* was testing a prototype tyre in May 2005 during a rally in Japan. The new tyre had proven to be a huge success, giving *Michelin's* team supremacy in the rally. After the competition one of the tyres was stolen from *Michelin's* stand. The tyre, being a prototype, had not been previously commercialised and as such its compound and design was a trade secret. Following the theft, the misappropriator could get access to the secret (through reverse engineering) and caused serious damage to *Michelin* by depriving it of its first-mover advantage on the professional rally market.

– **Case 2**[529]. This case concerns a start-up active in a high-technology market (nanotechnology) and shows how difficult is for an SME to defend its trade secrets/intellectual property.

A research partner of the company circulated a sample of a research outcome to a third party in another Member State, without the permission of the company. This allowed the third party to obtain valuable information through reverse-engineering. The valuable information was not patentable, so secrecy was important to appropriate the value of research. Nevertheless, the owner of the trade secret decided not to bring a legal suit as it regarded cross-border litigation as too costly, too demanding and too time consuming for a company of its size. Incidentally, the owner of the trade secret raised that it did not really have a full choice in terms of protective measures: (a) it needed to cooperate in/subcontract research activities with universities and research centres in different countries despite the fact that employees of those universities/research centres do not pay enough attention to confidentiality and university students/researchers do not stay for long taking trade secrets with them when they change jobs; (b) monitoring ex-employees activities is too complex and costly; and (c) entering into non-compete covenants with employees is too

526 *Ibid*., p. 14, figure 30.

527 Several of those cases were presented at the Conference organised by the Commission on 29 June 2012. A summary of the conference proceedings as well as the full webcast transmission of the working sessions are available at: http://ec.europa.eu/internal_market/iprenforcement/conferences/index_en.htm.

528 Source: information disclosed by the company at the June 2012 Commission Conference.

529 Source: presentation at the European Parliament intergroup meeting of 16 October 2012 on "The need for a better protection of trade secrets for SMEs".

expensive if the company has to provide financial compensation to the ex-employee in exchange. It also raised that the value of confidentiality agreements with research partners and employees is limited because they are difficult to enforce the moment this implies cross-border litigation.

Cases 3 and 4 are internal market cross-border cases in which trade secret misappropriation is linked to the infringement of an intellectual property right (copyright). Both cases concern the sport automobile industry.

– **Case 3**[530]. This case showed the difficulties in providing evidence, and damages awarded were low. This case also covered a contractual dispute between the parties on the payment of certain work already carried out.

Force India Formula One Team brought a claim before a UK court for misuse of its confidential business information and breach of copyright in relation to the design of a scale model of a F1 racing car of a rival F1 team. The five defendants were all linked in various ways with *Team Lotus* and two of them were Italian companies (*Aerolab* and its parent company *FondTech*) specialised in the aerodynamic development of F1 cars. *Aerolab* had previously worked for *Force India* and its contract contained confidentiality provisions prohibiting *Aerolab* from sharing any of *Force India's* confidential information with rival F1 teams. Also, the intellectual property developed was the property of Force India. *Aerolab* eventually terminated the contract with *Force India* due to non-payment and subsequently entered into an agreement with another F1 team (*Team Lotus*). During some period, *Aerolab* employees had access to *Force India's* data and CAD files (which were covered by copyright), even if they had started work for *Team Lotus*. When the new *Lotus* model was presented (only two months after *Aerolab* had started working with *Team Lotus*), *Force India* felt that the shape of the *Lotus* model bore more than a resemblance to its car and that is confidential business information had been misappropriated by *Aerolab*. *Force India* claimed compensation in excess of £13 million for the alleged copying of 71 of its designs.

The High Court decision of 21 March 2012 found that the confidential information in question was akin to that of a trade secret. However, the court was not convinced that the misuse of confidential information was as widespread as *Force India* claimed and its claim was only upheld in respect of 11 of the designs. Moreover, the court did not accept *Force India's* contentions that the confidential information was of great value. The court accepted that *Aerolab* did misuse some of Force India's confidential information but that they did not obtain any benefit other than saving time. The court had some difficulties to find the principles applicable to the assessment of damages for breach of confidence (it stated that "*the case law is very confused*…").The court eventually ordered that a sum of €25000 be awarded in damages. This sum was calculated on the basis of this was a reasonable sum that a willing licensor and a willing licensee would have negotiated.

– **Case 4**[531] shows the interaction between different legal proceedings in different instances and Member States.

In 2007, a copy centre in the UK informed Italian car manufacturer *Ferrari* that it had been required by a person to copy on a compact disc hundreds of pages of

530 Herbert Smith, *Breach of Confidence in Formula One – a marginal win for Force India*, 30.3.2012.

531 Source: Peter & de Werra (2010), p. 93. These authors also report other trade secret misappropriation cases which happened in the Formula 1 environment as well as in relation to the America's Cup competition.

drawings and technical information related to a Formula 1 car. It appeared that the person in question was connected to a key employee in a rival Formula 1 team (*McLaren*). Upon Ferrari's request to the England's High Court, an *ex parte* search order was performed on 3 July 2007 and a dossier of 780 pages of confidential information belonging to *Ferrari* was discovered in the rival employee's home. The information had been originally disclosed to him by a *Ferrari* employee. This led to different legal proceedings in different instances and Member States. (a) The World Motor Sport Council of the FIA (*Fédération international de l'automobile*) decided in July 2007 that *McLaren* had unduly come into the possession of Ferrari confidential information (although it also decided that there was insufficient evidence about the misuse of the information) and was in breach of Article 151(c) of the FIA International Sporting Code[532], although no penalty was initially imposed. (b) Criminal proceedings were launched in Italy in order to gather additional evidence about the communication between *Ferrari's* employee and the rival's employee. (c) Thanks to the additional evidence, the World Motor Sport Council of the FIA took a new decision in September 2007 reaffirming the breach of Article 151(c) of the FIA International Sporting Code and accepting that some misuse of the confidential information had taken place. *McLaren* was excluded from the Formula 1 2007 Constructors Championship and imposed a USD 100 million fine. (d) Concerning the civil claim in the UK against the rival's employee, *Ferrari* reached an out-of-court settlement with the employee in question.

Cases 5 and 6 present complex civil litigation cases in a cross-border environment.

– **Case 5**[533] describes the misappropriation of a trade secret in one Member State, its consecutive use in two Member States and the related litigation in those two Member States.

Vestergaard Frandsen, a Danish company, produced insecticidal fabrics and particularly long-lasting insecticidal fabrics. It strongly relied on trade secrets (contained in a database called Fence). In 2004, two employees left the company and, associated to a consultant who previously worked for *Vestergaard Frandsen,* entered into competition with the latter. *Verstergaard Frandsen* accused the competitors of having misappropriated their trade secrets to produce similar products. *Vestergaard Frandsen* obtained in 2005 an injunction in Denmark against the competing company (*Intection A/S*). In March 2006, a Danish Court judgement decided that *Intection A/S* had violated *Verstergaard Frandsen's* rights. As a result, the two former employees established a new company in the UK (*Bestnet*). *Vestergaard Frandsen* then initiatied legal proceedings in the UK. In 2009, the English High Court ordered an injunction against *Bestnet* first generation products (*NetProtect*, an anti-mosquito bed net) for misappropriation of trade secrets (even if the defendants could have obtained the necessary knowledge by independent research, which they did not). This was confirmed by the Court of Appeal in 2011. The 2009 judgement also ordered *Bestnet* to disclose information about its sales so as to allow *Vestergaard Frandsen* to file for damages. *Bestnet* was also ordered to pay £5.5 million as interim legal costs, the balance to be decided by the Court at a later

532 "*Any of the following offences […] shall be deemed to be a breach of these rules: […] c) any fraudulent conduct or any act prejudicial to the interests of any competition or to the interests of motor sport generally.*"

533 Source : Judgement of the Court of Appeal in *Vestergaard Frandsen et Ors v Bestnet Europe et Ors*, [2011] EWCA Civ 424; Press release of Vestergaard Frandsen, *Bestnet Executives Found Liable for Misuse of Trade Secrets*, 8.7.2010 (updated March 2010) ; The IP Kat, *Bestnet Bested Over Bug-Net Boosted from the Fence*, 20.4.2011.

stage However, concerning the subsequent versions of the defendant's products (*Whopes I* and *II*), the High Court did not order an injunction considering that, although they derived from the misuse of confidential information, they owed a lot to independent work done by the defendants (i.e. incremental innovation), so an injunction would have been disproportionate. The Court of Appeal upheld the lower decision on this point, noting that proportionality was a relevant factor when deciding whether to grant an injunction[534]. To be noted that *Vestergaard Frandsen* also launched legal proceedings in France, against the former consultant[535].

– **Case 6**[536] presents the difficulties to obtain redress (in particular stopping the continued use of the misappropriated trade secret) and compensation for the misappropriation of a trade secret covering technological process innovation. It also shows how the trade secret is vulnerable in a global commercial chain, despite the protective (e.g. contractual) measures.

In 2004 *Alstom* licensed technology on wet flue gas desulphurisation[537] for the Chinese territory under an agreement with a Chinese company named "*Insigma*". One year after entering in this contractual relationship, *Insigma* stopped paying royalties and sublicensed the technology to an affiliate. Alstom therefore terminated the agreement and took action in the Singapore International Arbitration Centre to seek redress. During the proceedings, *Insigma* denied committing any infringement and claimed that once the agreement was terminated by *Alstom*, it had reverted to using technology provided by its former Italian partner named "*Idreco*". In 2010, the Singapore Arbitration Court awarded Alstom USD 35 million as compensation for the unpaid royalties and the illicit use of its technology in China.

Meanwhile, in 2008 *Insigma* and its Italian partner *Idreco* formed a consortium and submitted a tender for the Maritza East 2 power plant project in Bulgaria, initially funded by the EU and EBRD. Despite the warnings from *Alstom* to the Bulgarian authorities, the Commission and EBRD[538], on the illicit use of Alstom's technology by the consortium, and information about on-going litigation in the Singapore Arbitration Court, the Bulgarian authorities awarded the contract to *Insigma*. In addition to this, Alstom also denounced the fact that the consortium had fraudulently misrepresented its references in order to meet the qualification criteria. This matter was investigated by OLAF and the EBRD, who confirmed the fraud. In early 2011, *Alstom* filed a complaint before the Bulgarian Commission for the Protection of Competition. Whereas the latter recognised that OLAF's final case report confirmed the fraudulent misrepresentation of the references of the *Idreco/Insigma* consortium,

534 Interestingly, the Court of Appeal noted the following: "*Whether or not conventional English law principles as to the grant of an injunction embody that concept (I rather think they do, though the now fashionable word "proportionate" is not to be found in the older case law), in the case of enforcement of an intellectual property right, the requirement is explicit. The Enforcement Directive (2004/48/EC) by Art. 3(2) inter alia requires that measures to enforce intellectual property rights shall be proportionate It is accepted that a claim for misuse of technical trade secrets such as the present is a claim to enforce an intellectual property right. So the Judge was right to consider proportionality.*" Cf. Judgement of the Court of Appeal in *Vestergarrd Frandsen et Ors v Bestnet Europe et Ors*, [2011] EWCA Civ 424; §56.

535 The company also undertook legal proceedings in India.

536 Source: information disclosed by the company at the June 2012 Commission Conference.

537 This technology is used for environmental control in the power generation section. It is basically composed of trade secrets including knowhow, proprietary and confidential information. Very few parts of the relevant equipment and devices used in the processes are patented. Although this is a mature technology, continuous investment in R&D allows to improve the efficiency of the wet desulphurisation process and also in order to meet increasingly stringent emissions regulations.

538 Eventually, the EU and the EBRD withdrew their funding to this project.

it ruled (ignoring the Singapore arbitration decision) that *Alstom's* technology was not "*an exceptional engineering achievement*" which could constitute a valuable trade secret, and therefore that redress on the basis of unfair competition could not be sought[539]. An appeal court later invalided that judgement on procedural grounds. As of June 2012, *Alstom* had been unable to obtain any recognition of a trade secret infringement within Bulgaria, though an extraordinary appeal is pending. At the same time, the contract granted to *Insigma* and *Idreco* in Bulgaria has been showcased by the same company in subsequent bids. *Alstom* stressed that the above case has had serious consequences for *Alstom*, including substantial job losses in Europe.

Cases 7 to 12 present cases in which employees unlawfully obtain confidential information from the companies in which they were working. Cases 7 and 8 are straightforward and led to criminal prosecution. Case 9 also concerned a criminal case, but prosecution was more difficult because of the internal market dimension. In case 10, the misappropriation of the EU company trade secret and subsequent criminal prosecution took place in a third country. Case 11 presents and on-going civil case between two companies (while the misappropriation of the trade secret would have allegedly been carried out by an employee) and case 12 only reports about the misappropriation modus operandi.

– **Case 7** concerns the theft of trade secrets by an intern.

  In 2005, a student, who was engaged as intern by French company *Valeo*, transferred several confidential digital files to her private hard drive, despite her confidential obligations. She was punished with 1 year imprisonment for abuse of confidence under French law[540].

– **Case 8**[541] presents the theft of technology by an insider.

  A German insider was convicted of economic espionage in 2008 for passing helicopter technology to the Russian Foreign Intelligence Service (SVR) in exchange for USD 10000. The case concerned Eurocopter-related technology, belonging to European aerospace group EADS. The insider communicated with his Russian handler through anonymous e-mail addresses.

– **Case 9** [542] presents the difficulties for criminal prosecution of a trade secret misappropriation in the EU case as well as the difficulties in obtaining compensation for the real damages incurred.

  Michelin received a phone call from a competing tyre manufacturer in 2007, explaining that its company had received an e-mail from an unidentified person offering to sell confidential information on *Michelin's* production processes. With the support of French authorities the company found out that the person in question was a former employee who used to work at *Michelin's* research centre, and managed to leave the company with a hard disk containing more than 13.000 files. The fact that

539 During litigation, authorities refused Alstom any access to the project information which could have provided evidence that Alstom IPR was violated on grounds that the Idreco/Insigma consortium's business secrets need to be protected. Alstom indicated that contrary to what occurred in Bulgaria, further to a 6 week discovery proceeding, Alstom was granted access by a Chilean tribunal to all the documentation for a project in Chile where the consortium has also violated Alstom's intellectual property.

540 Source : Carayon (2012), p. 8. See also the judgment of the *Tribunal de Grande Instance de Versailles*, of 18 December 2007.

541 Source: US ONCIX (2011), p. B-2 and Gerlach (2012).

542 Source: information disclosed by the company at the June 2012 Commission Conference; Carayon (2012), p. 8.

most of these files were encrypted, and that information was classified as confidential, was irrelevant as the person in question disposed of codes necessary for the encryption. The information stolen covered a vast array of secrets including new more efficient production processes, mould and plate designs, high performance data launch times and plans for new tyres over the forthcoming three years and their development plan development plan up to 2012, which included i.a. the quantities of tyres to be manufactured by each plant and organizational chart for Michelin's technical services in Asia. This information was offered to *Michelin's* competitor for a mere 115 000 EURO. In the course of investigation it was identified that the e-mail had been sent from a cyber café in London. Since the alleged theft had not taken place in the UK and since in the UK no specific criminal law framework for trade secret violations exists, the former employee was "trapped" to return to Paris form London, arrested and eventually convicted in June 2010 to a (suspended) two year imprisonment and € 5000 penalties and to the payment of €10000 for damages to *Michelin*[543]. This was of little consolation to *Michelin*, given that they discovered that he had managed to contact three other different companies.

– **Case 10**[544] relates to the theft of trade secrets from an EU company in the financial services area. The facts happened in the US, where subsequent criminal prosecution took place.

  Over a period of several months, a trader of French bank *Societé Générale* in the US visited his office after hours and copied, printed and stole hundreds of pages of source code for the bank's proprietary high frequency trading platform. This trader planned to use the stolen cod to create a similar trading platform at a competing hedge fund. The plan was eventually detected (thanks, inter alia, to video surveillance which recorded his off-hours activities and computerised logs documenting the use of his computer). The former employee was arrested the day before starting his new job and the stolen code recovered. After trial, he was sentenced to three years in prison.

– **Case 11**[545] presents a case of the theft of trade secrets where prosecution turned out not to be possible.

  Mueller Weingarten, a German company making pressing, stamping and cutting technology products for the automotive industry, fired a third country national in early 2008 after noticing that he was frequently and surreptitiously downloading files containing confidential information. The case was temporarily suspended in late 2008 because of the inability of the public prosecutor to find the alleged misappropriator.

– **Case 12** presents a *modus operandi* similar to the one for cases 11 and 1.

  A Chinese citizen downloaded highly sensitive product data from an unidentified German company where he worked to 170 CDs.

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543 Interestingly, the competent court (*Tribunal Correctionnel de Clermont-Ferrand*) rejected the application of the criminal code provision on misappropriation of “manufacturing secrets” (*secrets de fabrique*) but rather convicted the accused person for abuse of confidence (*abus de confiance*).

544 Source: DeMarco (2011). DeMarco argued that had the employee committed his crime against an EU bank in Europe, he could very well be a free man. He stated that "*[t]he curious absence across much of Europe – with perhaps France and Germany aside – of express criminal prohibitions against the theft of such trade secrets, coupled with a lack of resources and investigative experience in such cases, has created an environment in Europe where economic espionage of this type often goes unpunished even when detected*."

545 Source: US ONCIX (2011), p. B-2.

Case 13[546] concerns an on-going dispute between two EU companies as to whether one illegally obtained trade secrets from the other.

– Case 13.

Dyson, the vacuum cleaner and hand dryer manufactured, filed proceedings at the High Court in London claiming an employee (an engineer working on digital motors) passed trade secrets to a competitor for up to two years. The motors would be a key component in the firm's cordless technology and hand dryer. According to *Dyson*, the company would have invested over 15 years and £100m developing high-speed brushless motors.

Cases 14 shows that the misappropriation of a trade secret can also take place in a third country, with the risk that the misappropriator starts competing in the EU later on. It also shows the complexity of international litigation.

– **Case 14**[547].

An Austrian company, subsidiary of the larger US-based *AMSC* group, active in the wind power market designed turbines and licenced their intellectual property and know how to their partners. The company however retained the control of the electrical control system for the wind turbine - a "box" that is incorporated into the turbine, and which the company does not license, but sells, maintains and updates during the lifetime of the turbine. The software and system in this box was considered as a key trade secret for the company and is central to their business model as all their partners know. This Austrian company help a Chinese partner (*Sinovel*) to develop its manufacturing business in China, becoming over time a large wind turbine manufacturer and the largest *AMSC* client. In 2011, the Chinese partner stopped the partnership and refused further supplies. The Austrian company accidentally discovered that this Chinese partner had colluded with an ex-employee who had stolen parts of the Austrian company intellectual property: the code of the wind turbine control software with low voltage ride through (the latter being of particularly importance due to the specificities of the Chinese market) as well as power converter software code[548]. Later, the Chinese company started trying to expand to foreign markets, including in the EU (i.a. Ireland, Greece, Romania). The company initiated legal suits in China for copyright infringement and trade secret misappropriation seeking[549], *inter alia*, a cease and desist order as well as to recover more than USD 1.2 billion for contracted shipments and damages[550].

This case also shows the impact that a trade secret theft may have not only on the trade secret owner[551] but also on employment. As a consequence of the alleged misappropriation of one of the company's key trade secrets: *AMSC* reduced its

546 Source: BBC (2012); Marsh (2012),.

547 Source: information disclosed by the company at the June 2012 Commission Conference and press releases published by the company, unless otherwise stated.

548 AMSC found hundreds of emails between the employee and the Chinese company, including one in which the employee sent the source code to the Chinese company. It also found a consulting contract signed by the Chinese company worth USD 1.7. The employee was arrested, confessed and was sentenced to prison for distribution of trade secrets. Cf. CREATE (2012), p.7 and endnote 28.

549 As of June 2012, those legal suits had cost the company USD 1.3.

550 See different press releases issued by AMSC on this litigation since September 2011.

551 In this case, the impact was devastating since the Chinese partner in question accounted for 70% of AMSC revenues. The stock value plummeted 40%in a single day and let AMSC into the red numbers. Cf. CREATE (2012), p. 7.

workforce in August 2011 by 30%[552] and announced in November 2012 that it further reduced its work force by 25%[553]. While in March 2011 the parent group was employing over 800 people worldwide in activities related to the wind power sector, now employs about 340 employees.

Case 15 also shows the ability of third country firms to take advantage of a misappropriation of a trade secret, on the one hand, and how the US litigation system is able to grant large amounts of damages for the prejudice suffered (partially resulting from the discovery rule for the production of evidence). This is a purely US case, but has an indirect effect in Europe in so far as the US company has manufacturing plants in the EU.

– **Case 15**[554]**.**

This case concerned the US company *DuPont de Nemours* and related to "Kevlar" - a high performance fibre invented in 1965 and manufactured commercially from 1971 with production plants currently located in the USA, Europe and Japan. Since patents for the fibre and its production have largely expired, the viable and competitive exploitation of plants is secured today largely via incremental process and consequential product "improvements" that are protected as trade secrets[555]. In 2007, a competitor hired a former *DuPont* employee as a consultant in its American branch office. After running internal investigations it became clear that some transfers of data occurred, and the company sought the FBI's assistance. While the US Department of Justice and other law enforcement agencies were running their investigations, *DuPont* suffered from other attempts to access confidential information. Eventually the suspected employee was found guilty and went to prison (18 months)[556]. In parallel to the criminal case, *DuPont* launched a civil claim against said competitor under the Virginia enactment of the Uniform Trade Secret Act for concerted and persistent theft of *DuPont's* trade secrets. As a result of document discovery ordered by the court, the defendant returned 5000 pages of documents, some of which had not been identified as being leaked beforehand. Subsequent discovery revealed that additional *DuPont* employees were involved in passing documents and information. *DuPont* was awarded damages of USD $ 920 million calculated on the basis of the investment in the on-going R&D.

552 AMSC press release of 11.8.2011 (American Superconductor Announces Workforce Reduction).

553 AMSC press release of 28.11.2012 (AMSC announces cost reduction plan).

554 Source: information disclosed by the company at the June 2012 Commission Conference, except when otherwise stated.

555 At the Conference, DuPont de Nemours pointed out that the "improvements" that stem from R&D are frequently the fruit of lengthy and costly trial periods and yet many such "improvements" will never reach the level of patentability if considered in isolation. However, when considering the company's competitive performance, such process and/or manufacturing improvements and know-how are just as valuable and worthy of protection as an individual patentable invention would be. He further explained that key patented inventions can often take years to achieve commercial viability, and that during this whole period they are being incrementally improved. Therefore, without such complementary protection of these incremental "improvements", the benefits of patentable inventions might never reach the market.

556 It appears that the employee, before moving to the new job, downloaded 22000 abstracts and 16700 documents (10% of the information stored on the confidential servers and fifteen times the number of documents accessed by the next most active user. Most of these documents had no relation to the employee's responsibilities at the company. The estimated value of the information was USD 400 million. See Almeling (2012), p. 1099.

A8.7. Harm caused by the misappropriation of trade secrets

Third parties misusing trade secrets take an unfair competitive advantage on the (often long-term) investment made by others in the market to gather, develop or acquire the valuable information in question. They will often produce/supply competing goods/services using the trade secrets in question (hereinafter "resulting goods/services"). As a consequence, there is harm to the trade secret owner who is likely to face loss of sales, clients and contracts and would see the value of their secret diminish[557] as well as a devastating effect on companies' competitiveness[558]. In extreme cases, this may amount to a total diversion of business[559].

> For instance respondents to a survey organised by CEFIC among businesses in the chemical sector claimed that a 30% potential loss of turnover could be the likely result of the misappropriation of a trade secret. This percentage could reach up to 80-100% when the trade secrets are the foundation of the product differentiation or the manufacturing process;

The trade secret owner will also face other costs linked to the act of misappropriation of the trade secret, such as cost of internal investigation/staff time responding to a breach, as well as litigation/prosecution costs or costs for negotiating settlements. The threat of misappropriation also entails increased expenditure in protective measures.

The results of the 2012 Industry Survey carried out by Baker & McKenzie for the Commission show that respondents believe that acts of misappropriation have mostly resulted in loss of sales/clients/contracts (56% of the cases): see Figure A8.7. Also relevant are the cost for internal investigation (44%), the increase in expenditure for protection (35%), the costs for negotiating a settlement (34%), and the costs for prosecuting and litigating (31%). The loss of sales, client, and contracts are reported important in a wide variety of industries, including the Chemicals, Pharmaceutical, Computer, Machinery and Equipment manufacturing sectors, and to both large and small/medium firms.

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557 In principle, a trade secret has both monopoly value and use value, but only the former will normally be affected by misuse of the secret. In the words of Cross (cited by UK Law Society (1997), p. 17): *"[T]he spy does not actually take the information from the original holder, but instead merely copies the information. Copying, of course, leaves the information itself in the hands of the owner. Because the owner still retains possession and use of the information, its use value* [i.e. the ability to use the information to lower the marginal costs of producing the firm's output] *remains unaffected. The owner will be able to produce the product as cheaply and efficiently as before. Only monopoly value* [i.e. the value attributable to being the only person who has access to the item of information] *will be affected, and even then only if the information is made available to one or more competitors of the original owner."* See Cross (1991), p. 560.

558 See CREATE (2012), p. 6.

559 E.g. when the secret is the product. See the first category of trade secrets in Box X in Annex 4, above

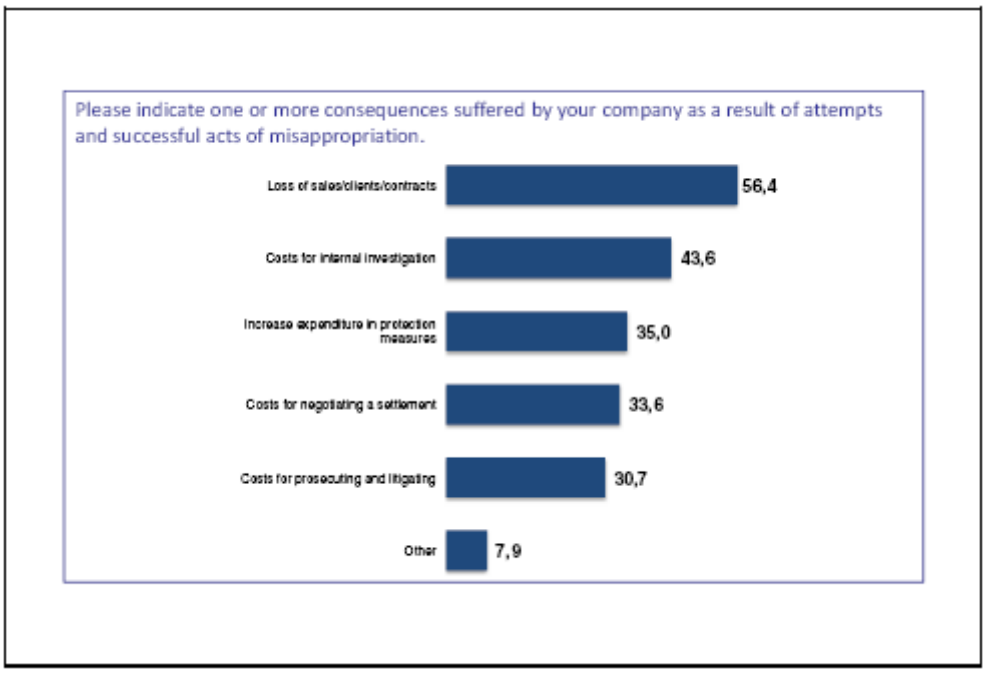

Figure A8.7 – Consequences arising from attempts and successful acts of trade secrets misappropriation. Source: 2012 Industry Survey.

In a Spanish report prepared by corporate investigators[560], the following consequences were found:

– In 83% of the investigations involving such corporate fraud losses amounted to between €15000 and €300000 per company and in some cases, losses exceeded €1M.

– In 73% of the cases, companies' turnover diminished by 3-15%; in 7% of the cases, companies had viability problems or stopped business.

– No tangible consequences: competitiveness loss and loss of corporate image.

In Germany, estimations made in 2010 considered the actual damage caused by industrial espionage in Germany "*is in the region of 20 billion euros*", although other experts consider that the real damage could be closer to 50 billion. The huge discrepancy between the two "*could perhaps be explained by the fact that many espionage cases never actually come to light*"[561]. This may explain why Germany's Federal Office for the Protection of the Constitution (BfV), presumably better informed, estimates that German companies lose USD 28 billion – 71 billion per year from economic espionage[562].

A survey[563] among mid-size companies in 6 European countries concerning business data loss or theft (i.e. the scope of the misconduct is wider than trade secret misappropriation, and may also include losing customers data etc) found that the main impacts on businesses arising from data lost/theft were: professional liability/exposure (54%); reputational impacts (48%), financial impacts, including loss of business (33%) and regulatory penalties or sanctions (25%). This survey also quantified the main impacts on SMEs:

560 Cited by Millán (2009).
561 Weber (2010).
562 US UNCIX (2011), p. B-1.
563 PWC (March 2012), p. 10. The Survey concerned 600 mid-sized businesses (with 250-2500 employees) in 6 European countries (DE, ES, FR, HU, NL and UK).

– business disruption: on average, 2-4 days of lost business at an average cost of £15000-30000;

– incident response cost, mainly staff time, resulting in an average cost of £4000-7000;

– direct financial loss, which may include fines, imposed by regulators and compensation payments to customers – on average £3000-5000; and

– indirect financial loss, such as the loss of intellectual property, revenue leakage, brand damages – on average, £10000-15000.

Another recent survey, limited to the UK[564], provides estimations on the cost related to security incidents (including theft or unauthorised disclosure of confidential information). These costs may involve direct financial loss, indirect financial loss (e.g. loss of intellectual property) and damage to reputation. Figure A8.8 provides an estimation of the overall cost for the worst incident in the precedent year. Authors of the survey state that "*our best estimate of the total cost to UK plc is in the order of several billion pounds per annum*."[565]

	ISBS 2012 - small organisations	ISBS 2012 - large organisations
Business disruption	£7,000 - £14,000 over 1-2 days	£60,000 - £120,000 over 1-2 days
Time spent responding to incident	£600 - £1,500 2-5 man-days	£6,000 - £13,000 15-30 man-days
Direct cash spent responding to incident	£1,000 - £3,000	£25,000 - £40,000
Direct financial loss (e.g. loss of assets, fines, etc.)	£2,500 - £4,000	£13,000 - £22,000
Indirect financial loss (e.g. theft of intellectual property)	£4,000 - £7,000	£5,000 - £10,000
Damage to reputation	£100 - £1,000	£5,000 - £40,000
Total cost of worst incident on average	**£15,000 - £30,000**	**£110,000 - £250,000**
2010 comparative	£27,500 - £55,000	£280,000 - £690,000
2008 comparative	£10,000 - £20,000	£90,000 - £170,000

Figure A8.8 – Overall cost of an organisation's worst incident in the precedent year[566].

Yet, another report citing UK official sources notes that "*the cost of an information security incident averages between USD 16000 and USD 32000 for a small company and between USD 1.6 million and USD 3.2 million for firms with more than 500 employees. The UK estimates that attacks on computer systems, including industrial espionage and theft of company trade secrets, cost the private sector*

564 PWC (April 2012), p. 17.
565 *Ibid*., p. 18
566 *Ibid*., p. 18, figure 39.

USD 34 billion annually, of which more than 40% represents theft of intellectual property such as designs, formulas, and company secrets."[567]

Society at large is also harmed by the misappropriation of trade secrets[568]

567 US UNCIX (2011), p. B-1.

568 On the harm to society, see generally Section 2.2.3 (problem definition).

ANNEX 9 – LEGISLATIVE FRAMEWORK IN EU MEMBER STATES ON THE PROTECTION OF TRADE SECRETS AGAINST MISAPPROPRIATION[569]

A9.1. Introduction

The TRIPS agreement

Article 39 of the Agreement on Trade-Related Aspects of Intellectual Property Rights (TRIPS Agreement)[570] requires its signatories to protect "undisclosed information" (see Box A9.1).

> ***Box A9.1 - Article 39 of the TRIPS***
>
> *"1. In the course of ensuring effective protection against unfair competition as provided in Article 10bis of the Paris Convention (1967)[571], Members shall protect undisclosed information in accordance with paragraph 2 and the data submitted to governments or governmental agencies in accordance with paragraph 3.*
>
> *2. Natural and legal persons shall have the possibility of preventing information lawfully within their control from being disclosed to, acquired by, or used by others without their consent in a manner contrary to honest commercial practices[10] so as long as such information:*
>
> *(a) is secret in the sense that it is not, as a body or in the precise configuration and assembly of its components, generally known among or readily accessible to persons within the circles that normally deal with the kind of information in question;*
>
> *(b) has commercial value because it is secret; and*
>
> *(c) has been subject to reasonable steps under the circumstances, by the person lawfully in control of the information, to keep it secret.*
>
> *[…]"*
>
> [10] For the purpose of this provision, "a manner contrary to honest commercial practices" shall mean at least practices such as breach of contract, breach of confidence and inducement to breach, and includes the acquisition of undisclosed information by third parties who knew, or were grossly negligent in failing to know, that such practices were involved in the acquisition.

Under Article 41 of the same Agreement, its signatories are called to ensure effective action against any infringement of the intellectual property rights recognised in the Agreement (trade secrets are part of that category for the purpose of the Agreement)[572]. Pursuant to Part III of the TRIPS Agreement[573]:

– WTO members must make fair and equitable civil judicial procedures available to combat dishonest practices that infringe trade secrets, while providing means to identify and protect confidential information (Article 42 of the TRIPS Agreement);

– these procedures should not be hampered by the non-cooperation of the defendants (Article 43 of the TRIPS Agreement);

– courts must have the authority to issue injunctions ordering the termination of the infringement, including prohibiting the marketing of imported goods that have been cleared by customs and that are found to infringe trade secrets (Article 44 of the TRIPS Agreement);

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569 N.B. Unless otherwise stated, the information contained in this annex is based on the results of the two studies recently conducted for the Commission on this matter: Hogan Lovells (2012) and Baker & McKenzie (2013).

570 The TRIPS is a multilateral agreement which must be joined to by all the members of the World Trade Organisation (WTO).

571 Cf. The Stockholm Act of the Paris Convention for the Protection of Industrial Property, 14 July 1967.

572 See Article 1(2) of TRIPS.

573 See for instance Broncker & McNelis (2012), p. 679.

– courts must also have the authority to order the infringer to pay damages to the holder of trade secrets (Article 45 of the TRIPS Agreement) and to order that infringing goods be confiscated or destroyed without any compensation to the infringer (Article 46 of the TRIPS Agreement).

– The TRIPS Agreement also provides for provisional measures (Article 50 of the TRIPS Agreement).

EU and national law

There is no specific EU law directly dealing with the misappropriation of trade secrets by third parties (i.e. the case referred to in paragraph 2 of Article 39 of the TRIPS).

Therefore, the protection of trade secrets against misappropriation by third parties is primarily addressed by national legislation.

National laws in this area provide for civil/commercial law and, in some cases, criminal law protection against the misappropriation of trade secrets. Figure A9.1 provides an overview of the legal protection per Member State.

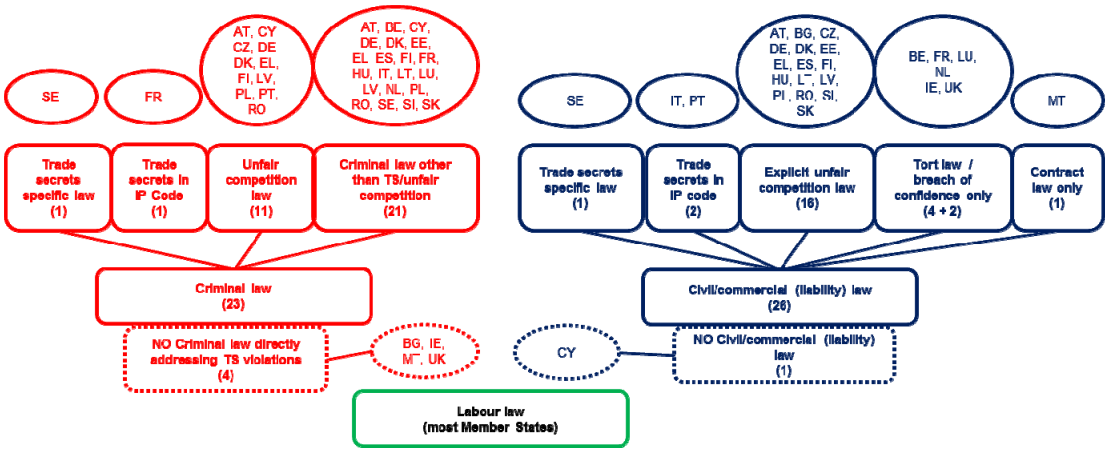

Figure A9.1 – Main protection against trade secrets misappropriation by national law

These types of protection pursue different objectives.

– Civil law protection essentially aim at placing the injured party (i.e. the trade secret holder) in the same position, had the misappropriation of the trade secret not happen. For this, it will endeavour to prevent the person who misappropriated the trade secret from taking advantage of his dishonest act and/or to make sure that the trade secret owner is appropriately compensate for any prejudice caused[574].

– Criminal law protection, on the contrary, aims at sanctioning wrongful conduct and has a more important deterrent effect. In some cases, trade secrets misappropriation may also be a crime and prosecuted as such. The legal protection against the adverse consequences of acts of misappropriation coexists with the protective measures (they are not mutually exclusive).

Figure A9.2 below explaining how these types of protection interact

574 Out-of-court redress may achieve similar objectives.

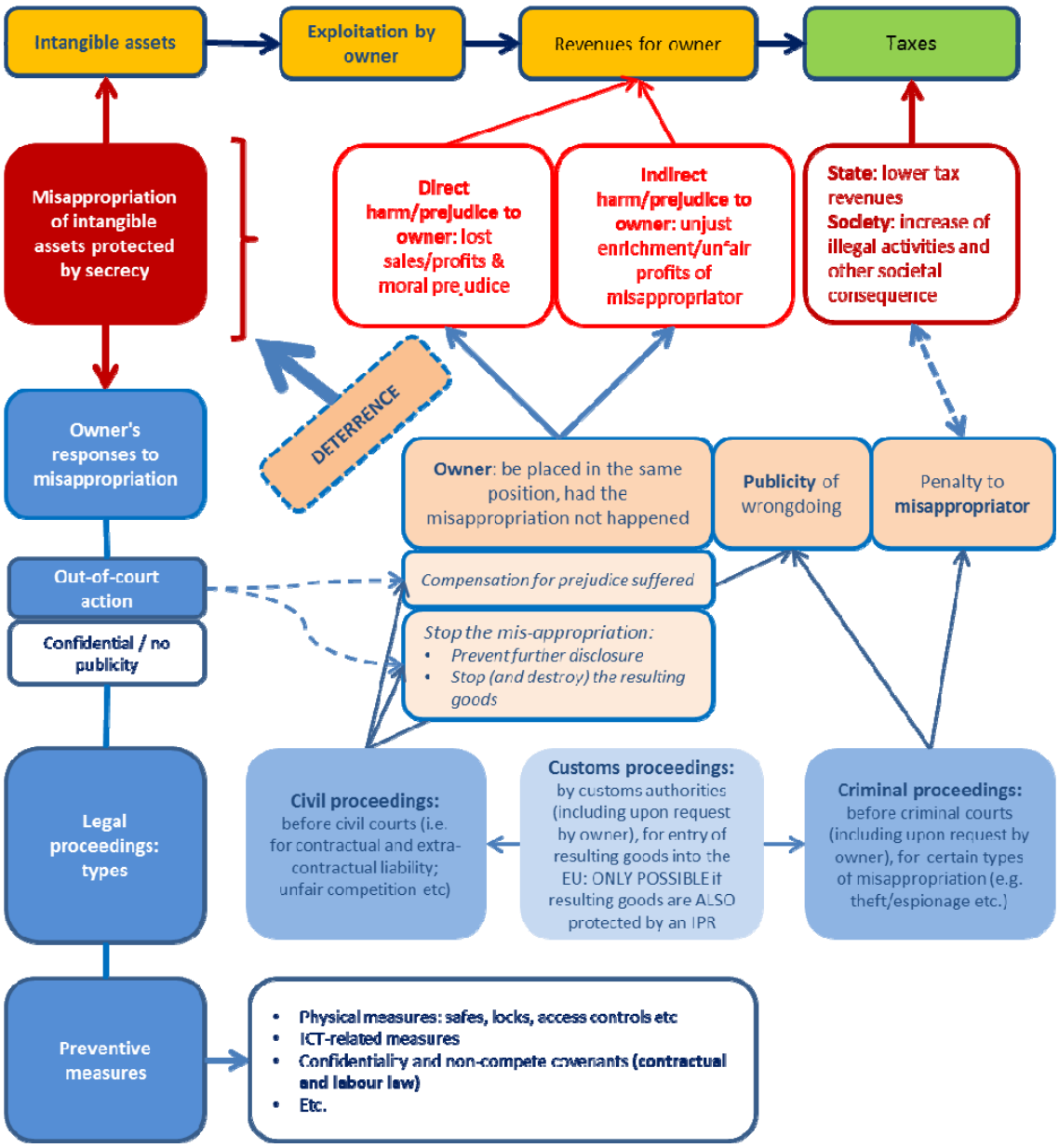

Figure A9.2 – Different aims pursued by legal protection against the misappropriation of trade secrets

The following sections of this Annex introduce the national legal protection against the misappropriation of trade secrets:

– Section A9.2 deals with civil law protection;

– Section A9.3 deals with criminal law protection.

– Section A9.4 deals with the weaknesses identified by stakeholders.

A9.2. Civil/commercial law protection[575] in national law

All EU Member States offer some, more or less extensive, form of protection against the misappropriation of trade secrets, albeit this is achieved in different ways[576].

Some Member States have specific provisions in their civil/commercial law providing protection against the misappropriation of trade secrets:

– Sweden has an Act specifically directed against the misappropriation of trade secrets.

– In Italy and Portugal, specific provisions on the protection of trade secrets are included in their respective codes of industrial property – although this does not mean that trade secrets are intellectual property rights[577].

Other Member States have more general legislation which can be applied.

– In many Member States their unfair competition law is explicitly addressing trade secrets[578]: Austria, Bulgaria, Czech Republic, Germany, Denmark, Estonia, Greece, Spain, Finland, Hungary, Latvia, Lithuania, Poland, Romania, Slovenia and Slovakia. Tort law (liability for non-contractual responsibility) may supplement unfair competition law.

– In a few Member States, trade secrets are not addressed in legislation as such. Therefore, these countries need to rely on the general provisions on tort law (or liability for non-contractual responsibility) as the main mean to address trade secrets misappropriation (Belgium, France, Luxembourg, Netherlands)[579]; or simply rely on case-law (cf. regarding breach of confidence) in the absence of legislation (Ireland and United Kingdom).

– Contract law can be used to protect trade secrets in all of them, but only Malta seems to exclusively rely on contract law to protect trade secrets. In Cyprus no civil liability arises in case of trade secret misappropriation.

Almost all jurisdictions have general provisions included in their labour laws or civil codes to prevent employees disclosing their employers' trade secrets, at least during the employment relationship.

See Box A9.2 for further detail.

Box A9.2 - Civil rules in Member States[580]

AT (Austria): Austria's Unfair Competition Act provides civil (and criminal) sanctions against trade or business secret misuse by employees and those who exploit such information without consent for the purposes of competition. Other legislation such as the Patents Act and the Criminal Code also provides legal remedies in particular circumstances, such as disclosure of inventions by employees or in cases of industrial espionage. In addition, the Austrian courts have held that obtaining trade or business secrets by breach of confidence (in the course of contractual negotiations) falls within the Unfair Competition Act.

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575 Understood as opposed to criminal law. It therefore includes: contract law, labour law, unfair competition law, tort law, intellectual property law.

576 See Hogan Lovells (2012) and Baker & McKenzie (2013), p. 19 and seq.

577 The French intellectual property code has also a provision, which is limited to manufacturing secrets ("*secrets de fabrique*") only and for criminal law purposes only.

578 In some cases, the unfair competition law may also have criminal law aspects. See Section A9.3 of this Annex.

579 Case-law in Belgium and France has developed unfair competition protection from those general provisions.

580 See generally Hogan Lovells (2012).

BE (Belgium): There is no one piece of legislation on the protection of trade secrets as such in Belgium but there are several provisions of Belgian law which can be used against the misuse or disclosure of trade secrets. Trade secret owners generally rely on the general law of tort (Article 1382 of the Belgian Civil Code), unfair competition and specific provisions in Belgian labour law.

BG (Bulgaria): There is no specific legislation on trade secrets in Bulgaria but various laws including the Law on Protection of Competition and the Law on Access to Public Information contain general provisions which may be used to protect trade secrets. In fact, there are over 60 such statutory and non-statutory provisions (including criminal liability under the Criminal Code).

CY (Cyprus): There is no specific legislation governing trade secret misuse in Cyprus but there are a number of different laws which mention trade, business and professional secrets. For example, the Commercial Descriptions Law, the General Product Safety Law and the Competition Law. However, liability is criminal; there is no civil liability for trade secret misuse.

CZ (Czech Republic): The Czech Commercial Code defines a trade secret and provides remedies for trade secret infringement. The TRIPS Agreement is directly applicable in Czech law and thus the definition of a trade secret under Article 39(2) of the TRIPS Agreement also applies in Czech law. The basis of trade secret protection in the Czech Commercial Code, however, is the civil law of unfair competition.

DE (Germany): There are a number of provisions in German legislation protecting trade secrets. The most important statutory provisions for the protection of trade secrets are found in the Act against Unfair Competition. These provisions apply to employees and to third parties. Many of the statutes protecting trade secrets under the criminal law also have civil law provisions. These provisions allow for damages and injunctive relief if one of the relevant criminal law provisions is violated. Civil law remedies are also available under the Civil Code (tort law). German contract law also provides effective protection where there is a contractual obligation to maintain the secrecy of trade secrets.

Special rules relating to the protections of trade secrets apply to stock corporations (AG) and limited liability companies (GmbH). As for stock corporations, pursuant to art. 93 sec. 1 of the Stock Corporation Act (Aktiengesetz - AktG), the members of the management board shall keep confidential any information and secrets of the company, namely trade or business secrets. If they fail to comply with this duty, they are liable to the company for any resulting damage

DK (Denmark): In Denmark there is no statutory definition of trade secrets; however case law has clarified the types of information that are protectable to include both technical and commercial information. Several statutes, both civil and criminal, are used to protect the rights of trade secret owners as well as legal principles derived from contract law, competition law, employment law and unfair competition law. Most notably, the Criminal Code and the Marketing Practices Act contain provisions protecting trade secrets.

EE (Estonia): Estonian legislation provides specific provisions on the protection of trade secrets, most notably in the Competition Act, the Commercial Code, the Employment Contracts Act and the Penal Code. The Competition Act includes an illustrative list of information considered to constitute trade secrets. The Supreme Court has also held that in addition to this definition, the definition of trade secrets provided in the TRIPS Agreement can also be used to interpret the term "trade secrets" under Estonian law.

EL (Greece): Greek Unfair Competition Law provides specific provisions on the protection of trade secrets. More general protection is found in the Greek Civil Code which includes general tort provisions.

ES (Spain): Trade secrets are mainly protected in Spain under the Unfair Competition Act and the Criminal Code. The Act contains provisions specifically aimed at trade secrets. There are also other laws which deal with trade secret protection indirectly, for example, the laws establishing the obligations of directors and other employees[581].

FI (Finland): There are a number of Acts which include provisions for the protection of trade secrets, most importantly the Unfair Business Practices Act, the Employment Contracts Act and the Criminal Code. Finland does not have one piece of legislation directed specifically to the protection of trade secrets. Although the Finnish law encompasses the protection of trade secrets under the Unfair Business Practices Act, trade secrets are not considered to be intellectual property rights.

581 In addition, Law 14/2011 on science, technology and innovation also refers to the protection of the results of R&D (Article 35(2)).

FR (France): There are a number of references to trade secrets in French law and case law but no statutory definition of trade secrets. Trade secret owners generally rely on the unfair competition law (against competitor) and the general law of tort (against any third party) which correspond to the same reference of the French Civil Code, namely Article 1382. However the only specific trade secrets legislation is dealing with protecting “manufacturing secrets” in the Intellectual Property Code (Article L. 621-1) in link with the Labour Code, which provides criminal liability for trade secret violations by employees or former employees. When parties are bound by a contractual obligation not to disclose secret information, an action lies for breach of contract.

HU (Hungary): Hungarian law provides specific provisions on the protection of trade secrets. The main general rules are established in the Civil Code as part of the moral rights section. Besides, rules on the protection of know-how are currently laid down separately in the Civil Code, within the general provisions on the protection of intellectual property. The unfair competition law aspects of trade secret protection (based on the definition of trade secrets enshrined in the Civil Code) are regulated in the Unfair Competition Act. Provisions also exist in the Labour Code and in various financial/banking laws.

IE (Ireland): There is no specific legislation in Ireland directed to the protection of trade secrets. However, proceedings may be brought under laws relating to breach of confidence, data protection and specific sectorial pieces of legislation. As in England, Irish law has the equitable principle that a person who has received information in confidence cannot take unfair advantage of it. Generally, Irish law imposes a duty of confidentiality in both non-employment cases and employment cases. In both situations, there must be an obligation of confidence and once it is established that such an obligation exists then the person to whom the information is given has a duty to act in good faith and only use the information for the intended purpose. Again, as in England, an obligation to keep information confidential may either be imposed by contract; implied because of the circumstances of the disclosure or implied because of the special relationship between the parties.

IT (Italy): Specific provisions on the protection of trade secrets are contained in the Italian Code of Industrial Property (IPC). Secret information may only be protected if the requirements set out in the IPC are met. There are also general tortious obligations and unfair competition provisions in the Civil Code which can be employed to compensate for trade secrets misuse.

LT (Lithuania): Lithuanian legislation provides specific provisions on the protection of trade secrets, most importantly in the Civil Code, the Law on Competition, the Labour Code and the Criminal Code. Under the Civil Code, anyone unlawfully acquiring a commercial secret is liable to compensate the owner for the damage caused. There are also express provisions in the Labour Code regarding disclosure by employees who disclose a commercial secret in breach of their employment contract.

LU (Luxembourg): There are no specific legal provisions protecting trade secrets in Luxembourg. However, trade secrets can be protected by unfair competition law, criminal law, tort law and contractual law.

LV (Latvia): Latvia has a number of pieces of legislation which provide specific provisions on the protection of commercial secrets. The Commercial Law is the main Act regulating commercial activities. It defines "commercial secrets" and provides express protection for them. The Labour Law also includes provisions regarding use of commercial secrets by employees. Latvia also has an Unfair Competition Act which expressly provides that the acquisition, use or disclosure of commercial secrets of another competitor without their consent is a form of unfair competition.

MT (Malta): There is no specific legislation on the protection of trade secrets in Malta. Trade secrets may be protected contractually, by express or implied terms, and, an employee is presumed to be under an obligation not to disclose confidential information. If no contract exists there will be no civil law right to protect a trade secret.

NL (Netherlands): There are no specific provisions on the protection of trade secrets in Dutch legislation. In the Netherlands, the protection of trade secrets is based on the general principle of tort law i.e. an unlawful act. In 1919, the Dutch Supreme Court held that the provision in the Dutch Civil Code on unlawful acts could be used to secure protection against trade secret infringement. Contract law also provides some protection in contractual relationships if there are confidentiality obligations in the contract.

PL (Poland): There are specific provisions on the protection of trade secrets in Polish legislation, notably in the Unfair Competition Act. A number of other Acts mention trade secrets, for example, the Civil Code, the Labour Code, the Act on Competition and Consumer Protection, the Code of Commercial Companies and Partnerships etc. The Labour Code includes express provisions requiring

employees to maintain the confidentiality of information the disclosure of which could cause damage to their employer.

PT (Portugal): The Portuguese Industrial Property Code has specific provisions relating to the protection of trade secrets. The Industrial Property Code is directed towards unlawful acts against competitors. A violation is punished, not as a crime, but as an administrative office punished by a fine. The Labour Code also contains provisions which stipulate that an employee may not disclose information, while employed, relating to his employer's organisation, production methods and company business.

RO (Romania): There is specific legislation in Romania on the protection of trade secrets. Provisions regulating protection of trade secrets have been included in the Law for the Prevention of Unfair Competition ("Law on Unfair Competition") and specify that the unfair use of a competitor's trade secrets is regarded as contrary to honest commercial practices.

SE (Sweden): Sweden is the only country in the EU to have an Act specifically protecting trade secrets. The Act provides a definition of trade secrets, penalises trade secret espionage and contains provisions on civil liability.

SI (Slovenia): Trade secrets are specifically protected in Slovenia by a number of pieces of legislation, in particular, the Companies Act, the Employment Relationship Act, the Protection of Competition Act, the Penal Code and the Code of Obligations.

SK (Slovakia): Civil protection of trade secrets in the Slovak Republic is regulated by the Commercial Code. The relevant fields of protection are civil law, commercial law, intellectual property law, non-contractual liability and unfair competition law.

UK (United Kingdom): There is no legislation providing specific protection for trade secrets. Trade secrets are protected by contract and/or by the law of equity.

A9.3 Criminal law protection in national law

Criminal protection of trade secrets against misappropriation differs from Member State to Member State on several levels, although almost all of them have provisions in this respect. Since there is a lack of a common/shared definition of the scope of trade secrets from the criminal law perspective, the actual extent of the protection provided by Member States may vary depending on the aims pursued by the provisions implemented for this purpose.

Only four Member states (i.e., Bulgaria, Ireland, Malta and the United Kingdom) have not established any specific criminal framework with respect to trade secrets violations. However, even in those Member States, the conduct of the infringer may be punished under other related criminal offences (see on related offences, in Section A14.1 of Annex 14).

In some cases, where no specific criminal provision has been implemented, criminal sanctions of trade secrets misappropriation apply under unfair competition laws or commercial laws. Sweden is the only EU Member state that has implemented a specific law on trade secrets which contains criminal provisions (see Annex 10), even though some relevant provisions are also contained in the Criminal Code[582]. In France, the intellectual property code sanctions the violation of manufacturing rights[583].

582 In particular, the Act on the Swedish Protection of Trade Secrets establishes two different offences: business espionage and the unauthorized dealing with trade secrets. Other complimentary or more general offences, such as, for instance, unauthorized access to computer systems or breach of faith against principal are regulated under the Criminal Code.

583 Article L621-1 of the Intellectual Property Code: "*Les peines frappant la violation des secrets de fabrique sont prévues à l'article L. 1227-1 du code du travail ci-après reproduit: "Art.L. 1227-1-" Le fait pour un directeur ou un salarié de révéler ou de tenter de révéler un secret de fabrication est puni d'un emprisonnement de deux ans et d'une amende de 30 000 euros. La juridiction peut également prononcer, à titre de peine complémentaire, pour une durée de cinq ans au plus, l'interdiction des droits civiques, civils et de famille prévue par l'article 131-26 du code pénal."*

Table A9.1 summarises the criminal provisions in force:

Table A9.1 – Criminal provisions applying to trade secrets misappropriation[584]

	AT	BE	BG	CY	CZ	DE	DK	EE	EL	ES	FI	FR	HU	IE	IT	LT	LU	LV	MT	NL	PL	PT	RO	SE	SI	SK	UK
Criminal code	✓	✓		✓		✓	✓	✓	✓	✓	✓	✓	✓		✓	✓	✓	✓		✓	✓		✓	✓	✓	✓	
Unfair competition / commercial law	✓			✓	✓	✓	✓		✓		✓											✓	✓				
Specific law on trade secrets																								✓			
Intellectual Property Code												✓															

A9.4 Weaknesses identified by stakeholders regarding the protection of trade secrets at national level.

In the 2013 Public Consultation, respondents' views were relative split as to the level of protection of trade secrets offered by national law. 28% of the respondents (106) found that protection weak; 23% of them (88) appropriate, 39% of them (152) excessive while 10% (40) did not have an opinion. If only replies from companies and research entities (i.e. those more likely to suffer trade secret misappropriation) are considered, the picture is substantially different: 48% of them find the protection at national level weak.

When the 106 respondents (out of 386) who found national law protection weak were asked to specify the Member States they were referring to, the following results appeared (respondents were able to select more than one Member State): France was identified 68 times; 18 Member States were identified between 15 and 24 times (AT, BE, BG, CY, CZ, EE, EL, HU, IT, LT, LU, LV, NL, PL, RO, SI, SK and UK), Spain was identified 11 times, and 7 Member States 4 times or less (DE, DK, FI, IE, MT, PT and SE). In particular DK, FI and SE hardly attracted criticism (mentioned only once or twice).

Concerning the identified weaknesses, respondents' views were as follows (multiple choices were possible):

– 31% of all the identified weaknesses related to "*insufficient scope of protection (e.g. a third party is not always prevented from using the misappropriated trade secret)*". This is an important issue for most Member States: when the replies are examined by Member State, this weakness was identified at least 75% of the cases for all Member States except regarding DE, DK, ES, FI, IE, PT and SE;

– the second most often identified weakness is "*no fair compensation granted for the prejudice suffered*", which is identified in 22% of the cases. This issue is often mentioned in several countries: when the replies are examined by Member State, this weakness was identified in more than 40% of the cases for AT, BG, CY, CZ, DK, EE, EL, ES, FR, HU, LT, MT, PL, SI and SK;

– respondents also considered as a weakness the fact that "*trade secrets misappropriation is not punishable as a criminal offence*": 19% of the cases. When the replies are examined by Member State, this weakness was often mentioned in BG, CY, CZ, EE, EL, FR, HU, IE, LT, LU, LV, PL, RO, SI and SK (more than 40% of the replies in each of these Member States);

584 Baker & McKenzie (2013), p. 55 and information provided by Member States.

– other types of weaknesses were les mentioned by respondents. Only 6% of the replies found that "*criminal penalties and sanctions were too low to serve as deterrent*" (although of concern in ES and FR, with more than 40% of the replies in these Member States; also, several respondents added in the "comments" that sanctions in Italy and the Netherlands were not dissuasive) or that "*legal action would require disclosure of confidential information*" (although of concern in DE and FR, with more than 50% of the replies in these Member States, and in ES, with 36% of the replies). Less than 4% of the replies considered the cost of the legal action a weakness (of some concern in ES, FR and IE, as mentioned in 20% of the replies).

In addition, as regards the specific comments made by respondents, the following additional issues were raised: difficulties as regards the destruction of the misappropriated information in disputes to prevent further use by the defendant (AT), the absence of permanent injunctions (BE, BG, DK), absence of ex parte orders to search/preserve evidence in civil proceedings (CY, DK, EE, RO, SI) or preliminary measures able to surprise the defendant (ES) , too lengthy proceedings (ES, FR, PL), the test as to whether the information/knowledge is a trade secret or is part of the general skills of the employees would always be in favour of employees (FR), difficulties to proof the misappropriation of intangible assets (FR), not enough knowledge of judges on trade secrets (FR, PL), defendant cannot be ordered to provide information about the whereabouts of documents (PT) and corruption (RO). The insufficient scope of protection was particularly recalled as regards FR (available remedies vary depending on whether the trade secret is a manufacturing secret or not), NL (general protection only), MT (contractual protection only), PT (violations of trade secrets are only a misdemeanour), UK (case-law only, no specific references to unfair competition). The French regime attracted major criticism. A respondent summarised it by saying that there is a general impression that "*nothing can be done*".

The above described weaknesses will be further examined in the following Annexes:

– Annex 12: civil law issues;
– Annex 14: criminal law issues;
– Annex 15: procedural rules regarding litigation.

ANNEX 10 – THE PROTECTION OF TRADE SECRETS IN SWEDEN

Sweden is one of the few countries that have a specific Act on the Protection of Trade Secrets with an explicit definition of 'trade secrets', which has showed to function well by interpretations in precedents of the Supreme Court and of the Labour Court. Since 1990 Sweden has provided a specific law regarding protection of trade secrets, the **Act (1990:409) on the Protection of Trade Secrets** [*Sw. Lag (1990:409) om skydd för företagshemligheter*] (hereinafter referred to as the "**Trade Secrets Act**"). The Trade Secrets Act contains criminal regulations on trade espionage an unlawful dealing with trade secrets as well as civil regulations on liability for damages for criminal and non-criminal acts involving unlawful use and disclosure of trade secrets. The Trade Secrets Act stands on three pillars: one being rules on trade espionage; one being rules regarding the relations between employer and employees and one being part of regulating unfair competition. A unique feature of the Swedish Trade Secrets Act is that employees normally do not have a penal liability in situations where they use or disclose the employer's trade secrets.

The Trade Secrets Act together with case law from the Swedish General Courts and the Labour Court is the central source of law in this respect. The TRIPS Agreement is not self-executing under Swedish law. In addition to the Trade Secrets Act there are also criminal provisions in the Swedish Penal Code that can be applicable.

The Public Access to Information and Secrecy Act (2009:400) [*Sw. Offentlighets- och sekretesslag (2009:400)*] contains some rules regarding the protection of trade secrets. The Swedish Competition Act also contains regulations on the protection of trade secrets constituting technical information in connection with dawn raids.

Trade secrets are not regarded as intellectual property in Sweden. They are considered closely related to intellectual property, however not protected as such. Trade secrets are not exclusive rights per se and do not have the same protection. The legislation that implemented the Directive on enforcement of intellectual property rights (Directive 2004/48/EC of the European Parliament and of the Council of 29 April 2004 on the enforcement of intellectual property rights), namely amendments in i.a. the Trademarks Act, Design Protection Act, and the Patents Act, is not as such applicable to the protection of trade secrets.

Different types of information can be recognized as trade secrets in Sweden, such as manufacturing technology, commercial know how, price lists, customer lists and financial reports etc. Also relatively trivial details can qualify as trade secrets. The requirement is that they fall within the scope of the definition[585] in Section 1 in the Trade Secrets Act. Different types of trade secrets are not treated differently by the law.

[585] Section 1 in the Trade Secrets Act contains the following definition of trade secrets: "*For the purpose of this act a trade secret means such information on business relations or operating conditions of a business in somebody's business which is kept secret and of which the disclosure is aimed to cause damage to the business proprietor from a competition point of view.*"

The Trade Secrets Act applies to *"unwarranted infringements of trade secrets"*[586][587], but there is no single definition of **misappropriation**, for the purposes of civil action, at such. However, Articles 5 to 8, define conduct which trigger civil liability.

Article 5 refers to the following conduct triggering civil liability: unlawful acquisition (by reference to Articles 3 and 4 of the Trade Secrets Act which contain criminal provisions in this regard); and/or subsequently exploiting or revealing the trade secret without authorisation.

> "*5. Anyone who commits an offence under Article 3*[588] *or 4*[589] *shall pay a compensation for the damage caused through the offence or through the fact that the trade secret is, without authorization, exploited or revealed.*"

Articles 6 to 8 refer to other specific cases of exploitation and revelation of the trade secrets by persons who did not originally obtained the trade secret in an unlawful manner (i.e. business partners, employees, or in the course of legal proceedings). Article 9 refers to the absence of authorisation for the exploitation/revelation as a factor.

> "*6. Anyone who wilfully or through negligence exploits or reveals a trade secret in a person's business or industrial activity of which he has been informed in confidence in connection with a business transaction with that person shall compensate the damage caused through his action.*"
>
> "*7. Anyone who wilfully or through negligence exploits or reveals the trade secret of his employer of which he has been informed in the course of his employment under such circumstances that he understood, or ought to have understood, that he was not allowed to reveal it, shall compensate the damage caused by his action.*
>
> *Where the action took place after the termination of the employment, the first paragraph shall apply only where there are extraordinary reasons for it.*"
>
> "*8. Anyone who wilfully or through negligence exploits or reveals a trade secret which, according to what he understands or ought to understand, has been the subject of an action under this Act shall compensate the damage caused through his action. The same applies in where a person otherwise wilfully or through negligence exploits or reveals a trade secret, which, according to what he understands or should understand, has been revealed contrary to the provisions in the Secrecy Act (1980:100).*"

Article 11, on injunctions, refers however to violations of trade secrets.

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586 Article 2 of the Trade Secrets Act, which triggers the possibility for the trade secret holder to request an injunction (Article 11) or to request the destruction (or delivery) of the documents/objects in possession of the other party which contain the trade secret.

587 Article 2 of the Trade Secrets Act also mentions cases which are NOT unwarranted infringements: "*As an unwarranted infringement is not to be considered the fact that someone acquires, exploits or divulges what is a trade secret of a person conducting business or industrial activities in order to make available to the public or before a public authority divulge something that may be an offence for which imprisonment may be adjudicated, or which may be considered to be another serious incongruity in the business or industrial activity of a person conducting such activities. As an unwarranted infringement is not considered the fact that someone exploits or divulges a trade secret about which he or someone before him acquired knowledge in good faith.*"

588 "*Anyone who wilfully and without authorization accesses a trade secret shall be sentenced for trade espionage to […]*".

589 "*Anyone who obtains a trade secret knowing that the person who makes available the secret, or anyone before him, has accessed it through an act of trade espionage shall be punished for unauthorized tampering with a trade secret to […]*".

> "*11. Anyone who has violated a trade secret under this Act may be prohibited by a Court, under penalty of a fine, to exploit or reveal the trade secret. Such a prohibition under penalty of a fine may, however, ordered only where an exploitation or a revelation would be a violation of the provisions of Article 2.*"

The relevant **criminal provisions** in the Trade Secrets Act do not establish any requirements as to the purpose that the infringer may pursue. The requirement is that the offender accessed the trade secret wilfully and without authorization. Regarding the prerequisite on wilfulness, liability also includes offences where the offender suspected that the information was confidential and still carried on with his/her actions unconcerned of the result thereof. There is no requirement regarding the purpose, e.g. obtaining advantages or the like. It is neither required that the offender actually used or disclosed the trade secrets.

Section 3 in the Trade Secrets Act regulates criminal liability for **trade espionage**. Anyone who wilfully and without authorization accesses a trade secret can be sentenced for trade espionage to fines or imprisonment up to 2 years, or when the offence is serious up to 6 years. Circumstances that may lead to a serious offence is if the act was of particularly dangerous kind, concerned a considerable monetary value or resulted in a particular serious damage. The penalty will not be sentenced if a more serious penalty follows under the Swedish Penal Code. Attempts and planning of espionage is penalized in accordance with Chapter 23 in the Penal Code.

Section 4 in the Trade Secrets Act regulates criminal liability for **unauthorized dealing with a trade secret**. Anyone who obtains a trade secret knowing that the person who made available the trade secret, or anyone before him, accessed it through an act of trade espionage can be sentenced for unauthorized dealing with a trade secret to fine or imprisonment up to 2 years, or if the offence is serious, up to 4 years. The penalty will not be sentenced if a more serious penalty follows under the Swedish Penal Code.

Section 5 in the Trade Secrets Act regulates **civil liability**, for anyone who commits an offence in accordance with section 3 or 4, to pay damages caused through the offence, or the use or disclosure of the trade secret without authorization.

The TRIPS Agreement was not considered when the Trade Secrets Act came to force. In 2008 a Governmental Legislative Committee was assigned to review certain issues on the protection of trade secrets and to consider possible amendments to the Trade Secrets Act. The Committee's report was presented in 2008 (Swedish Government Official Report, SOU 2008:63). The legislative work is under progress but it is unclear if and when these proposals will be effectuated. In accordance with information from the Swedish Ministry of Justice we can at least not expect a government bill before October 2012. The Governmental Legislative Committee proposed that the Trade Secrets Act should be amended in accordance with Section 50 in the TRIPS Agreement regarding provisional measures. A new rule was proposed concerning a new measure for securing evidence, corresponding to the provision on infringement investigations related to intellectual property infringements. It would then be possible to apply for a court order for a search for evidence, enforceable through the Enforcement Agency. The Committee also proposed a new rule on liability for damages for anyone who without valid cause, uses or discloses trade secrets obtained in court proceedings in its business operations.

As regards criminal liability, it is conditioned upon that the prosecutor can prove that the suspect has gained access to the information in an unlawful manner. This means that criminal liability cannot be

charged upon somebody that was informed of confidential information in a business meeting or gained knowledge of confidential information in line with his or her work tasks. In such cases it might be possible to initiate civil proceedings instead, if the information was unlawfully used or disclosed. In some cases it might also be possible to apply other criminal regulations in the Penal Code. The Governmental Legislative Committee has proposed an extension of the criminal liability under the Trade Secrets Act to also cover persons who have gained access to information in a lawful manner in their employment or as consultants or the like when participating in the owners business.

ANNEX 11 – LEGISLATIVE FRAMEWORK IN THIRD COUNTRIES ON THE PROTECTION OF TRADE SECRETS AGAINST MISAPPROPRIATION

United States

In the US the protection of trade secrets was recognized at common law by the middle of the 19th century.

Trade secrets protection has evolved in the US largely from individual state statutes and common law. The most widely accepted rules of trade secrets law in the US were set forth in the Restatement (First) of Torts, Section 757. Courts have adopted the definitions from the restatement of Torts, which is one of a series of codifications of common law principles by the American Law Institute. The Restatements of Law are not binding law but have often been adopted by courts as reflecting existing law.

In 1973, the US Supreme Court recognized the constitutionality of trade secret protection for all information, including patentable subject matter, in Kewanee Oil Co. v Bicron Corp., 416 U.S. 470(1974).

In 1979, the National Conference of Commissioners on Uniform State Laws promulgated the **Uniform Trade Secrets Act (UTSA)**. The original Act or its revision has now been adopted in 46 states and the District of Columbia, and has helped to increase uniformity among state trade secret laws. At this time, the States of Massachusetts, New York, North Carolina and Texas have not enacted the UTSA, although a bill for adoption of the UTSA was introduced this year in Massachusetts. Among the remaining States, New York and Texas have no general trade secrets statues but rely on common law.

In 1984, the US Supreme Court held that a trade secret was a property right in Ruckelshaus v Monsanto, 467 U.S. 986 (1984). Recognizing trade secret rights to be property rights has important consequences under the US law, not the least that trade secrets enjoy the Constitutional protection from under the taking clause of the Fifth Amendment to the US Constitution, i.e., that property may not be taken without just compensation.

In 1994, the American Law Institute adopted and promulgated the Restatement Third, Unfair Competition, Sections 39-49 [Trade Secrets]. Section 39 sets forth the following modern definition of trade secrets and includes “any information that can be used in the operation of a business or other enterprise and that is sufficiently valuable and secret to afford an actual or potential economic advantage over others”. This definition of a trade secret is consistent with the definition of a trade secret in Section 1(4) of the UTSA.

In 1996, the US enacted the federal Economic Espionage Act of 1996, 18 U.S.C. Section 1831 et seq. which makes the theft of a trade secret a federal criminal offense (Section 1832) as well as acts of economic espionage (Section 1831) committed by anyone for the benefit of a foreign government, foreign instrumentality or foreign agent. Theft of trade secrets is also a form of unfair competition.

Trade secrets may be protected against misappropriation under the UTSA, state common lawn and the federal Economic Espionage Act. There are three layers of protection.

Firstly, the federal Economic Espionage Act criminalises misappropriation of trade secrets with imprisonment up until 10 years, and organizations are subject to fines up to USD 5 000 000.

Furthermore, the US International Trade Commission[590] is empowered under federal legislation to block imports of goods manufactured in third countries following trade secret misappropriation.

Finally, concerning civil law protection, there is no federal legislation. However, State legislation is fairly harmonised. All but 3 States (Massachusetts, New York and Texas) have adopted a "uniform act" on this issue. This uniform act codifies and harmonises standards and remedies regarding misappropriation of trade secrets that had emerged in common law on a State by State basis. In the case of the 3 States that do not have that specific law, they rely on traditional common law developments[591]. Indeed, judicial practice in all US States in this area is deemed to be similar. It should be noted that while civil law trade secrets cases would normally be heard in state courts, they may also be brought before federal courts (applying state law through diversity or supplemental jurisdiction).

Japan

Until about 1990, the trade secret was used to be protected by the Civil Code and the Commercial Code that provided for injunctions or damages against contract violations. Also, to protect trade secrets, the Penal Code was applicable to cases where, for example, documents or drawings were taken out by outsiders or insiders (who would be accused of theft or professional embezzlement). There was no law that was designed exclusively for trade secret protection. Trade secrets were protected by the general laws such as the Civil, Commercial, and Penal Codes. Then the **Unfair Competition Prevention Act (the "UCPA")** was revised in 1990 and the revised Act gave a defection of trade secrets and provided for protection measures.

Currently, under the Japanese legal system, the protection of trade secrets is awarded by the Unfair Competition Prevention Act (the "UCPA", as amended). Trade secrets may also be protected by the contract law, tort law, Penal Code (theft, professional embezzlement, breach of trust), and Companies Act (duty of loyalty of director, duty of care of prudent manager, duty of non-competition), although the protection by these laws became less important after the introduction of trade secret protection by the Unfair Competition Prevention Act. The criminal liability for trade secrets violation is to protect the interests of the owners of trade secrets, and the public interests for fair competition. The potential penalties are imprisonment with work and fine.

590 **In the US, the International Trade Commission was not created to deal with trade secrets.** The ITC deals primarily with anti-dumping complaints (in the EU framework, anti-dumping complaints are dealt with by the Commission itself [DG TRADE]; administers the harmonised tariff schedule (in the EU framework, this is done by DG TAXUD); has an advisory role to President, Congress etc; and it deals with certain unfair practices in import trade (section 337 of the Tariffs Act). It is under this last heading that it investigates IPR infringements. The Act makes a distinction between infringements of IPRs (automatic infringement, no need to show injury) and unfair import practices (in which case actual or threatened injury to domestic industry must be demonstrated). **It must be underlined that the expression "trade secrets" (or a similar one) is nowhere in section 337 of the Tariffs Act.** The Act refers only to forms of unfair import practices. The ITC has over time considered that misappropriation of trade secrets (as well as trade dress infringement, passing off, false advertising and violations of the antitrust laws) may also be asserted as forms of unfair competition.

591 Interestingly, some commentators in the US have suggested that the current state-based trade secrets system places the US in violation of its obligations under the TRIPS (and also under the North American Free Trade Agreement (NAFTA)) because TRIPS (and NAFTA) would set higher standards than those used in the States which have not yet adopted the US Uniform Trade Secrets Act (cf. See Lao (1998) and Pace (1995)). For others, this issue might be more theoretical than practical in the absence of complaints from trading partners (cf. Almeling (2009), p. 776 (footnote 27)).

Also, the Intellectual Property basic Act (the "IPBA". Law No. 122 of December 4, 2002, as amended) is the statute about basic principles for the creation of new intellectual property and effective exploitation of such intellectual property. It provides the definition of intellectual property which includes trade secrets.

Further, in civil proceedings, certain documents, which are necessary for the case, are also to be protected as trade secret. The Code of Civil Procedure provides the general rules for the submission of documents as evidence and for the protection of the documents as trade secrets. Plus, certain acts related to the intellectual property (e.g., the Patent Act) provide the specific rules in certain types of litigation (e.g., patent litigation).

It is generally thought that a trade secret has a property value but is not classifies as a property right. The Unfair Competition Prevention Act does not recognize any exclusive right (such as industrial property right) to trade secrets; it only prohibits types of highly wrongful acts as those of unfair competition and provides for several types of remedies. The right to seek an injunction against trade secret infringement may be extinguished by prescription.

Switzerland

In Switzerland, there is a long tradition of trade secret protection. Therefore, different provisions on trade secrets can be found in various legal fields and laws. The most relevant provisions are contained in unfair competition law, in contract law, in criminal law as well as in procedural law. At the same time this means that, in Switzerland, there is not one main provision containing a general definition of a trade secret valid in all legal fields.

The legal provisions protecting trade secrets use different definitions of trade secret depending on the scope of prohibition/protection (Unfair Competition Act art. 5 lit. a: "work product entrusted to him"; lit. b: "work product", lit. c: the "market-ready work product", art. 6, art. 162 Criminal Code: "fabrication or business secret").

They do not protect all sorts of information that is commercially valuable. In particular procedures and methods (as opposed to their embodiment in a work product) and preliminary stages of a work product are not protected. Information that is held by several unrelated persons, who all keep it secret and do not disclose it outside their group, is not protected. As a consequence, information is the subject of contracts and transferred or made available for consideration that is not protected by law.

Trade secret protection does not distinguish between valuable and trivial information. It does not provide for a time limitation for protection, so that secret know-how is potentially protected forever.

In Switzerland trade secrets are not considered to be intellectual property rights.

The Unfair Competition Legislation **(Unfair Competition Act, "UCA")** deals with the protection of trade secrets in various provisions. These provisions do not protect the trade secrets as such but they offer a remedy in case of an unfair way of obtaining or exploiting trade secrets. Accordingly, they only provide for an indirect protection of trade secrets.

The Code of Civil procedure has specific procedures which allow a Court to take all required measures to protect trade secrets of a party, including limitation to inspection of files and private hearing of a party. The remedies are in principle available also against a third party who acquires the

secret in good faith, although the absence of the bad faith may affect the possibility to obtain damage compensation.

Switzerland provides for an extensive criminal framework concerning trade secrets violations. The relevant scope of protection, in addition to breach of confidentiality, provides for the punishments of industrial espionage and other crimes related to specific types of secrets (i.e. professional or official secrets). The violation of trade secrets may also entail theft, trespassing or unauthorized penetration of a secured data system and is punished by imprisonment up to three years or monetary fine.

Switzerland punishes violation of secrets provided that the infringer acted with intent. Mere betrayal constitutes an offence regardless of the purpose of the offender, whereas the exploitation of the secret requires that the infringer acted to obtain a financial advantage. Additionally the crime of business espionage requires that the offender acted to render the information available to a foreign destination.

ANNEX 12 – LEGAL DIFFERENCES IN NATIONAL LAW: CIVIL/COMMERCIAL LAW

See Annex 9 for an introduction to this topic.

A12.1. Scope of protection: the trade secret and the misappropriation

The absence of homogenous pieces of legislation in this area implies that there is no uniform understanding of what a trade secret[592] is:

– In Italy, Portugal and Sweden, there is a specific statutory definition of trade secrets in their intellectual property or trade secrets specific legislation.

– A statutory definition of trade secrets is also available in the unfair competition/civil code provisions of Bulgaria, Czech Republic, Greece, Hungary, Lithuania, Poland and the Slovak Republic. In Slovenia, information is deemed to be a trade secret if so determined by a company in a written resolution.

– In all other EU Member States, there is no definition of trade secrets in the law. This matter has been developed by courts and legal commentators.

Box A12.1 shows the national definitions in question.

Box 12.1 – Definitions of trade secrets[593]

TRIPS Agreement – Article 39(2)

"Natural and legal persons shall have the possibility of preventing information lawfully within their control from being disclosed to, acquired by, or used by others without their consent in a manner contrary to honest commercial practices so long as such information:

(a) is secret in the sense that it is not, as a body or in the precise configuration and assembly of its components, generally known among or readily accessible to persons within the circles that normally deal with the kind of information in question;

(b) has commercial value because it is secret; and

(c) has been subject to reasonable steps under the circumstances, by the person lawfully in control of the information, to keep it secret."

Bulgaria - Section 9 of Supplementary provisions of Law on Protection of Competition

"a manufacturing or trade secret is any circumstance, information, decision or data related to a business activity, the secrecy whereof serves the interests of the undertakings concerned and necessary measures to this end have been undertaken".

Czech Republic - Section 17 of the Czech Commercial Code

"… A trade secret comprises all facts of commercial, manufacturing or technical nature related to an enterprise that have actual or at least potential material or immaterial value, are not commonly available in the relevant business circles, should be maintained in secrecy on basis of the trader's decision and the trader ensures their secrecy adequately".

Greece - Law no. 2290/1995

592 See also Annex 4 on the concept of trade secret.

593 Source : Baker & McKenzie (2013), pp. 5 and 24 and seq.

This law has transposed into Greek national law TRIPS Agreement and consequently the definition of trade secrets provided by Article 39(2) of the TRIPS Agremeent applies.

Hungary - Article 81 of the Hungarian Civil Code

"all facts, information, solution or data pertaining to economic activities the publication of which, or the acquisition or use of which by unauthorized persons, is likely to violate or imperil the financial, economic or market interests of the owner of such secret, provided the right holder has taken all the necessary steps to keep such information confidential".

Italy – Art. 98 of Italian Code of Industrial Property

“The business information and the technical-industrial expertise, including the commercial ones, subject to the owner's legitimate control, are protected as long as:

a) they are secret, in the sense that they are not, as a whole or in the exact configuration and combination of their components, generally well-known or easily accessible for experts and operators in the field;

b) they have an economic value due to their being secret;

c) they are subjected, by the persons who legitimately control them, to measures which may be deemed reasonably adequate to keep them secret.

[…]”

Lithuania - Article 1.116 “Commercial (industrial) and professional secret” within the Lithuanian Civil Code

“Information shall be considered to be a commercial (industrial) secret if a real or potential commercial value thereof manifests itself in what is not know to third persons and cannot be freely accessible because of the reasonable efforts of the owner of such information, or of any other person entrusted with that information by the owner, to preserve its confidentiality. The information that cannot be considered commercial (industrial) secret shall be determined by laws”.

Poland - Article 11(4) of Polish Unfair Competition Law

"A company trade secret is understood to include any technical, technological, organizational information, or other information of commercial value, concerning an enterprise, undisclosed to the public, with regard to which an entrepreneur has taken necessary steps to maintain confidentiality".

Portugal - Article 318 of the Portuguese Code of Industrial Property

“PROTECTION OF UNDISCLOSED INFORMATION

Pursuant to the preceding article, an illicit act is defined in particular as the disclosure, acquisition or use of the business secrets of a competitor without its consent, provided that said information:

a) Is secret in the sense that it is not common knowledge or easily accessible, in its totality or in the exact configuration and connection of its constitutive elements, for persons in the circles that normally deal with the type of information in question;

b) Has commercial value based on the fact that it is secret;

c) Has been the object of considerable diligences on the part of the person with legal control over it, with a view to keeping it secret.”

Slovakia - Articles 17 of the Slovak Act No. 513/1991 Coll. „Commercial Code“

“[...] Trade secrets consist of all business, manufacturing and technological facts related to the enterprise with actual, or at least potential, tangible or intangible value. Trade Secrets are not normally available in the appropriate industry and should not be disclosed without the entrepreneur’s consent, providing the entrepreneur adequately ensures such non-disclosure”.

Slovenia – Companies Act

Information is deemed to be a trade secret if so determined by a company in a written resolution.

Sweden - Section 1 of the Trade Secret Act

“For the purpose of this Act a trade secret means such information(*) on business relations or operating conditions of a business in somebody’s business which is kept secret and of which the disclosure is aimed at causing damage to the business proprietor from a competition point of view”.

(*)The term “information” means “information documented in some form, including drawings, model and other similar technical prototypes, as well as the knowledge of single individual about specific circumstances even where it has not been documented in some form”.

While some common grounds appear in the above-quoted national definitions, they do not always conform to the main requirements of Article 39(2) of TRIPS Agreement:

– (1) Type of protectable information. The TRIPS Agreement does not limit the type of information that can be protected. The definition is broad in this respect and, in principle, any type of information, whether technical secrets[594] or commercial secrets[595] , is potentially capable of being protected as trade secret[596]. In principle, the national definitions do not seem to restrict the type of protectable information either, although the expressions used are not necessarily similar and may result in divergent interpretations.

– (2) Secrecy requirement. The TRIPS Agreement requires that the information is not generally known among or easily accessible to persons within the circles that normally deal with the kind of information in question[597]. This is a relative secrecy requirement. Several of the definitions above appear to follow the TRIPS Agreement in that regard. However, the Bulgarian, Hungarian, Lithuania and Swedish definitions may be read as requiring absolute secrecy. It is unclear which criterion is followed by the Slovenian definition.

– (3) Commercial value. The TRIPS Agreement requires that the information has commercial value (because it is secret), *in abstracto*. The idea behind this criterion is generally addressed by most national definitions (referring to commercial or economic value, or to potential, tangible or intangible). However, in some cases, the eligibility standard used is different (by reference to the interests of the trade secret owner) and the scope of protection seems different (based on subjective, rather than

594 E.g. any type of technical information, as manufacturing processes, technical drawings and designs, prototypes, inventions (not patentable or not patented), technical know-how, formulae or recipes etc.

595 E.g. customers and suppliers lists, information on business strategies and plans, business models, marketing information etc.

596 The TRIPS Agreement does not exclude patentable information from the protection, nor does it require that the information is reducible to writing.

597 The TRIPS Agreement does not refer to any particular novelty requirement.

objective grounds): the Bulgarian definition requires that the secrecy serves the "*interests of the undertakings concerned*", while in Hungary, publication, acquisition or use of a trade secret by an authorised person is prohibited if this violates or imperils "*the financial, economic or market interests of the owner of such secret*"; the Swedish definition requires "*damage to the business proprietor from a competition point of view*". It is unclear which criterion is followed by the Slovenian definition.

– (4) Reasonable steps to keep the information secret. The TRIPS Agreement requires the person lawfully in control of the trade secret to take reasonable steps to keep the information secret[598]. These reasonable efforts are generally required by national legislations too, although this does not directly results from the Swedish definition. It is unclear which criterion is followed by the Slovenian definition.

Case-law development in Member States without statutory definition seems to follow similar patterns[599].

The lack of a uniform definition and scope of protection entails a risk of inconsistent interpretation of what is protectable as trade secret, consequently making trade secrets enforcement difficult and costly to handle[600].

Concerning the question of misappropriation, the main divergences relate to the situation of the third party who obtained the misappropriated trade secret in good faith[601]: see below on remedies.

A12.2. Remedies: injunctions, destruction of goods and compensation for prejudice suffered

(i) General

The remedies available in civil/commercial law proceedings for the misappropriation of trade secrets do vary and appear to depend on the origin of the action: e.g. based on tort, unfair competition law etc.)[602]: see Table A12.1 for a summary view.

Table A12.1 – Available civil remedies[603]

	AT	BE	BG	CY	CZ	DE	DK	EE	EL	ES	FI	FR	HU	IE	IT	LT	LU	LV	MT	NL	PL	PT	RO	SE	SI	SK	UK
Injunctions (cease and desist orders: ordinary action	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Injunctions (cease and desist orders: interim relief	✓	✓	✓	✓	✓	✓	✓		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓

598 However, the TRIPS Agreement does not require that the trade secret owner actually uses the trade secret in question for an economic activity or business purposes.

599 At least for the type of information protectable as trade secret. Cf. Baker & McKenzie (2013), p. 26.

600 Baker & McKenzie (2013), p. 27.

601 To be sure, no Member State grants any action against a third party who autonomously developed the same information.

602 Baker & McKenzie (2013), p. 27-28.

603 Baker & McKenzie (2013), p. 29 and information submitted by Member States.

	AT	BE	BG	CY	CZ	DE	DK	EE	EL	ES	FI	FR	HU	IE	IT	LT	LU	LV	MT	NL	PL	PT	RO	SE	SI	SK	UK
Return/destruction of trade secrets / goods produced using misappropriated trade secrets: ordinary action	✓	✓			✓	✓	✓			✓		✓	✓	✓	✓	✓		✓		✓	✓	✓	✓	✓	✓	✓	✓
Return/destruction of trade secrets / goods produced using misappropriated trade secrets: interim relief	✓	✓			✓	✓				✓		✓	✓	✓	✓			✓		✓			✓				✓
Seizure of trade secrets / goods produced using misappropriated trade secrets: ordinary action		✓			✓		✓		✓	✓		✓	✓		✓	✓		✓		✓	✓	✓		✓	✓	✓	✓
Seizure of trade secrets / goods produced using misappropriated trade secrets: interim relief		✓			✓		✓		✓	✓		✓	✓		✓			✓		✓	✓	✓				✓	✓
Withdrawal from the market of goods produced using misappropriated trade secrets: ordinary action		✓			✓		✓		✓	✓		✓	✓		✓	✓		✓		✓	✓	✓	✓	✓			
Withdrawal from the market of goods produced using misappropriated trade secrets: interim relief		✓			✓				✓	✓		✓	✓		✓			✓				✓	✓	✓			
Damages	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Publication of decisions: ordinary action		✓	✓		✓		✓			✓	✓	✓	✓		✓		✓			✓	✓	✓	✓			✓	✓
Publication of decisions: interim relief		✓										✓			✓												
Restraint measures (e.g. penalty for future breach of the Court's order): ordinary action	✓	✓	✓	✓	✓				✓		✓	✓			✓	✓	✓			✓				✓			
Restraint measures (e.g. penalty for future breach of the Court's order): interim relief		✓		✓	✓				✓		✓	✓			✓		✓							✓			

The above remedies are, in general, all cumulatively available to the trade secret owner, with few exceptions[604]. For example, in Belgium, damages are available but not for cease-and-desist claims brought under the Unfair Competition Act (in the form of expedite action). In Bulgaria, it appears that final injunctions are not available (at least cease-and-desist orders in the strict sense of the word) with damages being the usual final remedy. In Latvia, although potentially available, it is not clear which remedies can effectively be used as there is no case law as to whether remedies provided in the Civil Procedure Code for intellectual property rights apply also to trade secrets (trade secrets are not expressly included among the definition of intellectual property). In Italy damages may only be awarded in ordinary proceedings. In Luxembourg, while injunctions are granted by the President of the Commercial Court, damage claims shall be brought before the District Courts.

(ii) Injunctions (cease and desist orders)

In general, injunctions (cease and desist orders) are available in all EU Member States. In all Member States, injunctions (i.e. cease and desist orders) are usually available also as interim relief remedy (i.e. during preliminary and summary proceedings where the claimant's requests are summarily examined by the court and measures are granted within a very short time limit).

Therefore, there is civil law redress in order to block the commercialisation of goods (or services) which have been manufactured (or designed) using misappropriated trade secrets (so-called "resulting goods/services"). However, this redress varies from Member State to Member State and there is no guarantee that the "resulting goods/services" will be stopped everywhere in the EU. Cease and desist orders against the use of misappropriated trade secrets by third parties (i.e. beyond a contractual relationship) are not always available:

– (i) when trade secrets are protected under unfair competition rules, the trade secret owner needs to sue a competitor but cannot sue a person having the secret with a view to sell it to another third party or to exploit it for other purposes than competing with the original owner of the secret;

– (ii) solutions diverge regarding the possibility to obtain a cease and desist order against negligent third parties or third parties who obtained the misappropriated trade secrets in good faith but before the trade secrets had reached the public domain. In some EU Member States, remedies are potentially available regardless of the recipient's good or bad faith (Austria[605], Czech Republic, Denmark, Estonia, Finland, Germany, Ireland, Latvia, Lithuania and Portugal)[606] and injunctions can be obtained also against a third party who obtained the secret in good faith – however, the third party is likely not to be held liable for damages, unless the use of the secret information continues even after the recipient has been informed of the confidential nature of the information. In others, this is not possible[607]; and

604 Baker & McKenzie (2013), p. 31.

605 In Austria, damage claims are also available in cases of default; accordingly damage compensation could be awarded also in case of the third party's slight negligence.

606 Baker & McKenzie (2013), pp. 27 and 38.

607 For instance, in the United Kingdom a duty of confidentiality may be implied by the circumstances (the duty of confidentiality is easy to identify in case of an employment contract or a non-disclosure agreement, but it could prove to be very difficult to demonstrate where a person has obtained the confidential information in absence of any relationship between the owner and the recipient), but a person who innocently receives a confidential information will not be under a duty of confidentiality until he is made aware the information is confidential.

– (iii) cease and desist orders may be limited in time even if the trade secret has not yet reached the public domain. Belgium[608], Cyprus, Denmark[609], Greece, The Netherlands[610], Poland and Slovenia, which do not allow unlimited injunctions. In Common Law countries, injunctions are equitable remedies and, as such, courts are free to determine terms and duration of the restrictions.

Concerning the situation of employees, the Baker & McKenzie study finds that though in general, whilst employed, employees have a (statutory) duty of loyalty (including non-disclosure and non-compete obligations) towards the employer, a common practice in most jurisdictions is to provide for non-use and non-disclosure, as well as non-compete clauses in contracts of employment[611]. However, the position differs as to what can be done in relation to an ex-employee who uses or discloses secrets after leaving employment. The balance between the interests of the employer and the employee is indeed assessed differently in the relevant countries. In general, post-employment, an employee cannot be prevented from using the skill and knowledge gained during the employment, provided that said knowledge does not consist of trade secrets or confidential information that the employee wilfully memorised or (mis)appropriated with the purpose to misuse them after termination of the employment relationship[612].

(iii) Destruction of the goods produced using the misappropriated trade secrets or the restitution of the misappropriated information

Compared to injunctions, other measures such as the destruction of the goods produced using the misappropriated trade secrets or the restitution of the misappropriated information) are not available everywhere and are available in interim proceedings in certain countries only (see Table A12.1). Since resulting goods are not always destroyed, there is no guarantee for the trade secret owner that such goods will no reappear in the market.

(iv) Damages[613]

Compensation for the prejudice suffered from the misappropriation of a trade secret is available in all jurisdictions[614]. Damages claims are mainly based on tort or contract and only in a few cases

608 In Belgium, courts refuse to grant final injunctions against future trade secrets misappropriation because, contrary to intellectual property rights, trade secret protection can potentially last forever and thus courts are not willing to grant the owner of a trade secret a broader protection than most intellectual property right holders.

609 In Denmark, although depending on a case by case analysis, final injunctions are usually granted for a period of two to three years from termination of the cooperative relationship.

610 In Greece and The Netherlands, injunctions are considered temporary in nature.

611 Baker & McKenzie (2013), p. 39.

612 In Denmark (and similarly in Poland), the statutory non-disclosure and non-use obligations survive termination of the employment contract for a period of three years. In Italy, as in many other European countries, non-compete agreements (or clauses) are commonly used to prevent use or disclosure after the contract of employment ceases, albeit offering more limited restrictions than those which exist during the period of employment (to be enforceable non-compete clauses must generally be limited in time and space, identify the activities which the former employee cannot engage in and provide for a monetary compensation). In Sweden, damages for breach of confidentiality obligations after termination of employment are only available where there are "extraordinary circumstances". In Ireland and the United Kingdom there is a distinction between general (low grade) confidential information that the employee is not entitled to disclose whilst employed but can use and disclose thereafter and “real trade secrets” which he cannot disclose or use without authority at any time. The distinction depends on a number of factors including whether the employer impressed the secrecy of the relevant information upon the employee; and whether the "secret" can be readily isolated from other information which the employee is free to use. Cf. Baker & McKenzie (2013), p. 41.

613 Cf. Baker & McKenzie (2013), p. 35.

specific provisions on damages are included in either the unfair competition laws (see for example Spain) or in the specific provisions applying to trade secret misappropriation (Italy and Sweden).

Damages based on tort cover both accruing damages ("*damnum emergens*") and loss of profits ("*lucrum cessans*"). Loss of profits, however, is in most cases very difficult to prove, since the misappropriated information is an intangible asset[615]. This helps explaining the often low compensation obtained[616]. A claim for unjust enrichment is available in some countries only, such as among others, Belgium, Estonia, Finland, Lithuania and Spain (for further details please see Table A12.2 below). In some other countries (for example, Austria, Germany, Italy, Ireland, Lithuania, Poland, Sweden and the United Kingdom) the claimant has the right to claim the account of profits obtained by the infringer from its wrongdoing. In most of the cases, however, the account of profits is alternative to the loss of profits or is considered a criterion to calculate said loss. In Italy, the owner of trade secrets may claim the restitution of the infringer's profit in addition to the loss of profits to the extent that the infringer's profits exceed the claimant's loss. In Greece, account of profits and unjust enrichment are alternative ways to calculate the loss of profits. Similarly in the Netherlands loss or profits excludes account of profits.

Table A12.2 – Available damages options[617]

	AT	BE	BG	CY	CZ	DE	DK	EE	EL	ES	FI	FR	HU	IE	IT	LT	LU	LV	MT	NL	PL	PT	RO	SE	SI	SK	UK
Accruing damage (*damnum emergens*)	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Loss of revenues (*lucrum cessans*)	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Moral damages			✓						✓			✓	✓		✓					✓		✓	✓			✓	
Punitive damages														✓													✓
Other monetary compensation					✓																✓						

614 In Bulgaria, damage compensation is the sole final remedy available to the owner of a trade secret.

615 According to Baker & McKenzie, the owner of the trade secret often encounters difficulties in in proving damages suffered by virtue of the trade secret violation. In some countries (Austria, Cyprus, Denmark, France, Germany, Republic of Ireland, Sweden and United Kingdom), damages are awarded only if the claimant is able to demonstrate that he had suffered some loss. Other countries (Belgium, Bulgaria, Estonia, Finland, Hungary, Italy, Lithuania, Luxembourg, Malta, The Netherlands and Portugal) allow courts to award damages on an equitable basis - taking into account all the circumstances of the case - if the claimant has not been able to provide sufficient evidence on the amount of damages. Cf. Baker & McKenzie (2013), p. 38.

616 According to Baker & McKenzie, damages vary on a case-by-case basis but the average figures collected during the study "seem not to be particularly encouraging". This study mentions a few cases in Italy and Sweden, where courts awarded high amounts of damages: in Italy, in two cases of trade secrets infringement the Court of Milan awarded damages for EUR 1,100,000.00 and EUR 10,000,000.00, respectively. In Sweden, courts have awarded damages for SEK 7/10,000,000.00 and 48,000,000.00. However, the study reports that these appear to be exceptional cases. Baker & McKenzie (2013), p. 38.
In the Force India Formula One Team Ltd. case, only €25000 were awarded by a UK court to the claimant. The plaintiff had claimed compensation in excess of £13 million (which was based on the assumption that it succeeded in the entirety of its claims for breach of confidence, which it did not). However, the judge did not accept the plaintiff argument that the relevant information was of great value and considered that the misuse of the information was limited in nature, purpose and benefit. As a result, the judge considered that €25000 was the figure the parties would have negotiated had they been in the position of a willing licensor and willing licensee acting reasonable as at the date of the breach of confidence.

617 Baker & McKenzie (2013), p. 29 and information submitted by Member States.

Account of profits	✓			✓	✓	✓		✓	✓		✓		✓	✓	✓	✓		✓		✓	✓			✓			✓
Fair royalty	✓					✓	✓		✓				✓		✓					✓							✓
Unjust enrichment		✓			✓			✓	✓	✓	✓					✓		✓			✓	✓	✓		✓	✓	
Ex aequo et bono global account		✓	✓					✓			✓		✓		✓	✓	✓		✓	✓		✓	✓				
Cumulation of these options		✓	✓		✓		✓		✓	✓	✓			✓	✓		✓	✓	✓	✓			✓	✓	✓		

If damages are claimed on contract, liquidated damages (if provided by the agreement) can also be claimed in addition to damages. Contractual liability, however, is often limited to the damages which were foreseeable at the time of conclusion of the contract.

Many EU Member States[618] do not have specific criteria for the calculation of damages, they apply the general criteria of tort liability (i.e., *damnum emergens and lucrum cessans*). The license analogy has been indicated as a possible criterion for the calculation of damages[619], among EU Member States in Austria, Denmark, Germany, Greece, Hungary, Italy, the Netherlands and the United Kingdom.

618 Belgium, Bulgaria, France, Luxembourg, Malta, Portugal, Romania, Slovak Republic, Slovenia and Spain. Cf. Baker & McKenzie (2013), p. 36.

619 This method of calculation is used regarding infringements of intellectual property rights, pursuant to Article 13(1)(b) of Directive 2004/48/EC. This Article provides for the rules on abstract calculation of damages (i.e. calculated on the basis of royalties which could have been due should a licence have existed) as an alternative to the general *damnum emergens* and *lucrum cessans* criteria.

ANNEX 13 – IMPORTS OF GOODS INFRINGING TRADE SECRETS INTO THE EU

This annex describes the situation as regards the imports of goods into the EU when those goods have been manufactured or produced using misappropriated trade secrets.

Goods infringing intellectual property rights: specific EU rules

Regulation (EC) No 1383/2003 provides for specific customs action in case that goods subject to customs supervision and control are suspected of infringing intellectual property rights[620].

In essence, the customs authorities may, upon their own initiative or upon request of a holder of an intellectual property right, detain or suspend the release of the goods suspected of infringing an intellectual property right and which are under customs controls. Once the suspected goods are detained, the holder of the intellectual property right has the possibility to file a case before a civil court which will decide on the existence (or not) of the infringement.

Goods misusing a trade secret: no EU regime

In the specific case of goods imported from third countries which would have been manufactured or produced using misappropriated trade secrets of EU companies, there is, however, no specific administrative procedure before customs authorities to detain them.

EU Regulation (EC) No 1383/2003 only applies as regards infringements of intellectual property rights and does not extend to claims for the misappropriation of trade secrets. Hence, national customs authorities do not process applications for action against goods suspected of being the result of the misappropriation of trade secrets[621].

The Commission examined in 2011 whether the customs regime applicable to goods suspected of infringing intellectual property rights should also be extended to goods suspected of misappropriating trade secrets[622]. However, it eventually decided not to include the misappropriation of trade secrets in the scope of protection of the proposal for a new Regulation in this area[623].

This regime differs from that in the United States.

> In the United States, it is possible to engage legal proceedings before an administrative body, the US International Trade Commission (ITC), in order to block imported goods manufactured using misappropriated trade secrets[624].

620 Regulation (EC) No 1383/2003 of 22 July 2003 concerning customs action against goods suspected of infringing certain intellectual property rights and the measures to be taken against goods found to have infringed such rights, OJ L 196, 2.8.2003, p.7.
The Commission made a proposal in May 2011 for a new Regulation concerning customs enforcement of intellectual property rights (European Commission (May 2011b)). Negotiations on this text before the European Parliament and the Council are on-going.

621 Unless of course the claim encompasses both the infringement of an intellectual property right (e.g. a patent) and the misappropriation of a trade secret (e.g. associated know-how) by the same good.

622 See the impact assessment accompanying the proposal: European Commission Staff (May 2011), in particular p. 13 and p.16

623 See European Commission (May 2011b), in particular the definitions of "*intellectual property right*" and of "*goods suspected of infringing an intellectual property right*" in points (1) and (7) of Article 2.

624 See generally http://www.usitc.gov/intellectual_property/

Section 337 of the Tariffs Act[625] gives power to the US ITC to deal with claims involving infringements of intellectual property rights but also other forms of unfair competition involving imported products, such as misappropriation of trade secrets. The US ITC has investigative powers. The procedure includes trial proceedings before administrative law judges and review by the US ITC. In terms of remedies, the primary remedy available in Section 337 investigations is an exclusion order that directs US Customs to stop infringing goods from entering the US. In addition, the US ITC may issue cease and desist orders against named importers and other persons engaged in unfair acts that violate Section 337 of the Tariffs Act.

In practice, in order to block goods imported from third countries which would have been manufactured or produced using misappropriated trade secrets of EU companies, the EU holder of the trade secrets in question would need to:

- (1) file a case before a national court against the person who would allegedly be misusing the trade secret requesting the court to: declare that the trade secret had been misappropriated; order such person not to continue using the trade secret in question ("cease and desist" order/injunction); and order the seizure and destruction of the goods; and
- (2) (if the national court upholds his claim) have the cease and desist order enforced by customs authorities, so that the misappropriator is prevented from importing the goods in question; and have the seizure and destruction order enforced by customs authorities, provided that they have detain such goods under their control.

Compared to proceedings for infringements of formal intellectual property rights, there is an inversion of the burden of proof in so far as the holder of the trade secret needs to demonstrate that the trade secret has been misappropriated before customs authorities can take action.

Particular difficulties appear, compared to proceedings for infringements of formal intellectual property rights:

– Firstly, proceedings on the misappropriation of trade secrets concerns primarily the conduct of another person in obtaining (and subsequently using) the information covered by a trade secret. Without the misappropriation of the trade secret having been previously declared by a court, any suspected goods would not violate any trade secret: independent discovery of the relevant information or reverse engineering of a lawfully acquire good to learn about such information is always possible. This means that the trade secret holder would need to engage proceedings against any importer of litigious goods independently and to prove the unlawful appropriation of the trade secret by each of them. Bad faith misappropriators may take advantage of this and use strawmen as importers so as to make legal action more difficult.

– Secondly, in theory, since the possibility to seize goods imported from third countries at EU borders (when the imported goods have been produced using misappropriated trade secrets) depends on a previous court decision, misappropriators could take advantage of the national differences to import the goods through the EU Member States with weaker protection.

625 For the text of Section 337 of the Tariffs Act, see: http://www.usitc.gov/intellectual_property/documents/statute.pdf

ANNEX 14 – LEGAL DIFFERENCES IN NATIONAL LAW: CRIMINAL LAW[626]

A14.1. Offences: conducts considered as crimes

(i) Unauthorised disclosure/use of trade secrets (trade secrets infringement)

As explained in Annex 9, many Member States have established criminal provision regarding trade secrets infringements, whether in a special law, in the criminal codes or in other laws (e.g. unfair competition). Several Member States (Austria, Cyprus, the Czech Republic, Denmark, Finland, France, Germany, Greece, Portugal, Romania, Spain and Sweden) provide for an extensive criminal framework specifically devoted to trade secrets violations, including against disclosure, misappropriation, use or other infringement. Criminal penalties for trade secrets protection are set forth also under unfair competition law in Austria, Cyprus, the Czech Republic, Denmark, Germany, Greece, Poland and Romania[627].

Member States' common legal basis to punish trade secrets infringement with criminal sanctions lays in the protection of the following legitimate interests: protection of the owner's right to exploit the confidential information and to gain, as a result, an advantage over competitors, the company's "right to privacy", and the proper functioning of the market[628].

However, the extent to which violations of trade secrets are criminalised under national law depends on the various definitions of trade secret (or confidential business information) in place. The following elements need to be highlighted:

- There is no common definition of trade secret in criminal law, so the scope of the actual protection afforded by criminal law varies to a significant degree from Member States to Member States[629].
- A few legal systems provide a definition of trade secrets in criminal law. In the absence thereof, courts have developed certain standards to set out the scope of the criminal protection relating to trade secrets. In particular, the concept of trade secret is deemed to refer to any information that: concerns the business of the owner/company (i.e., qualifies as a business/professional secret); confers to the owner a competitive advantage (that the owner has a legitimate economic interest to exploit), so that the disclosure may cause to him damage in terms of financial loss; is known/disclosed to a limited group of people only[630]; and whose confidentiality is protected through proper measures[631]. The definition of trade secrets would cover an extensive range of items, except for Cyprus, Denmark, Estonia, Latvia and Portugal[632].

626 See generally Baker & McKenzie (2013), p. 55 and seq.
627 Baker & McKenzie (2013), p.7.
628 Baker & McKenzie (2013), p. 8.
629 Baker & McKenzie (2013), p.56.
630 In many jurisdictions, the confidential information whose disclosure entails a violation of a trade secret is often defined by reference to any information that a manager, director or employee has known by reason of his employment with the company that is the owner of the secret. Baker & McKenzie (2013), p.56
631 Baker & McKenzie (2013), p.56.
632 Baker & McKenzie (2013), p.73. Bulgaria, Ireland, Malta and the United Kingdom do not have address trade secrets infringements in criminal law.

- In general, criminal provisions on trade secrets violation do not pose as a prerequisite that the owner had specifically identified the information as confidential. In all Member States application of criminal protection is afforded subject to an objective test i.e. the secret information must be such that the owner has a reasonable and objective interest to exploit in an exclusive way in order to gain a competitive advantage in the relevant market [633] .Nonetheless, in some cases the relevant protection is afforded to any information having economic value that the owner deems it opportune for his benefit to keep secret according to a subjective criterion and that are subject to reasonable measures for protection of confidentiality (e.g. this broader interpretation seems to be prevailing in Czech Republic, Finland, Greece, Poland, Romania and Slovenia)[634].

However, the lack of more specific criteria than those reported above (, i.e., disclosure to a limited group of individuals only, economic value, protection through proper measures) may give rise to some problems from a criminal law point of view, as the conduct subject to prohibition may be found to be not completely defined and, accordingly, the border between legal and illegal activities may remain uncertain in some cases[635].

Box A14.1 describes the characteristics of the conduct. Almost all Member States[636] require that the offender acted with intent. Therefore, it emerges that whoever commits a trade secrets infringement must have clearly the knowledge that the business information constituted trade secrets, even if there is no express obligation to keep such information confidential.

Box A14.1 – Characteristics of the conduct[637]

- In Austria the offender to be held criminally liable for trade secrets violations must have acted at least with conditional intent.
- Cyprus does not establish any specific requirement that the offender must meet to be charged with criminal liability for trade secret violations. Nor is there any stated obligation on the company to keep information confidential.
- In the Czech Republic the offender must act deliberately to commit the offence. As the relevant conduct is defined as an act of unfair competition, the offender must qualify as a competitor or someone participating in the competitive process. The concept of competition has nevertheless been construed very broadly, including even indirect or potential competitors.
- In Denmark the offences provided for under the Criminal Code require intent. Only under certain circumstances if the employee causes a substantial risk of dissemination of confidential information by negligence he or she may be charged with criminal liability pursuant to Section 19 of the Marketing Practices Act.
- Finland requires that the infringer acts intentionally and in order to obtain financial benefit for himself or herself or another, or to injure another, unlawfully discloses the business secret of another or unlawfully utilises such a business secret.
- Germany partly requires that the infringer acts with intent and, specifically, for the purpose of competition, for personal gain, for benefit of a third party or causing damage to the owner of the secret. Pursuant to sec. 85 of the Limited Liability Company Act (GmbHG), any person who reveals a secret of the company without authorization, particularly an operational or

633 Baker & McKenzie (2013), p.8. The following Member States limit the scope of trade secrets to the information that a company has a reasonable and objective interest to keep confidential, in accordance with an objective criterion: Austria, Belgium, France, Germany, Hungary, Italy, Lithuania, Luxembourg, Netherlands, Slovakia, Spain and Sweden. Baker & McKenzie (2013), p.73.

634 Baker & McKenzie (2013), p.73.

635 Baker & McKenzie (2013), p.73.

636 In Belgium and Estonia the conduct may be punished even if the offender acted with negligence. Baker & McKenzie (2013), p.57.

637 Baker & McKenzie (2013), p.57.

business secret, that became known to him in his capacity as managing director, member of the supervisory board or liquidator shall be subject to imprisonment for a period of up to one year or a fine. Indirect intention (*dolus eventualis*) is sufficient for such act.

- In Greece the offender must act (with intent) for purpose of competition, that means that two criteria have to be met: (i) the conduct of the offender must be suitable to serve the purpose of competition; (ii) he or she must act with the "intention of competition", i.e. enhance his or third parties' competitiveness.
- As to Hungary and Italy, the offender may be punished only if he or she acts with intent.
- In Latvia the employer is obliged to identify in writing the information considered to be commercial secrets. In any case, intent is required for the offence to occur.
- Lithuania requires that the offender, in case of business espionage, acted with the intent to unlawfully obtain a trade secret, whereas, in the case of violation of trade secrets, major property damage to the victim is required.
- In Luxembourg, Netherlands and Portugal the offender must act with the intent to reach a competitive advantage or to cause harm to the owner.
- Also Poland requires intent, as the offender must breach an obligation of confidentiality that must be prior established by the owner of the secret, either directly or indirectly.
- Under Romanian and Slovak law the offender must act with intent, but no specific purpose is required.
- Spain also requires intent and a specific purpose which varies depending on the type of offence considered (for instance, commercial advantage).
- The Swedish Act on the Protection of Trade Secret does not pose any requirement as to the purpose that the offender acts for. It only requires that he acted wilfully and without authorization.

(ii) Related offences[638]

Regardless of the existence of rules dedicated to trade secrets infringement, the conduct of the offender may also fall under the remit of other offences (see Box A14.2). However, "*application of general offences may not fit specifically to trade secrets protection and may result less effective*"[639].

Box A14.2 – Related offences

In Belgium a person who commits the offence under Section 309 of Criminal Code (unauthorized disclosure of trade secrets) may also be charged with theft or misappropriation (provided that he qualifies as an employee with the company). Similarly, Section 491 applies when a person who is entrusted as a data processor/handler manufacturing secrets that are physically stored breaches his duty of confidence.

In Bulgaria, for instance, the offence of business bribery is punishable and applicable to any individual who discloses to third parties information that he knows in return for something.

In France there is a wide range of crimes that may arise in connection to trade secrets violations:

- First, the offence of theft may occur when the conduct at stake consists in the fraudulent appropriation of third parties' data carriers containing confidential information. Such an offence has been found by the *Cour de cassation* to apply even in connection to disclosure of trade secrets. Theft is punished by imprisonment up to three years and a fine of Euro 45,000.00.
- Additionally, the offence of breach of trust may be committed where an individual with the company misappropriates documents containing confidential information entrusted to him for temporary use. In such a case, the offender shall be punished by imprisonment up to three years or a fine of Euro 375,000.00.

638 Baker & McKenzie (2013), p. 59.
639 Baker & McKenzie (2013), p.8.

– Also, other provisions of the Criminal Code punish the act of supplying secret information to foreign powers by imprisonment up to fifteen years and a fine of Euro 225,000.00.

In Germany cases of industrial espionage may result in theft or misappropriation.

In Greece the infringement of trade secret may constitute, among other offences, a breach of trust under Section 390 of the Criminal Code. In such a case, the offender shall be punished by imprisonment up to ten years and a fine up to Euro 15,000.00.

Depending on the circumstances, violations of trade secrets may result, further to civil lawsuits, in a number of offences, including but not limited to insider trading, unauthorized access to computer systems and a breach of privacy.

As to Italy, the conduct of the offender who commits an unauthorized use or disclosure of trade secrets may also constitute theft or misappropriation.

In Latvia acts of unauthorized disclosure or acquisition of trade secrets may constitute unfair competition practices where repeated within a one-year period and, thus, result in a punishment by imprisonment of up to two years and a fine, in addition to disqualification penalties.

Violations of trade secrets may constitute fraud or bribery in Lithuania or theft in Luxembourg. In the Netherlands the conducts may also result in the theft of secret documents or hacking of computer systems. In Portugal the related offences include computer and communications fraud. Slovakia, in addition to breach of trade secrets, criminalizes the misuse of participation in economic competition through unfair acts.

In Slovenia the same act may be punished under the crime of "disclosure of and unauthorized access to trade secrets" as well as, for instance, the offence of abuse of insider information. Spain provides an extensive regulation of trade secrets infringements: however, pursuant to Section 278.3 of the Criminal Code the specific provisions apply without prejudice to the penalties that may arise for appropriating or destroying the computer media, i.e. for the offences of theft or misappropriation.

In Sweden, further to the offences provided for under the act on the Protection of Trade Secrets, other criminal provisions may apply, including unauthorized access to computer systems, unlawful dispossession, unlawful use, espionage, unlawful dealing with secret information and negligent dealing with confidential information.

Offences in any way related to trade secrets violations have significant importance in the legal systems that do not establish any specific provision in this respect[640]:

– In Bulgaria violations of trade secrets may be punished only indirectly. The relevant offences in this respect include the disclosure of service/office secrets, the business bribe and computer crimes.

– Under Irish law, for instance, trade secrets infringements may result in: (i) disclosure of personal data obtained without authority; (ii) unauthorised accessing of data; (iii) unlawful use of a computer; (iv) theft or (v) criminal infringements of intellectual property rights.

– Under Maltese criminal law, in the absence of provisions specifically concerning trade secrets, one could be charged with misappropriation and fraudulent gains as a result of his conduct[641].

640 Baker & McKenzie (2013), p. 60.

641 The offence of misappropriation is catered for under Article 293 of the Criminal Code, under the subtitle of Fraud as well as a number of articles concerning the offence of fraud. Thus by way of example if someone makes use of trade secrets with the intent of gaining an economic benefit, then depending on the nature of the offence itself, such person would be charged with the offence of fraud under Articles 308, 309 and 310 and this since there was an economic benefit as well as with the offence of misappropriation and that of disclosing secret information. Indeed, the offences mentioned under the subtitle of Fraud and under subtitle 10 'Disclosing of secret information' of the Criminal Code will be taken into consideration

– In the U.K. the criminal provisions that may apply in connection to trade secrets infringement cases include theft, fraud, conspiracy to defraud as well as, upon certain circumstances, some of the offences provided for under the Computer Misuse Act (such as unauthorized access to information contained on a computer) and the Data Protection Act (although it is very unlikely that personal data qualify as trade secrets).

In Belgium, Bulgaria, Cyprus, France, Germany, Greece, Hungary, Italy, the Netherlands, Portugal and Romania certain criminal provisions also punish infringements of specific categories of secrets, e.g. office secrets that are connected to the specific qualification of the offender or to the nature of the information that is covered by secrecy. Even though such offences do not directly refer to trade secrets, they are part of a wider legal framework applicable under certain circumstances.

(iii) Qualified offences[642]

Certain Member States also establish qualified offences when the revelation or use of confidential information is committed by a person acting in a particular capacity (e.g., as civil servant, public official, or as person handling confidential information by reason of his job, e.g. lawyers, officers). This does not mean that for each of the offences a specific provision is established. Separate provisions may have been implemented (e.g. Italy) or, like in Estonia, the same provision may apply to professional and official secrets, also covering trade secrets[643]. See Table A14.1:

Table A14.1 – Qualified offences

	AT	BE	BG	CY	CZ	DE	DK	EE	EL	ES	FI	FR	HU	IE	IT	LT	LU	LV	MT	NL	PL	PT	RO	SE	SI	SK	UK
Breach of professional secrecy	✓	✓		✓		✓		✓	✓			✓	✓		✓				✓	✓		✓	✓	✓	✓	✓	
Breach of official secret	✓		✓	✓		✓		✓	✓		✓	✓	✓		✓				✓			✓	✓				
Other breach of confidence						✓			✓				✓														
Separate provisions	Y	Y	N	N	N/A		N/A	N	N		Y	N	Y	Y	N				N/A	N		Y	Y			N	

(iv) Threshold for the applicability of criminal penalties[644]

In the Czech Republic only violations resulting in a damage of at least Euro 2,000.00 may give rise to criminal liability. The offender must cause harm to a competitor or a consumer equivalent to such an amount or provide someone else than the owner of the secret with a benefit of the same amount. The offender does not necessarily need to be a legal person or an enterprise.

A *de minimis* threshold for the disclosure of a trade secret applies in Lithuania, where for the offender to be prosecuted it is required that the conduct caused a damage of at least EUR 5,648.00. However, the threshold does not apply to commercial espionage.

642 Baker & McKenzie (2013), p. 70.

643 In DE, there are special regulations for special professions/capacities, such as section 333 of the German Commercial Code (Handelsgesetzbuch - HGB) and section 203 of the German Criminal Code (Strafgesetzbuch - StGB)

644 Baker & McKenzie (2013), p. 68.

Something like a *de minimis* threshold is established in Poland, where the conduct must have caused substantial damage to the owner, although no quantification of this concept is provided for in the law.

Slovakia establishes that for the offender to be prosecuted a significant damage (more than EUR 26,600.00) must be caused by his conduct to another competitor. It also provides for a more severe penalty in cases where the conduct causes a large scale damage (over EUR 133,000.00).

Also under Estonian criminal law a general safe harbour clause applies, preventing prosecution in case the offence is found to be of minor harm.

In Austria the offender will not be prosecuted if his conduct is justified by a compelling public or private interest.

No safe harbour seems to exist in Latvia and Sweden. In Cyprus disclosure of trade secrets is allowed, for instance, when protection of health and safety of citizens is affected, i.e. where compelling public interests are at stake or to prove the violations of statutory provisions.

Similarly, no safe harbour or *de minimis* threshold applies in Denmark, Finland, Italy, Luxembourg, Slovenia. Germany does not provide for any safe harbour; however, disclosure of trade secrets is justified when committed to avert an imminent danger to life, limb, freedom, honour, property or other prevailing legal interests. In Greece trade secrets are not protected in case a witness is examined to represent certain circumstances before the Court, excluding state secrets. In Hungary Section 300(2) of Criminal Code expressly sets forth some safe harbours that justify infringement of trade secrets. These clauses include:

- (i) fulfilment of duties prescribed in a separate act governing the publication of information and information to be disclosed in the public interest;
- (ii) fulfilment of duties subject to statutory reporting obligations, even in the case the report was filed in good faith and proved to be unfounded.

In the Netherlands a specific provision sets out an exemption for those who disclosed in good faith a trade secret assuming that the disclosure was in the public interest. Portugal and Romania consider the consent of the owner to the disclosure of a secret as a safe harbour clause. In addition to that, Romanian law permits the disclosure of trade secrets where compelling public interests are at stake. Spain does not consider information about illegal activities carried out by the owner to be a trade secret: therefore, its revelation would not determine any prosecution.

Generally speaking, the risk of dissemination of confidential information does not amount to a criminal offence (except for Slovakia, Slovenia). The conduct carried out by the infringer must result in an actual violation of the interest protected under the relevant provisions. In contrast, most legal systems (including Austria, Belgium, Czech Republic, Denmark, Finland, France, Germany, Greece, Italy, Latvia, Lithuania, Slovakia, Slovenia) provide criminal protection against the intent to commit a trade secret violation. The acts carried out with the purpose of disclosing or using confidential business information which reach a certain threshold in the realisation of the offence are likely to trigger criminal liability.

A14.2. Penalties[645]

The conducts which normally give rise to violations of trade secrets include the access to confidential information, the use or the disclosure thereof or the illicit acquisition for exploitation by the offender or third parties. These conducts are generally punished regardless of the fact that the offender qualifies as a competitor and may be committed either by (past) employees of the company or by external persons (such as consultants, contractors, agents).

It is quite frequent, however, that the violation of trade secrets committed by an employee of the company owning the confidential business information results in a more severe punishment than that provided for the same offence in other cases (i.e., in Belgium, Greece and Spain).

Table A14.2 below provides a summary of the main conducts concerning trade secrets violation and the related punishment provided for under the legal systems.

Table A14.2 – Criminal penalties applying to trade secrets misappropriation

Country	*Offender*	*Conduct*	*Penalties*
Austria	Whoever	Disclosure or exploitation of trade or business secrets	Up to six months imprisonment; up to one year if the conduct is committed with the purpose to obtain a pecuniary advantage or to cause harm to the owner or monetary penalties
		Spying out trade or business secrets for their exploitation by somebody else or disclosure	Up to two years imprisonment OR monetary penalties
		Spying out trade or business secrets for their exploitation abroad	Up to three years imprisonment AND monetary penalties
Belgium	Whoever	Communicating in bad faith manufacturing secrets appropriated during the (past) employment with the owner	From three months up to three years imprisonment AND monetary fine from Euro 50 to 2,000.00
Bulgaria		*There is no specific criminal provision concerning violation of trade secrets. However, depending on the characteristics of the conduct, the offender may be charged with more general offences, such as business bribe or computer crimes*	
Cyprus	Whoever	Disclosure of trade secrets	Imprisonment up to one year OR monetary fine up to Euro 1,275.00
		Disclosure of information protected by professional secrecy involving trade secrets	Imprisonment up to six months AND/OR monetary fine up to Euro 1,700.00
Czech Republic	Whoever	Acts of unfair competition infringing trade secrets and causing damage in or in excess of Euro 2,000.00 to other competitors/consumers or providing someone with unjustified benefit in the same or greater amount	Monetary fine up to Euro 1.5 Million*
Denmark	Whoever	Unauthorized misuse or appropriation of trade secrets	Imprisonment up to 1 year and 6 months OR monetary fine
		Serious violations such as appropriation of trade secrets in a contract of service or in the performance of assignments	Imprisonment up to six years
Estonia	Whoever	Unauthorized disclosure or use of business secret learned by reason of the professional or official duties with the purpose of causing damage	Imprisonment up to one year OR monetary fine
Finland	Whoever	Violation of a business secret: disclosure or use of trade secrets known by reason of the employment, position or other lawful activities to obtain financial benefit or to injure the owner	Imprisonment up to two years OR monetary fine
		Misuse of trade secrets obtained or revealed through an	Imprisonment up to two years OR

645 Baker & McKenzie (2013), p. 61.

		unlawful act	monetary fine
		Business espionage: Unlawfully obtaining information regarding trade secrets	Imprisonment up to two years OR monetary fine
France	Whoever	Revelation of manufacturing secrets (only employees or directors)	Imprisonment up to two years AND monetary fine of Euro 30,000.00
		Theft (for instance, of carriers or materials containing trade secrets), breach of trust	Imprisonment up to three years AND monetary fine of Euro 375,000.00
Germany	Employees	Unauthorized communication of trade or business secrets that the offender was granted access to for the purpose of obtaining financial advantage or injuring the owner	Imprisonment up to three years OR monetary fine. Imprisonment up to five years if aggravating circumstances occur
	Whoever	Unauthorized acquiring or securing trade or business secrets or using thereof	Imprisonment up to three years OR monetary fine. Imprisonment up to five years if aggravating circumstances occur
Greece	Whoever	Copying, printing, using, disclosing or in any way violating data or computer programs constituting secrets of an enterprise	Imprisonment from three months up to one year. Imprisonment from one year to five years if the offender is in the service of the owner and the secrets are of great financial significance
	Employees	Unauthorized communication to third parties of secrets that the offender has known by reason of his employment to obtain financial advantage or to cause a damage to the owner; Unauthorized use of the information so obtained	Imprisonment up to six months AND monetary fine up to Euro 8.80
Hungary	Whoever	Illegally obtaining, using, communicating or publishing trade secrets for financial gain or causing pecuniary disadvantage to others	Imprisonment up to three years
Ireland	*Not applicable*		
Italy	Whoever	Disclosure or use of any information concerning scientific discoveries or inventions or industrial applications that is intended to remain secret known by the offender by reason of his status, function, job or art, to obtain a profit	Imprisonment up to two years
Latvia	Whoever	Revelation of non-disclosable information other than a state secret; Unauthorized acquisition and disclosure of commercial secrets	Imprisonment up to five years OR monetary fine
Lithuania	Whoever	Unlawful acquisition of commercial secrets or communication to third persons; Disclosure of information that the offender was entrusted with by reason of his employment	Imprisonment up to two years or fine (up to 18 825 euro) or restriction of liberty or community service.
Luxembourg	Employees	Use or disclosure, during the employment or within two years after its expiration, trade or manufacturing secrets known by reason of the job to obtain financial advantage or to cause damage to the owner	Imprisonment from three months to three years AND monetary fine from Euro 251 to 12,500.00
Malta		There is no specific criminal provision concerning violation of trade secrets. However, depending on the characteristics of the conduct, the offender may be charged with more general offences, such as fraud.	
	A person in a particular capacity	Fraud: misappropriation or disclosure of information by which is derived an economic benefit	Imprisonment up to 2 years AND/OR monetary fine up to EUR 46,587.47
Netherlands	Employee	Intentional disclosure of confidential information that may harm the owner	Imprisonment up to six months AND/OR monetary fine up to Euro 19,500.00
Poland	Whoever	Disclosure or exploitation of trade secret in breach of confidential duties that causes substantial damage to the owner; Use of information illegally acquired or disclosure to third persons	Fine (up to Euro 260,000.00*), restriction of liberty or imprisonment up to two years.
Portugal	Whoever	Use or disclosure to third parties of secrets that the offender knows by reason of his status, job, profession	Monetary fine (administrative offence)

		or art	
Romania	Whoever	Disclosure, acquisition or use of trade secrets without the consent of the owner, as a result of an action of commercial or industrial espionage	Imprisonment from six months up to two years OR monetary fine from Euro 570 to 5,000.00*
		Disclosure of data or information not intended to be publicly known by a person who knows it by reason of his employment, provided that the offence is likely to cause damages	Imprisonment from two up to seven years; Imprisonment from six months to five years if the disclosure is made by another person
Slovakia	Whoever	Spying out trade secrets with the intention to disclose them to unauthorized persons	Imprisonment from six months up to three years; Imprisonment from seven to twelve years if aggravating circumstances occur
Slovenia	Whoever	Disclosure of trade secrets; Providing unauthorized third parties with access to trade secrets; Collection of trade secrets with the purpose of delivering them to unauthorized persons; Unlawful obtainment of trade secrets with the purpose of delivering them to unauthorized persons	Imprisonment up to three years; Imprisonment up to five years if the information is of particular importance
Spain	Whoever	Acquiring data, documents, media and other objects to discover trade secrets; Disclosure, revelation or communication to third parties of the discovered information	Imprisonment from two up to four years AND monetary fine; Imprisonment from three to five years AND monetary fine in case the secrets are disclosed
		Diffusion, disclosure or communication of trade secrets in breach of duties of confidentiality	Imprisonment from two up to four years AND monetary fine, in case the information is disclosed in breach of confidentiality
Sweden	Whoever	Unauthorized access of trade secrets as business espionage	Imprisonment up to two years OR monetary fine; Imprisonment up to six years in case of information of significant importance
		Acquiring trade secrets knowing that the person who made it available accessed the trade secret through acts of business espionage	Imprisonment up to two years OR monetary fine; Imprisonment up to four years in case of information of significant importance
U.K.	*Not applicable*		
* Monetary penalties are expressed in local currency and converted to Euro for the reader's convenience			

Generally, punishment of the offender is by imprisonment, even though he or she may also be charged, either in addition to that or alternatively, with monetary penalties: see Table A14.3 with penalties that shall apply for the main offence (for instance, unauthorized disclosure/use of trade secrets).

Table A14.3 – Penalties[646]

	AT	BE	BG	CY	CZ	DE	DK	EE	EL	ES	FI	FR	HU	IE	IT	LT	LU	LV	MT	NL	PL	PT	RO	SE	SI	SK	UK
Imprisonment OR monetary penalties	✓			✓	✓	✓	✓	✓		✓	✓					✓		✓		✓			✓	✓			
Imprisonment AND monetary penalties		✓							✓	✓		✓					✓			✓	✓						
Imprisonment ONLY													✓		✓										✓	✓	
Monetary penalties ONLY																						✓					

Hungary, Italy, Slovakia and Slovenia only provide for the imprisonment of the offender.

646 Baker & McKenzie (2013), p. 67 and information provided by national authorities.

In most of the Member States trade secrets infringements are punished with imprisonment up to a term of two-three years. There are a few exceptions: in Denmark the offender may be charged with up to six years imprisonment, provided that serious violations have taken place; in Slovenia imprisonment may be up to five years when the acts carried out by the offender concerns information of particular importance. Under the Swedish Act on the Protection of Trade Secrets, terms of imprisonment of up to six years are foreseen for cases of business espionage and up to four years for the unlawful acquisition of trade secrets of significant importance.

With respect to the extent of punishment, the Czech Republic is the state where the heaviest fines apply: under Czech law, the infringer may be punished with a fine up to 1.5 Million Euro (in the Czech Republic, the infringer shall be punished with to up 3 years imprisonment, the mentioned statutory fine or forfeiture of property).

A14.3. Litigation and enforcement[647]

Criminal court proceedings present a certain degree of consistency in Member States, in line with the more uniform legal background existing in criminal procedure. However, differences exist for trade secrets misappropriation: proceedings can be initiated *ex officio* by the public prosecutor in Belgium, Bulgaria, the Czech Republic, Cyprus, Estonia, France, Hungary, Lithuania, Slovakia, Slovenia and Sweden; while in others commencement of criminal proceeding is *ex parte* by the aggrieved person e.g. Austria, Denmark, Finland, Germany, Greece, Italy, the Netherlands, Poland, Portugal, Romania and Spain.

In certain cases, if the public prosecutor dismisses the case, private prosecution may be pursued. Differences among Member States are minimal. Czech Republic, Lithuania, Poland and Slovakia provide for thresholds on the damages caused as a condition for criminal prosecution.

Generally (except for Austria, Cyprus, Germany, Slovenia), claims for compensation may be filed within criminal proceedings. In any cases, the aggrieved party or the person harmed by the offence may nevertheless separately file a civil lawsuit for recovery of damages suffered as a consequence of the offence.

When a trial is commenced, reportedly the public prosecutor is not subject to special requirements regarding the type of evidence brought before the Court to prove the offence. In some jurisdictions (Cyprus, Finland, Italy, Lithuania, Malta, Sweden and the UK), general principles of criminal procedure require the prosecutor to bring evidence to the Court that the offender committed a trade secret violation "beyond any reasonable doubt". It is for the prosecutor to provide evidence to demonstrate that an offence occurred. According to Baker & McKenzie, "*[t]his may be considered the main reason why criminal jurisdiction is not frequently activated in many countries, since it is seen as a hazardous way of protection, because of the high standard of proof required*."[648]

Thus, injunctions and orders to seize or search are widely available to the prosecutor in the course of the proceedings, except that precautionary measures are not available in Austria, Latvia and Romania. Only a few jurisdictions (Bulgaria, Greece, Poland, Portugal and Slovakia) provide the aggrieved person with the power to apply for an *ex parte* order in this respect, as criminal proceedings are generally understood as a matter of public policy where the participation of individuals is limited.

647 Baker & McKenzie (2013), pp. 8 and 75.
648 Baker & McKenzie (2013), p. 77.

ANNEX 15 – LEGAL DIFFERENCES IN NATIONAL LAW: PROCEDURAL RULES BEFORE NATIONAL COURTS ON THE PROTECTION OF TRADE SECRETS DURING LEGAL PROCEEDINGS

Introduction

In principle, there is tension between, on the one hand, the principle that the truth should be revealed as much as possible in litigation and, on the other hand, the desire not to disclose particular information during legal proceedings[649].

This tension appears prominently in the case of litigation concerning the misappropriation of a trade secret. Secrecy of information is often at risk during legal proceedings, whether of civil or criminal nature. At the same time, national procedural rules are not always adapted for the preservation of the secrecy of information during or after litigation concerning the misappropriation of trade secrets. It has also been observed that the way in which trade secrets are preserved in litigation practice is very much judge-made law and differs from country to country[650].

Thus, trade secrets may end up being disclosed to the other party or to the public and this fact will have a chilling effect on litigating to seek redress in case of misappropriation of trade secrets, in particular in cross-border scenarios. Hogan Lovells (2012) identified this issue as a problem in the following terms (as regards Belgium)[651]:

> "*Although laws are in place to protect trade secrets, plaintiffs in Belgium face serious problems in enforcement. The plaintiff must usually describe his trade secret in his pleadings and can be forced by the court to file documents describing the trade secret. Court hearings (and decisions) are public, again leading to possible further disclosure of the trade secret. The court must also describe the trade secret in its judgment when it issues a cease and desist order (injunction). Although the court can decide that some confidential information should not be disclosed in the decision in order to limit public disclosure[22], this is not the usual practice and cannot be relied upon. The enforcement system in Belgium does appear to work against the interests of the holder of a trade secret and may discourage litigation. Preventing further disclosure of the trade secret is usually the plaintiff's main aim in litigation as damages may not be an adequate remedy. A system which requires further disclosure of the trade secret to bring a successful claim cannot be attractive to most plaintiffs.*
>
> [22] *See, for example, Brussels Court of Appeal, 20 June 2008, ICIP 2008, p.566 where the serotypes of GSK's vaccine were blanked out.*"

The Baker & McKenzie study also outlined that "*the main factor that hinders enforcement of trade secrets in Court derives from the lack of adequate measures to avoid trade secrets leakage in legal proceedings*"[652] It goes by saying that "*the lack of effective measures for the protection of trade secrets during court proceedings, with the consequent risk of losing control over trade secrets, makes recourse to legal actions often unappealing for trade secrets owners.*"[653]

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649 Gielen (2009), p. 391.

650 Gielen (2009), p. 400.

651 Hogan Lovells (2012), §57 regarding Belgium, at p.12.

652 Baker & McKenzie (2013), p. 6.

653 Baker & McKenzie (2013), p. 35. According to this study, in the 2012 Industry Survey, the fear of losing control of trade secrets in the course of Court proceedings has been reported in particular by firms operating in the pharmaceutical, automotive, IT and chemical sectors. These are also the

This Annex will present the risks to the preservation of secrecy when litigating to defend a trade secret and the existing safeguards in procedural rules. It will focus on civil litigation rather than criminal litigation. Three main situations will be addressed as regards civil litigation: (1) the filing of the application; (2) the production of evidence; and (3) the publicity of judicial proceedings. Figure A15.1 summarises how the litigation rules affect the problems described in Section 2.2.3 of this Impact Assessment.

Figure A15.1 – Summary of how litigation rules affect the problems described in Section 2.2.3

industries where companies appear more sensitive and reactive to trade secret misappropriation. *Ibid*, p. 6.

(1) Filing of the application.

The risk

When initiating a civil case for the misappropriation of a trade secret, the plaintiff will file an application describing the facts (i.e. the misappropriation), the consequences thereof (e.g. the prejudice suffered) and the requested measures (e.g. a request for an injunction, the award of damages etc.). This application is served to the defendant (i.e. the alleged misappropriator). It must be sufficiently detailed for the alleged misappropriator to defend his position and for the judge to understand the case.

As explained by Baker and McKenzie, "*[t]his issue is key, because typically the plaintiff must substantiate its claims by disclosing the allegedly infringed trade secret*"[654] The plaintiff will most likely need to describe in the application what the trade secret at stake is about, so as to be in a position to claim that the misappropriation took place. Depending of the circumstances, the plaintiff will have a certain margin of manoeuvre as to the extent of detail of the information to be disclosed. In any case, this choice is not without consequences: on the one hand, if the plaintiff chooses to disclose minimal information about the trade secret, he runs the risk to weaken his case; on the other hand, if the plaintiff chooses to disclose a great detail of information about the trade secret, he runs the risk to disclose to the defendant more confidential information than was actually misappropriated (in particular in those cases where the plaintiff does not know the extent of the information misappropriated by the defendant) and would be needed to sustain his case.

Existing safeguards

Courts could require the plaintiff to submit additional evidence (see next point) and safeguards to preserve the confidentiality of the trade secret would apply in that context.

(2) Production of evidence.

The risk

In case of civil litigation on the misappropriation of trade secrets, the national rules on the production of evidence applicable to civil proceedings would apply: in common law countries, the disclosure rules; in continental countries, each party may ask for certain documents/evidence to be presented by the other party when such evidence lies in the control of that party. These rules apply both to plaintiff and defendant.

The application of those rules could imply the need to disclose trade secrets to the other party, either by the plaintiff or by the defendant. In particular, the judge may require the plaintiff to describe in detail the trade secret at stake, if necessary to prove its misappropriation. As seen above, this may deter the plaintiff from undertaking any legal action in the first place. But since those rules play both ways, bad faith plaintiffs could also try this way to obtain trade secrets from defendants (including fishing expeditions), therefore abusing the litigation rules[655].

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654 Baker & McKenzie (2013), p. 6.

655 For instance, by reference to French law: "*Le contentieux peut être aussi une menace, lorsqu'il est utilisé à des fins détournées par un concurrent. Il est fréquent que des plaintes abusives soient déposées, en arguant par exemple d'une soi-disant contrefaçon ou en dénonçant une corruption supposée, aux seules fins d'obtenir de l'entreprise attaquée des informations stratégiques sur des*

Existing safeguards: the TRIPS Agreement and EU rules

The need to protect confidential information (including trade secrets) in the context of intellectual property related litigation enshrined in the TRIPS Agreement, as far as civil and administrative procedures are concerned[656].

Article 42 of the TRIPS Agreement, in relation to fair and equitable civil and administrative procedures, requires the contracting parties to ensure that those procedures "*provide a means to identify and protect confidential information, unless this would be contrary to existing constitutional requirements*." This general principle is further developed in Article 43 of the TRIPS Agreement as regards evidence. This Article, similarly to Article 6 of Directive 2004/48/EC, allows judicial authorities to order the submission of evidence by any of the parties, "*subject in appropriate cases to conditions which ensure the protection of confidential information*." Similarly, Article 34(3) of the TRIPS Agreement also integrates this principle in relation to civil proceedings regarding patent infringements. Article 34 of the TRIPS Agreement shifts the burden of proof in a particular case: when the subject matter of the patent is a process for obtaining a product, the judicial authority may order the defendant to prove that the process to obtain an identical product is different from the patented process. However, paragraph 3 of that Article provides that "*the legitimate interests of the defendants in protecting their manufacturing and business secrets shall be taken into account*."

This issue has been addressed in general terms only by EU legislation in the context of litigation regarding infringements of intellectual property rights. Directive 2004/48/EC provides for procedural safeguards in this regard. Article 6, as regards the production of evidence, provides that the competent judicial authorities may order the opposing party to present relevant evidence, "*subject to the protection of confidential information*." Similarly, Article 7, on measures to preserve evidence, also empowers judicial authorities to order provisional measures to preserve relevant evidence in respect of the alleged infringement, "*subject to the protection of confidential information*".

However, contrary to the TRIPS Agreement, the EU legislation on enforcement of intellectual property rights only apply to infringements of formal intellectual property rights: i.e. to the exclusion of trade secrets.

In any event, neither the TRIPS Agreement rules, nor the EU rules on infringement of intellectual property, provide any guidance as to how to implement those principles on the protection of confidential information during litigation.

Existing safeguards: national rules/practice

There are safeguards in some Member States to preserve the confidentiality of trade secrets. For instance:

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procédés industriels ou sa politique commerciale, au nom du libre accès des parties aux pièces du dossier. Il existe même une procédure, dite 'in futurum', permettant au plaignant de demander au juge d'enjoindre à l'entreprise défenderesse de fournir des informations (sensibles), qui sont nécessaires au premier pour apporter la preuve de ses allégations." Juillet & Puaux (2008), p. 24.

656 Under Article 41 of the TRIPS Agreement, its signatories are called to ensure effective action against any infringement of the intellectual property rights recognised in that Agreement. Trade secrets are part of the "intellectual property rights" category for the purpose of the TRIPS Agreement (cf. Article 1(2) of the TRIPS Agreement). Therefore, Articles 42 to 50 of the TRIPS Agreement would also be applicable in the case of litigation related to violations of the rules contained in Article 39 of the TRIPS Agreement on undisclosed information.

– BE: in Belgium, courts can adopt measures to protect trade secrets. In particular, In particular, confidential elements can be blanked out and courts can also rule than only certain persons/services within the plaintiff's or defendant's company are allowed to have access to the documents containing the trade secrets[657].

– BG: in Bulgaria, the Supreme Administrative Court has consistently held that trade secrets of a party shall not be disclosed to other parties of a dispute even when they represent evidence in court[658].

– FR: during pre-trial proceedings, French courts may protect a party's trade secrets by restricting the access to the information by the defendant - e.g., only court's experts and the parties' counsel may access the information - and excluding information from written reports by not mentioning it or by putting it into sealed enveloped not accessible to the parties[659].

– IT: in Italy, in cases where a party needs to protect its confidential information from being accessed by the other party, it may require the court to limit the access to the adverse party's lawyers and consultants only or to limit the access to certain information only – full information would remain available to the court and its experts only[660].

– NL: in the Netherlands, courts developments resulted in requiring the disclosure of the relevant information to a neutral person under an obligation of confidentiality[661], restricting access to the relevant information on file with that neutral person to only the lawyers of the parties[662], or allowing the inspection of seized documents only by a third party[663]. There is also a practice in the Netherlands with a view to protect trade secrets in the context of proceedings dealing with patent infringements. If the defendant can convince the court that there is an interest in not disclosing steps (to the plaintiff) which are no relevant to the patent, the court can appoint an expert (who is under a secrecy obligation) to review the relevant evidence:

"Under Dutch law, a party who wishes to obtain proof of a particular fact in order to assess the changes of success in a claim can request the court to organize a provisional witness hearing. In a case concerning a process patent, the patentee requested a provisional witness hearing for the purpose of hearing the individuals at the alleged infringer's company who were responsible for the manufacturing process in question. The alleged infringer claimed that such a hearing would necessarily result in these people disclosing trade secrets. The court's obvious solution was, firstly, to decide that it would see the questions to be put to the witnesses beforehand, in order to avoid the operation becoming a fishing expedition and, secondly, to order that particular steps be reported only to an expert under an obligation of secrecy, in order to avoid any unnecessarily disclosure.[7] If it appeared that no satisfactory protective measures could be taken and that the preliminary witness hearing would amount to a fishing expedition the court would have the possibility to deny the

657 Baker & McKenzie (2013), Appendix 1, p. 9.
658 Baker & McKenzie (2013), Appendix 1, p. 14.
659 Baker & McKenzie (2013), Appendix 1, p. 38.
660 Baker & McKenzie (2013), Appendix 1, p. 63.
661 Gielen (2009), p. 397, 399.
662 Gielen (2009), p. 398.
663 E.g. In a case on an alleged copyright infringement, a court in the Netherlands authorised the inspection of software seized data carriers only by a third party who would check the software to see whether it was of an infringing nature and then report on his findings without disclosing any other information to the copyright holder. Gielen (2009), p. 396.

request for the hearing on the grounds of abuse by the patentee of his right to request such a hearing.[8]

[7] District Court of The Hague, September 27, 1996, docket no. 96.310 and 3 June 1998 docket nos. 96/1455 and 96/1471 – Allied Signal/DSM.

[8] See for the basic rule: Hoge Raad 19 February 1993, 1994 Nederlandse Jurisprudentie 345 – Van de Ven/Pierik c.s.. See for the application of this rule in a patent case: District Court of Arnhem (rechter-commissaris) April 19, 1984, 1986 Bijblad bij de Industriele Eigendom 71 – Dupont/Enka."[664]

– In the United Kingdom the parties may agree or apply to the court to ensure that certain information to be revealed during the pre-trial disclosure procedure remains confidential. The parties may enter into a contractual agreement whereby the parties agree that certain information may remain confidential or only be disclosed to legal counsel or where the parties do not reach such agreement, a party may unilaterally apply to the court requesting that confidential information is not disclosed to the other party during the proceeding. Requests for restriction of disclosure are at the discretion of the court[665].

***(3) Publicity of judicial proceedings**.*

The risk

The inherent publicity of judicial proceedings (civil proceedings in all EU Member States are public) could also result in the disclosure of trade secrets, in this case to the public.

– Firstly, **hearings** are often public. While national procedural laws normally include general provisions which allow courts to exclude the public from the hearing for reasons relating to security, public order and decency, there do not necessarily apply to trade secrets litigation.

– Secondly, **publicity of judicial decisions and documents** may lead to the disclosure of a trade secret. Judicial decisions may describe the misappropriated trade secret in question when explaining the reasons for the decision[666]; and in some countries other judicial documents (including applications) may be accessed by third parties. According to Baker & McKenzie (2013), in most countries, pleadings and in general court documents are public and potentially accessible by anyone[667].

Existing safeguards: national rules and practices

Nevertheless, there are procedural safeguards in several EU Member States with a view to prevent the disclosure of trade secrets in this context.

Concerning hearings, a party has the express right to request the court to order that the entire proceeding or a part thereof is to be heard in private to preserve the secrecy of trade secrets in some

664 Gielen (2009), p. 393.
665 Baker & McKenzie (2013), p. 34.
666 See for instance, Hogan Lovells (2012), §57 regarding Belgium, at p.12. See also Baker & McKenzie (2013), p. 35.
667 Baker & McKenzie (2013), p. 35.

Member States[668]. However, according to Baker & McKenzie (2013), this seems to rarely happen in practice and there would be no case law on this point[669].

– BG: in Bulgaria private hearing is specifically provided for cases related to "*protection of trade, manufacturing, invention or tax-related secrets*" if public disclosure may impair a party's legitimate interest. When publicity is precluded, only the parties, their attorneys, experts and witnesses are allowed to enter into the court room and are subject to a statutory obligation not to disclose subject matter and content of the relevant proceeding (breach of such obligation entails liability for compensation)[670].

– DE: in Germany, courts can exclude the public from the hearing for reasons relating to trade secrets (section 172 no. 2 of the German Courts Constitution Act [Gerichtsverfassungsgesetz -GVG]). Besides the exclusion of the public if trade secrets are to be discussed, legal practice has developed the so called "*Düsseldorf Procedure*" (originally developed for patent law claims but likely applicable to trade secrets cases), which consists in a procedure where courts order independent proceedings for the preservation of evidence as an interim injunction handed to the defendant together with the statement of claims so that there is no chance to destroy evidence. Evidence is then examined exclusively by authorized experts and attorneys bound to confidentiality. The parties do not have access to the confidential information[671].

– DK: in cases involving trade secrets in Denmark, the court may order that the public be excluded from the proceeding according to Section 29 of the Danish Administration of Justice Act[672].

– EE: in Estonia, in-camera examination can be ordered for the protection of trade secrets if the interest in a public hearing is not deemed to be greater than the commercial interest in protecting the trade secret[673].

– FI: Secrecy of information is protected by excluding the public from proceedings. It is common practice to exclude the public from proceedings which involve trade secrets. The exclusion may concern only trade secret discussion or the entire proceeding[674].

– FR: hearings in French civil proceedings are normally public. The parties may, however, ask the judge to exclude the public if confidential information needs to be discussed. Lacking the parties' request, the hearing remains open[675].

– HU: in Hungary, when the Court orders *in-camera* examination, the parties are also prohibited from making copies of the minutes of the hearing or of any document containing a trade secret. Examination of documents containing trade secrets is

668 Baker & McKenzie (2013), p. 34. In some Member States (e.g. Belgium, Czech Republic, Greece or Italy), national procedural rules may include provisions which allow courts to exclude the public from the hearing only for reasons relating to security, public order and decency. *Ibid*.

669 *Ibid*.

670 Baker & McKenzie (2013), p.34 and Appendix 1, p. 14

671 Baker & McKenzie (2013), p. 34 and Appendix 1, p. 44.

672 Baker & McKenzie (2013), Appendix 1, p. 24.

673 Baker & McKenzie (2013), p. 34 and Appendix 1, p. 29.

674 Baker & McKenzie (2013), Appendix 1, p. 34.

675 Baker & McKenzie (2013), Appendix 1, p. 38.

subject to a declaration of non-disclosure and special review procedures are established by the Judge[676].

- IE: Irish courts can make a variety of orders ensuring that the secret information is not further disclosed, including having parts of the case heard in private[677].
- LT: the public may be excluded from the hearings in Lithuania[678].
- LV: to prevent disclosure of secret information during a proceeding, a Latvian court may, on its own initiative or upon a party's request, exclude the public if necessary to preserve secrecy of the information of a party[679].
- NL: the possibility for courts to hold *in camera* hearings is explicitly provided for under Dutch law. A court can order a hearing to take place behind closed doors in certain circumstances. One such circumstance is where the requirements of due observance of privacy so dictate, which, in the context of legal entities, means the protection of confidentiality. There is also a statutory duty for litigants and experts not to disclose to any third person the information they have obtained in those *in camera* hearings[680].
- PL: Polish courts may exclude the public from the hearings to protect trade secrets during proceedings. Exclusion may be ordered for a part or the entire proceeding, at the court's own discretion or upon a party's request[681].
- RO: in general, civil hearings are public in Romania. However, the public can be excluded from courts' hearing if public discussions could harm public order, morality or the parties. In trade secrets cases, a party may ask the court to exclude the public, if public discussion could endanger that party's interests[682].
- SE: courts proceedings are public in Sweden. However, the court may exclude the public from the proceeding to protect confidential information under the Public Access to Information and Secrecy Act[683].
- SI: hearings in civil proceedings are generally public in Slovenia. However, the public may be excluded from the proceedings if it is necessary for the purpose of protecting trade secrets of the parties[684].
- SK: hearings in civil proceedings are usually public in Slovakia. However, the court may *ex officio* or upon a party's request, exclude the public from the hearing in whole or in part if public hearing of the case could endanger state, business, trade or professional secrecy, important interest of the parties, or morality[685].

Concerning the documents held by courts, judicial authorities have in general a duty to adopt adequate measures to safeguard the secret information of a party, for example, by restricting access to those documents which contain trade secrets only to the other party's attorney or to the court's expert (in certain cases the confidential information can be put under closed seals), or not disclosing certain information in the court's final decision (by blanking out the relevant information in the

676 Baker & McKenzie (2013), p.34.
677 Baker & McKenzie (2013), Appendix 1, p. 59.
678 Baker & McKenzie (2013), Appendix 1, p. 77.
679 Baker & McKenzie (2013), Appendix 1, p. 74.
680 Gielen (2009), p. 395. Baker & McKenzie (2013), Appendix 1, p. 87.
681 Baker & McKenzie (2013), Appendix 1, p. 91.
682 Baker & McKenzie (2013), Appendix 1, p. 99.
683 Baker & McKenzie (2013), Appendix 1, p. 116.
684 Baker & McKenzie (2013), Appendix 1, p. 107.
685 Baker & McKenzie (2013), Appendix 1, p. 103.

decision and other court's documents). However, according to Baker & McKenzie (2013), such measures have proved to be of limited effect to prevent the actual leak of confidential information during proceedings[686].

Conclusion

The Baker & McKenzie study concludes that only Hungary (through in camera proceedings), Germany (through the so-called Dusseldorf procedure) and the UK (by means of specific agreement between the parties limiting the duty of disclosure) seem to have in place effective procedural measures to prevent disclosure of trade secrets in the course of civil proceedings.[687]

686 Baker & McKenzie (2013), p.35.
687 Baker & McKenzie (2013), p.7, 35 and 45.

ANNEX 16 – CROSS-BORDER CIVIL LAW LITIGATION WITHIN THE EU: SPECIFIC ISSUES RELATED TO TRADE SECRETS MISAPPROPRIATION

Cross-border dimension of litigation on trade secrets misappropriation. Civil law cases involving misappropriation of trade secrets in the EU are likely to have a cross-border dimension: e.g. the misappropriated trade secret is used by a third party in a different Member State (or in a third country); the "resulting goods/services" are marketed in other Member States; the "resulting goods/services" are imported (from a third country) into any Member State etc. This type of cases are likely to become more frequent with the integration of the internal market, the development of the internet, globalisation generally etc. See, for instance, the selected cases reported in Section A8.6 of Annex 8.

EU legal framework. At Union level different legal instruments have been adopted with a view to ensure legal certainty for litigants in cross-border litigation in civil and commercial matters, and in particular, in order to avoid fragmentation of litigation. Some of them are relevant to litigation on the misappropriation of trade secrets. Firstly, some EU legal instruments address traditional private international law issues, such as: the question of the applicable law (conflict of laws) regarding contractual (Rome I Regulation)[688] and non-contractual obligations (Rome II Regulation)[689]; and the allocation of jurisdiction and recognition of judgments (Brussels I Regulation)[690]. Secondly, EU law also addresses justice cooperation issues, such as cooperation between the courts of the Member States in the taking of evidence in civil or commercial matters[691]. These rules greatly contribute to facilitate cross-border litigation and the cross-border recognition and enforceability of judgments.

Specific issues in relation to cross-border civil law litigation on trade secrets misappropriation. This Annex will address some specific issues arising in relation to the cross-border civil law litigation on trade secrets misappropriation:

- A16.1. The question of the applicable law and the application of more than one law;
- A16.2. The cross-border recognition of judgments, in particular injunctions and decisions on damages;
- A16.3. The link between arbitration and civil law proceedings
- A16.4. Disputes involving defendants from outside the EU.

Some of these issues have already been raised in the context of infringements of intellectual property rights (where the territorial nature of the intellectual property rights renders more difficult an efficient enforcement in cases of cross-border situations) and may serve as a proxy to examine these difficulties. In this context, it must be acknowledged that trade secrets are often used as complements/supplements (and not as an alternative) to intellectual property rights (mostly patents

688 Regulation (EC) No 593/2008 of the European Parliament and of the Council of 17 June 2008 on the law applicable to contractual obligations (Rome I), OJ L 177, 4.7.2008, p.6.

689 Regulation (EC) No 864/2007 of the European Parliament and of the Council of 11 July 2007 on the law applicable to non-contractual obligations (Rome II), OJ L 199, 31.7.2007, p. 40.

690 Regulation (EU) No 1215/2012 of the European Parliament and of the Council of 12 December 2012 on jurisdiction and the recognition and enforcement of judgments in civil and commercial matters (recast), OJ L 351, 20.12.2012, p.1. This Regulation replaces Council Regulation (EC) No 44/2001 of 22 December 2000 on jurisdiction and the recognition and enforcement of judgments in civil and commercial matters, OJ L 12, 16.1.2001, p. 1.

691 Council Regulation (EC) No 1206/2001 of 28 May 2001 on cooperation between the courts of the Member States in the taking of evidence in civil or commercial matters, OJ L 174, 27.6.2001, p. 1.

or designs, but also copyrights). As a result, it often happens that a claim on a patent or design infringement also concerns an alleged trade secret(s) misappropriation[692].

A16.1. The question of the applicable law

Rome II Regulation (Regulation (EC) 864/2007) governs the law applicable to legal disputes on non-contractual obligations in the EU[693]. Therefore, this Regulation would be applicable to civil litigation on the misappropriation of a trade secret between a trade secret owner, on the one hand, and a third party having allegedly misappropriated the trade secret, on the other hand[694].

Within the torts/delict chapter of the Regulation, Article 6 applies to acts of unfair competition, which would encompass litigations on trade secret misappropriation. Paragraph 2 of that Article indicates that where an act of unfair competition affects exclusively the interests of a specific competitor (as opposed to the interests of consumers)[695], the general rule for torts/delicts (cf. paragraph 1 of Article 4) must apply:

> "*the law applicable to a non-contractual obligation arising out of tort/delict shall be the law of the country in which the damage occurs irrespective of the country in which the event giving rise to the damage occurred and irrespective of the country or countries in which the indirect consequences of that event occur*"[696].

By derogation to the general rule of paragraph of Article 4, other situations are also possible[697]. Firstly, the parties to the litigation may agree to submit the dispute to the law of their choice (cf. Article 14). Secondly, there are rules of secondary connection in the following two cases:

– where both the plaintiff and defendant have their habitual residence in the same country at the same time when the damage occurs, then the law of that country shall apply (cf. paragraph 2 of Article 4); and

– where it is clear from all the circumstances of the case that the tort/delict is "*manifestly more closely connected with a country other than that indicated in paragraphs 1 and 2, the law of that other country shall apply*." The Regulation explains that a manifestly closer connection with another country might be based in

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692 See for instance the decision of a UK court of 21 March 2012 Force India Formula One Team Limited v 1 Malaysia Racing team SDN BHD & others, [2012] EWHC 616 Ch. This case concerned a copyrights claim and a breach of confidence (i.e. misuse of trade secrets) claim. Experience in the US also shows this phenomenon (e.g. in the US, federal courts are often called to enforce State civil law on trade secrets because of the so-called "supplemental jurisdiction" rule: i.e. authority of US federal courts to hear additional claims (e.g. the trade secret misappropriation claim) substantially related to the original claim (e.g. a patent claim) even though the court would lack the subject-matter jurisdiction to hear the additional claims independently).

693 The Rome II Regulation applies conflicts of law in civil and commercial litigation on non-contractual obligations within the EU (see Article 1 of the Regulation for the scope and exceptions). It applies regardless of the connections of any party with a Member State and whether or not the law identified as applicable is that of a Member State. This means that potentially laws of third countries may be applicable to litigation within the EU to defend trade secrets.

694 If litigation involved two parties linked by a contractual relationship (e.g. the trade secret owner and an employee or the trade secret owner and a business partner), then the applicable law would be governed by Rome I Regulation.

695 The Commission proposal explains that this paragraph deals with situations "where an act of unfair competition targets a specific competitor, as in the case of enticing away a competitor's staff, corruption, industrial espionage, disclosure of business secrets or inducing breach of contract." Cf. European Commission (July (2003)), p. 16 (emphasis added).

696 Article 4(1) of Rome II Regulation (Regulation (EC) 864/2007).

697 Had the disputed been submitted to the general rule on the applicable law to unfair competition disputes in Article 6(1), it would have not been possible to derogate from it.

particular on a pre-existing relationship between the parties, such as a contract, that is closely connected with the tort/delict in question (cf. paragraph 3 of Article 4).

The case of diversity of applicable laws. The general rule of Article 4(1) of Rome II may lead to a fragmentation of claims. The criterion for the choice of law (place "*where the damage occurs*") implies that if a misappropriated trade secret is exploited in more than one Member State, there will very probably be more than one country where damages occur[698]. The Commission proposal for the Rome II Regulation acknowledged that in international situations, anti-competitive conduct "*commonly has an impact on several markets and gives rise to the distributive application of the laws involved*."[699] The Commission also stated in relation to Article 4(1) that: "*[t]he rule entails, where damage is sustained in several countries, that the laws of all the countries concerned will have to be applied on a distributive basis, applying what is known as "Mosaikbetrachtung" in German law*."[700]

In this case, it would be necessary to perform a different legal analysis for each of the countries concerned as the law applicable would be different.

This fragmentation of claims is worse for trade secrets (compared to industrial property rights) given the absence of harmonised law at EU level. This means that trade secret protection, when more than one legal system is involved, is ultimately no stronger than the weakest link in the chain. In the words of a scholar: "*Patents for the same invention benefit from the international principle of mutual independence under Art.4bis of the Paris Convention, so that revocation in one country of the Union has no effect on patents for the same invention elsewhere, but trade secrets have no such international firewall to protect them from rogue judgments. Once a secret has been made public, whether wrongfully or pursuant to some kind of judgement, no matter where in the world, it will for ever have lost essential "quality of confidence" which justified its protection in the first place. This is not a negotiable question of res iudicata but an incontrovertible fact, which the law can try to avert, but can do nothing to reverse one publication has happened*."[701]

The potential fragmentation may be eliminated if any of the other alternative criteria is applicable. In such a case, there could be in a single body of law governing multi-jurisdictional claims. Two different situations appear:

(i) Article 4(2). If both the plaintiff and defendant have the habitual residence in the same country at the time in which the damage occurs, only one single body of law will apply: that of the place of residence of the parties.

(ii) Article 4(3). The other alternative criterion (the country with which the tort is manifestly most closely connected[702]) may also be used. If there was a previous contractual relationship between the

698 Scholars have pointed at the difficulty of localising the country where the damage occurs in trade secrets misappropriation cases, because "*trade secrets are even more nebulous and intangible than intellectual property rights in general, and damage arising from their disclosure or misuse is neither localised nor confined to a particular jurisdiction.*" Cf. Wadlow (2008), p. 313.

699 European Commission (July 2003), p. 16. This statement was provided in relation to the general rule for unfair competition cases (now Article 6(1)), not in relation to the general rules for tort/delict cases (Article 4(1). However, the Commission text also recognised that "*the two very often coincide in territorial terms*". *Ibid*.

700 European Commission (July 2003), p. 11. See also Wadlow (2008), p. 313 and Wadlow (2009), p. 791.

701 Wadlow (2008), p. 314.

702 "*paragraph 3 is a general exception clause which aims to bring a degree of flexibility, enabling the court to adapt the rigid rule to an individual case so as to apply the law that reflects the centre of gravity of the situation*" Cf. European Commission (July 2003), p. 12.

parties[703], the applicable law may be derived from the contract[704]. Despite the advantages of Article 4(3) in that its application leads to a single applicable law governing the claims, however, from the perspective of a trade secret owner who has his trade secret misappropriated by an unconnected third party (i.e. no pre-existing relationship between the parties), this criterion does not appear *prima facie* as particularly relevant compared to the general rule[705]. In any event, the Commission stated in this regard that: "*[s]ince this clause generates a degree of unforeseeability as to the law that will be applicable, it must remain exceptional*."[706]

The case of a single applicable law. While the diversity of applicable laws may lead to problems, the question remains, in case a single law is applicable, whether that law will be effective in protecting the trade secret against misappropriation. The conflict of laws rule cannot provide a reply to this question and requires that the issue is examined at the level of substantive law.

A16.2. Cross-border recognition of judgments, in particular as regards injunctions and decisions on damages

Existing regime: exequatur needed. Brussels I Regulation provides for the cross-border recognition and enforcement of judgements. The rules currently in place (Regulation (EC) No 44/2001) require a formal declaration of enforceability in a special procedure (*exequatur*) prior to enforcement in the Member State addressed. This may create an obstacle to cross-border recognition and enforcement of judgment[707].

Indeed, EU companies do not seem to be convinced about the recognition and enforcement of judgments in practice. According to the replies to the 2012 Industry Survey[708], out of 57 companies which litigated trade secrets within the EU, only 10 (17,5%) were successful in enforcing an order from a national court to stop the use of misappropriated trade secrets in other Member States while 16 of them (28%) claimed not to be successful in all Member States where they tried[709]. The rest of

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703 Assuming that the litigation concerns a non-contractual obligation and not the enforcement of a non-disclosure or non-compete contractual obligation.

704 E.G. there was a choice of law clause. See Wadlow (2008), p. 316.

705 This criterion raises an additional issue, it can allow the judge to derogate from the general rule or from the rule of the common residence of the parties in order to declare the law of another country as the applicable one. However, it does not allow to derogate from the criterion of the common residence to select the country which would have been selected under the general rule of paragraph 1.
This is explained by Wadlow (2009), p. 795, as follows: "*Suppose that the country identified by Article 4(1) is state X, but both parties have their habitual residence in state Y. Since paragraph 2 always trumps paragraph 1, the law of Y will apply unless paragraph 3 can be brought to bear. Now suppose everyone agrees that the law of Y is totally inapplicable on any rational basis, and that absolutely every relevant connecting factor other than common residence points to the law of X. Does Article 4(3) operate to make X the applicable law? No, since although paragraph 3 has the power to override paragraph 2, it cannot turn back the clock and reinstate the law originally identified by paragraph 1 but subsequently ousted by paragraph 2. The applicable law according to paragraph 3 must be that of a country 'other than indicated in paragraphs 1 or 2', say state Z.*
So what if the agreed objective ranking of laws in terms of connecting factors is first X (closest connection with the tort), second Z (less close connection), and last Y (no connection except that of common habitual residence, which in the circumstances is fortuitous or irrelevant). Law X cannot apply because it has been displaced by law Y according to paragraph (2), and cannot be restored by paragraph (3). Law 2 cannot apply in preference to law Y because the tort is more closely connected with X than with Z, no matter that law X is now ineligible. We are left, by default, with the law of Y, which is admittedly the least appropriate of the three choices."

706 European Commission (July 2003), p. 12. See also Recital 18 of Rome II Regulation.

707 See generally European Commission Staff (December 2010), p. 11 and seq.

708 Baker & McKenzie (2013), p. 128.

709 The reasons for this are unknown.

the respondents preferred to start separate legal actions or did not try to enforce the order in another Member State (either because of cost or of uncertainty). See Figure A16.1.

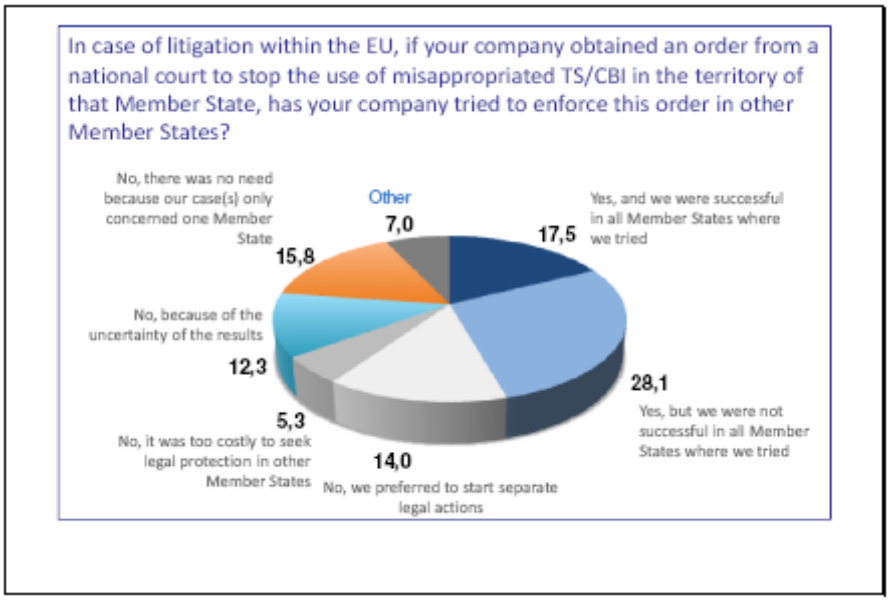

Figure A16.1 – Enforcement of judicial orders in other Member States. Source: 2012 Industry Survey.

The abolition of exequatur as of 2015. In 2012, a recasted version of Brussels I Regulation was adopted by the European Parliament and the Council (Regulation (EU) No 1215/2012). According to Chapter III of the recasted Brussels I Regulation, a judgment given in a Member State shall be recognised and enforceable in any other Member State without the need for any special procedure: i.e. the formal declaration of enforceability is no longer necessary. As a result, "*a judgment given by the courts of a Member State should be treated as if it had been given in the Member State addressed*"[710]. Regulation (EU) No 1215/2012 will apply as of 10 January 2015.

Recognition and enforcement of judgements: injunctions and decisions on damages. This recognition and enforcement of judgements applies, *inter alia*, to injunctions in cases concerning a misappropriation of a trade secret (e.g. a court order requiring the misappropriator not to use the trade secret) and to decisions on damages.

Limits to recognition and enforcement: ex parte measures. There are however limits to the recognition and enforceability of judgements[711]:

– In the case of provisional injunctions (and even if in principle the court could adopt cross-border injunctions), such provisional orders do not benefit from automatic recognition and enforcement if they were issued without the defendant having been heard and without the order having been served on him prior to enforcement[712].

710 Recital (26) of recasted Brussels I Regulation.

711 The so-called substantive public policy exception (cf. Article 4

712 In the case of Directive 2004/48/EC dealing with infringements of intellectual property rights, one should underline the safeguards available (i.e. right of review, including a right to be heard for the defendant, revocation or automatic lapse if no substantive case is brought, possibility to require the claimant to provide security or an equivalent assurance intended to ensure compensation for any prejudice suffered by the defendant). One could wonder in this respect whether the level of

– However, *ex parte* injunctions do benefit from the automatic recognition and enforcement regime if they are given on the merits, not as provisional relief.

Limits to recognition and enforcement: the case of excessive punitive damages. Brussels I Regulation allows the court of a Member State to refuse the recognition/enforcement of a judgment given by a court of another Member State if contrary to public policy[713] (i.e. where the substance of a foreign judgment is at variance to an unacceptable degree with the legal order of the Member State of recognition/enforcement)[714]. In theory, this could affect cases where excessive punitive damages[715] are granted[716]. Nevertheless, the public policy exception has rarely been used in practice[717] and that this issue may be more theoretical than practical. There are no instances known in the Union of excessive punitive damages, which is a problem more likely to arise in respect to judgments issued in third State jurisdictions.

A16.3. The link between arbitration and civil law proceedings

Arbitration in international trade and as regards intellectual property matters.

Recourse to arbitration is particularly important in international commerce. It is a way for companies to resolve their disputes out-of-court, which has certain advantages over court litigation, notably in terms of confidentiality, speed and informality of proceedings[718]. As stated in the impact assessment on the review of Brussels I Regulation:

> "*The effectiveness of arbitration is of key importance for a significant number of notably larger companies and multinationals which use this method of dispute*

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harmonisation and safeguards provided by Directive 2004/48/EC is not sufficiently high to allow for automatic recognition.

713 Articles 45 and 46 of Regulation (EU) No 1215/2012:
In case of recognition, Article 45: "*1. On the application of any interested party, the recognition of a judgment shall be refused: (a) if such recognition is manifestly contrary to public policy (ordre public) in the Member State addressed; […]*".
In case of enforcement, Article 46: "*On the application of the person against whom enforcement is sought, the enforcement of a judgement shall be refused where one of the grounds referred to in Article 45 is found to exist*."
See Articles 34 and 45of Regulation (EC) No 44/2001.

714 It must be noted that, a mere different in civil law (e.g. different national rules on the protection of trade secrets against misappropriation) is not enough to invoke the public policy defence, it must amount to "*a manifest breach of a rule of law regarded as essential in the legal order of the State in which enforcement is sought or of a right recognised as being fundamental within the legal order*". Cf. Case C-7/1998, *Krombach*, §37 (emphasis added).

715 Exemplary/punitive are in principle possible in at least two Member States.

716 See for instance recital (32) of the Rome II regulation: "*Considerations of public interest justify giving the courts of the Member States the possibility, in exceptional circumstances, of applying exceptions based on public policy and overriding mandatory provisions. In particular, the application of a provision of the law designated by this Regulation which would have the effect of causing non-compensatory exemplary or punitive damages of an excessive nature to be awarded may, depending on the circumstances of the case and the legal order of the Member State of the court seised, be regarded as being contrary to the public policy (ordre public) of the forum.*" (emphasis added).

717 The Commission services impact assessment for the review of Regulation 44/2001 explains that "*to the knowledge of the Commission there has not been a single case since the entry into force of the Brussels Convention where recognition and enforcement of a judgment has been refused for this reason* [N.B. the substantive public policy exception]" (cf. European Commission Staff (December 2010), p.15).
Moreover, the need for a substantive public policy defence has been reduced by the harmonisation of the applicable law in Rome I and Rome II because, in theory, all courts in the Member States of the EU will be applying the same law to the dispute. However, both these instruments have a public policy exception: cf. Article 21 of Rome I Regulation and Article 26 of Rome II Regulation.

718 European Commisssion Staff (December2010), p. 34.

resolution on a regular basis. Surveys show that about 63% of large European companies prefer arbitration over litigation to resolve their business disputes; this is mainly due to the confidentiality and speed of arbitration proceedings[74]. Where they have a choice, European companies prefer to arbitrate within the EU: […] [[74] Oxford Study on Civil Justice Systems in Europe, question 48, 49; 95% of the companies questioned have more than 250 employees.]"[719]

Arbitration in the field of intellectual property (including trade secrets) is particularly developed and encouraged by the World Intellectual Property Organisation (WIPO)[720]. Arbitration is largely used in the case of technology/know-how transfer through licensing agreements and particularly recommended when the licensee is in third countries. An industry report about managing the threat of trade secret theft in extended supply chains (in foreign countries) stated the following:

"*[…], some experts recommend specifying that trade secret and other IP disputes are to be resolved through confidential mediation or arbitration in a convenient and trusted jurisdiction rather than litigation in the local courts. As one practitioner has warned, 'in many offshore jurisdictions trade secret litigation can lead to the open disclosure and consequential loss of the trade secrets at issue if the legal proceedings are not closed'. Moreover, mandatory mediation or arbitration can sometimes help avoid the delays, inefficiencies, and risk of bias and corruption that often plague litigation in foreign countries.*"[721]

Recognition of arbitration decisions.

The recognition of arbitration decisions within the EU, whether such decisions were issued by arbitration tribunals in the EU or in third countries, falls outside the rules of Brussels I Regulation. The recognition of arbitration decisions is ruled by national law within the framework created by the 1958 New York Convention on the Recognition and Enforcement of Foreign Arbitral Awards, which requires the courts of the Contracting States to give effect to a private agreement to arbitrate and to recognize and enforce an arbitral award made in another Contracting State. All EU Member States are party to that Convention and it is also widely ratified throughout the rest of the world.

In practice, it appears that parties seem to be able to by-pass arbitration awards. See for instance Case 6 in Section A8.6 of Annex 8. In this case a third country company having misappropriated trade secrets from an EU company managed to undertake business in the EU despite an arbitration decision preventing it from doing so. The arbitration decision was awarded in Singapore, which is a Contracting State to the 1958 New York Convention.

Relation between arbitration proceedings and court proceedings

There are some difficulties concerning the relation between arbitration proceedings and court proceedings. There are situations in which state courts may be requested to intervene in disputes which have been submitted to arbitration. For instance, courts may be seized to grant interim relief or to evaluate the validity of an arbitration agreement (in the latter case, the party challenging the validity of the arbitration agreement will usually request the court to decide also on the merits of the case). This could lead to parallel proceedings and irreconcilable decisions between courts and arbitral tribunals where the agreement is held invalid in one Member State and valid in another[722]. As a

719 *Ibid*. p. 35.
720 See the WIPO Arbitration and Mediation Center : http://www.wipo.int/amc/en/index.html
721 CREATE (2012), p. 23. See also Pagnattaro (2012), p. 336.
722 See for instance case C-185/07, *West Tankers.*

result, there is a risk for abusive litigation tactics[723] which, considering the importance of arbitration in relation to trade secrets and generally intellectual property protection, could negatively impact on the protection of trade secrets against misappropriation.

A16.6. Disputes involving defendants from outside the EU.

Misappropriators of trade secrets outside the EU (e.g. a former licensee in a third country) could try to take advantage of the misappropriation by exporting their "resulting goods/services" to the EU (see for instance Cases 6 and 14 in Section A8.6 of Annex 8).

In those cases, litigation in the EU may involve defendants situated outside the EU. This issue is not regulated by Brussels I Regulation. Therefore, the capacity of EU trade secrets owners to sue defendants from outside the EU before EU courts depends on the national law[724]. National rules on jurisdiction for third country defendants vary widely between Member States, leading to a situation where EU trade secret owners would have "*unequal access to justice in cases where the defendant is domiciled outside the European Union*."[725]

This situation creates unequal conditions for companies doing businesses in the EU:

> "*Companies from Member States which handle access to courts restrictively in disputes with third country defendants will usually incur higher business risk and higher legal costs than companies based in Member States which grant generous access to their courts in these circumstances. Not being able to litigate in a close jurisdiction has a negative economic impact on companies, albeit one that is difficult to quantify: claimants are not familiar with the foreign legal system, lack access to their known and trusted lawyers and have the inconvenience of travelling and wasted management time. Moreover, companies might not always get a fair trial and an adequate protection of their rights before the courts of a third State. Such problems can notably arise in countries where the judiciary cannot be considered to be independent or is riven by corruption.*"[726].

In addition, the rules on the recognition and enforcement of third country judgments are also regulated by national law. This is not without problems:

> "*The absence of common rules in the EU on the effect of third State judgments leads to a situation where such judgments may enter the EU in some Member States and not in others. Some Member States are very open to recognise and enforce third State judgments, others are very strict, yet others do not recognise and enforce third*

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723 See European Commission Staff (December 2010), p. 35 and seq.
This is why the Commission proposed, in the review of Brussels I Regulation (Regulation (EC) No 44/2001) to regulate the interface between arbitration proceedings and court proceedings (cf. European Commission (December 2010), notably draft Article 29(4)). It would have obliged a court seised of a dispute to stay proceedings if its jurisdiction was contested on the basis of an arbitration agreement and an arbitral tribunal had been seised of the case or court proceedings relating to the arbitration had been commenced in the Member State of the seat of the arbitration. The objective of this amendment was *to enhance the* effectiveness of arbitration agreements in Europe, prevent parallel court and arbitration proceedings and eliminate the incentive for abusive litigation tactics (see European Commission Staff (December 2010), p. 36 and seq.). However, this part of the Commission proposal was not accepted by the European Parliament and the Council.

724 Article 6 of the recasted Brussels I Regulation (Regulation (EU) No 1215/2012): "*If the defendant is not domiciled in a Member State, the jurisdiction of the courts of each Member State shall, subject to Article 18(1), Article 21(2) and Articles 24 and 25, be determined by the law of that Member State*."

725 European Commission Staff (December 2010), p. 20.

726 European Commission Staff (December 2010), p. 20, emphasis added.

State judgments at all except in the event of a bilateral convention with the third State concerned. This creates unequal protection of EU citizens and companies against third State judgments, in particular when the third State court has taken jurisdiction on the basis of exorbitant grounds of jurisdiction […] or on the basis of grounds which violate the exclusive jurisdiction of Member States' courts. It may also lead to market distortions."[727] (cf.).

The Commission proposed, in the review of Brussels I Regulation (Regulation (EC) No 44/2001), to address those issues[728]. However, this part of the Commission proposal was not accepted by the European Parliament and the Council. Hence, EU trade secret holders remain with a fragmented legal framework in this regard[729]. It should be noted, however, that the Union started informal discussions at the international level to remedy these problems.

727 *ibid*., p. 22, emphasis added.

728 European Commission (December 2010). The Commission proposed to introduce changes regarding disputes involving defendants from outside the EU: the Regulation's jurisdiction rules would be extended to third country defendants and, in addition, two additional fora for disputes involving third country defendants would be added: (a) the courts of the place where assets belonging to the defendant are located in the EU, provided their value is not disproportionate to the value of the claim and that the dispute has a sufficient connection with the Member State of the court seised; and (b) the courts of a Member State will be able to exercise jurisdiction if no other forum guaranteeing the right to a fair trial is available and the dispute has a sufficient connection with the Member State concerned (*forum necessitatis*).

729 Extending the scope of Brussels I Regulation to also include rules on jurisdiction regarding third country defendants would have had positive impacts. It could have increased the possibilities for EU companies to litigate in the EU rather than abroad. The Commission Staff impact assessment stated the following: "*This would bring about a reduction in the average litigation costs and delays for EU companies because litigation within the European area of justice is generally cheaper and simpler than litigation in a country outside the EU[55]. Measures of judicial cooperation are largely absent in relations with third countries and the geographical distance of the competent court will most likely increase costs for witnesses and parties to appear in person. Moreover, a harmonisation of the rules relating to third country defendants will increase legal certainty and predictability which, in turn, is likely to produce cost savings for the companies involved. The improved legal framework might also encourage more companies to engage in cross-border transactions. In addition, the absence of a level playing field which results from the divergence of national rules on jurisdiction would be remedied. SMEs: Any cost savings will be particularly beneficial for SMEs which do not have the resources to handle complex international litigation in the same way as large companies. [55 See CSES study]*". Cf. European Commission Staff (December 2010), p. 26, emphasis added.

ANNEX 17 – LEGAL BASIS

Article 114 TFEU provides for the adoption of

> *"measures for the approximation of the provisions laid down by law, regulation or administrative action in Member States which has as their object the establishment and function of the internal market*".

Hence, it allows for the adoption of EU rules[730] harmonising national legislation, provided that they are necessary for the smooth functioning of the Internal Market. Concerning the legal protection of innovation, this Article is the legal basis of Directive 2004/48/EC, which provides for civil law remedies (and some related procedural rules) against the infringements of intellectual property rights[731]. Article 114 TFEU would also be applicable to the present case[732], as far as the civil remedies in case of misappropriation are concerned, including the prohibition of acts of misappropriation[733] and any ancillary rules on the protection of confidential information during litigation[734] (see Policy Options 3 and 4).

Any rules on criminal offences and sanctions (Policy Option 5) would require a different legal basis (Article 83(2) TFEU)[735], and a separate legal instrument.

The policy options considered in this impact assessment are those deemed to best resolve the hindrances/obstacles to the Internal Market created by the different absence of a uniform and efficient EU regime in this area[736]. The need to establish a sufficient and comparable level of redress across the EU Internal Market in case of trade secret misappropriation is at the basis of the intervention[737]. From an economic perspective, national rules in place contribute to the creation of innovation-related inefficiencies as well as lower value of innovation and higher costs for protecting it. This affects the Internal Market in different ways, *inter alia*: rendering cross-border network R&D

730 A legal basis would also exist for the adoption of non-binding measures by the Commission, such as recommendations to Member States (Article 17 TUE).

731 Since the protection of trade secrets would not be achieved by creating a "European intellectual property right", the criteria for using Article 118 TFEU as legal basis would not be met.

732 Directive 2004/48/EC already suggested Member States to extend its application to unfair competition cases. Cf. Recital (13): "*[…] Nevertheless, that requirement* [N.B. defining the scope of the Directive to encompass intellectual property rights] *does not affect the possibility, on the part of those Member States which so wish, to extend, for internal purposes, the provisions of these Directive to include acts involving unfair competition, including parasitic copies, or similar activities.*"

733 Any legislative proposal on trade secrets would need to define the substantive scope of protection: i.e. what is a trade secret and when it is misappropriated. By contrast, Directive 2004/48/EC does not define the scope of protection: it does not contain a definition of 'infringement' or of 'intellectual property right'. Those rights are defined elsewhere, in the legal instruments – whether national or European – creating them. The Commission, however, publicly stated which intellectual property rights are in its view covered by the scope of Directive 2004/48/EC. See European Commission (2005).

734 Rules on the protection of confidential information during litigation on trade secrets misappropriation would be ancillary to the main subject matter legal: rules with a view to prevent third parties from benefiting from the misappropriation of the trade secrets within the internal market. Those rules do not deal with "*judicial cooperation, jurisdiction, the recognition and enforcement of decisions in civil and commercial matters or deal with applicable law"* (expression borrowed from recital (11) of Directive 2004/48/EC).

735 The conditions established by this article to adopt criminal law measures at the EU level, however, do not appear to be met at this stage.

736 See e.g. the ECJ judgment in C-58/08, *Vodafone*, § 32 and seq. on the requirements for using Article 114 TFEU as a legal basis.

737 Similarly to the objective of Directive 2004/48/EC: "*to approximate legislative systems so as to ensure a high, equivalent and homogenous level of protection in the internal market*" (cf. recital (10)).

and innovation less attractive and more difficult (because companies will be reluctant to undertake innovation-related work with possible partners in other Member States if the relevant rules against misappropriation of trade secrets are unclear or differ significantly and will only do so if additional investment in securitisation is guaranteed through the relevant network), which leads to less efficient investment in R&D and innovation development in the EU; creating a higher business risk in Member States with lower level of protection with adverse effects on the whole of the EU economy as “resulting goods” spread across the Internal Market and dissuading innovation-related cross border activity. In addition, inefficient allocation of capital to growth-enhancing innovation within the internal market will also appear: e.g. increased expenditure on trade secrets protective measures so as to compensate for the insufficient protection in some Member States, which could result in an unproductive expenditure/misallocation of capital in certain activities within the Internal Market.

The different national rules described above offer an uneven level of protection across the EU. They contribute to dissuading trade secrets misappropriation litigation outside the home Member State, thus lowering the incentives to undertake any innovative-related cross-border activity which would depend on the use of information protected as trade secret. This disproportionately affects SMEs' ability to exploit the full benefits of the Internal Market since they are less likely to be established in every Member State. In contrast, they incentivise the use of misappropriated trade secrets across the borders of the Internal Market and the “resulting goods” that circulate freely within it further undermine and dissuade investment in cross-border R&D and innovation and sustainable growth and employment opportunities within the EU, undermining the EU2020 objectives.

ANNEX 18 – SUBSIDIARITY ANALYSIS

Necessity test.

According to the principle of subsidiarity laid down in Article 5(3) of the TFEU, action on the EU level should be taken only when the aims envisaged cannot be achieved sufficiently by Member States alone and can therefore, by reason of the scale or effects of the proposed action, be better achieved by the EU.

The problem addressed in this Impact Assessment relate to fragmented legal protection of trade secrets across the EU. The objectives of the initiative to address these problems (see Section 3) will not be achieved by Member States alone. This is shown by the existing uncoordinated national legal approaches in this field (see Figure 3, in Section 2.2.2; and Annexes 9, 10, 12, 14 and 15). In addition, national responses are necessarily limited in their geographical scope and cannot be compared with or substitute a co-ordinated or systematic response on the EU level.

EU action is particularly needed to establish a legal framework which could protect the cross-border flow of innovation-related trade secrets among research and business partners by ensuring that the benefits of any misappropriation of such information are minimised if not completely eliminated. This flow of information is paramount for R&D but also for the exploitation of innovation in the EU (see Annex 1). Thus the inconsistencies between the different national regimes hinder the functioning of the Internal Market. Achieving greater consistency in measures on transparency across Member States and product sectors is central to addressing the problems identified in this Impact Assessment. Yet such consistency cannot be achieved by action taken solely on the Member State level.

In terms of stakeholders' perception, 52% of the respondents to the 2013 Public Consultation, support EU action on the legal protection of trade secrets against misappropriation . Figure A.18.1 shows the extent of support within each specific category of stakeholders. Companies, SMEs, professionals, business associations and research entities are in general favourable. A vast majority of responding citizens sees no need for EU action (respondents of the opinion that no action is required are mostly citizens originating from Germany), and three out of the four trade unions who have participated in the consultation find that no EU action is required, while the other three are in favour of addressing the issue at EU level. Support is higher for measures of civil law compared to measure of criminal law.

Figure A.18.1 – Stakeholders' views on an EU initiative, 2013 Public Consultation.

Respondent profile	No. of respondents	EU should act	No EU action required	No opinion or no answer
All respondents	386	52%	41%	5%
Citizens	152	19%	75%	6%
Companies (including SMEs)	125	80%	12%	6%
SMEs	59	66%	22%	11%
Professionals	35	48%	40%	11%
Business associations	34	94%	6%	0%
Research entities	19	57%	31%	10%
Trade unions	4	25%	75%	0%

A second step in the reasoning on subsidiarity is whether the protection of trade secrets against misappropriation should be achieved by civil law or by criminal law.

An EU action providing for civil law redress measures would fulfil the necessity test in this regard. At the same time, such EU action would not establish any specific *sui generis* monopoly/exclusive right on secret information but is rather limited to providing legal redress to holders of trade secrets when those trade secrets are misappropriated by third parties.

EU added value.

In terms of added value, harmonising national rules on the legal protection of trade secrets against misappropriation, at least in civil and commercial law, across the EU would bring positive elements for trade secrets owners. This notably includes a comparable level of legal protection ensured throughout the Union resulting in overall better protection for trade secret owners (believed by 77% of the companies which replied to the 2013 Public Consultation), easier cross border litigation (believed by 54% of the companies which replied to the 2013 Public Consultation), or the reduction of cost of protective measures for about a quarter of EU companies (believed by 26% of the companies which replied to the 2013 Public Consultation). See Sections 5 and 6 below for a more detailed assessment of impacts.

Harmonisation efforts are normally better achieved by EU action than by Member States action. Experience in this field shows that even when Member States are coordinated to a certain extent, e.g. by the TRIPs rules (which in principle oblige all EU Member States), a sufficient degree of substantive harmonisation of national rules has so far not been achieved (see Section 2.3).

There could be additional added value in harmonising this area at EU level from an international viewpoint:

– (a) this would allow to provide for a coherent implementation of the EU's international obligations, notably Article 39 of the TRIPS Agreement[738]. Indeed, this is one of the few areas covered by the TRIPS Agrement where there is no specific EU law.

– (b) to influence (by example), in the context of trade negotiations, legislative developments in third countries having currently a weak level of protection of trade secrets to the detriment of EU companies active there.

738 There is some academic debate about the transposition of Article 39 of the TRIPS Agreement.
In the US, there is no civil law protecting trade secrets at federal level, but this issue is ruled by state law. All but 3 States have adopted a Uniform Trade Secrets Act on this issue, which codifies and harmonises standards and remedies regarding misappropriation of trade secrets that had emerged in common law on a State by State basis. Massachusetts, New York and Texas rely on traditional common law. While civil law trade secrets cases would normally be heard in State courts, they may also be brought before federal courts (applying state law through diversity or supplemental jurisdiction). Interestingly, some commentators have suggested that the current State-based protection system places the US in violation of its obligations under the TRIPS Agreement because the TRIPS Agreement would set higher standards than those used in the States which have not yet adopted the Uniform Trade Secrets Act (cf. Lao (1998) and Pace (1995)). Other commentators, however, think that this issue might be more theoretical than practical since there have been no complaints on this issue from any trading partner (cf. Almeling (2009), p. 776 (footnote 27)).
Similar arguments have been raised in Switzerland. De Werra (2009), p. 34, also wonders whether the protection granted by the Swiss unfair competition law complies with the minimal requirements of Article 39 of the TRIPS (the self-executive character of TRIPS would be the only defence against a negative finding).
Within the EU, it has also been argued that the protection of trade secrets in some Member States falls below the TRIPS standards (see e.g. Gielen (2009), p. 392, as regards The Netherlands).

Finally, providing for trade secret protection at Union level would not be at odds with practice in third countries having a federal structure, which either have federal legislation addressing trade secrets or are considering doing so

– in the US there are views calling for enacting a civil law trade secrets act at the federal level[739];
– in Switzerland there is federal law on this issue[740]; and
– in Canada there has been debate about it too[741].

This lack of harmonisation in the field of trade secrets contrasts with the field of intellectual property rights, which similarly protect innovation, that have largely been regulated at EU level (see Annex 5).

739 See the discussion in Thomas (2010), p. 13 and seq., or the views expressed by Almeling (2009).

740 In Switzerland, the federal law on unfair competition was considered sufficient to meet the requirements of Article 39 TRIPS, and no specific law on trade secrets has been enacted.

741 In Canada, there is no federal (civil or criminal) legislation specifically addressing trade secrets protection. State civil law guarantees certain protection through the common law doctrine of breach of confidence and tort law generally. In 1986, a Federal Provincial Working Party examined the need to enact civil law (and criminal law) at federal level to protect trade secrets and concluded favourably to such an initiative, but there has been no follow up to that report. See Alberta Report (1986).

ANNEX 19 – DETAILED POLICY OPTIONS SELECTED FOR EXAMINATION

Policy Option 1. Status quo.

Cf. Baseline Scenario.

Policy Option 2. Provide information on and raise awareness of the existing scope of protection of trade secrets and available redress tools in case of misappropriation of trade secrets.

This option consists of

– (a) preparing fact sheets including appropriate information on the scope of legal protection (what can be protected as trade secrets; when trade secrets are misappropriated, etc.); on the measures, procedures and remedies available against trade secret misappropriation in each Member State, as well as on the availability of arbitration/mediation procedures. The fact sheets would be made available to interested users on a website, which could be that of the EU IPR helpdesk[742] and/or the European Judicial Network[743]. As a by-product, this option could also provide information on protective measures, including contractual clauses[744];

– (b) making stakeholders aware of the measures, procedures and remedies currently available at national level to obtain relief in cases of the misappropriation of trade secrets or to help preventing misappropriation occurring (specific campaigns at EU and/or national level); and

– (c) promoting the use of arbitration/mediation procedures[745] to solve disputes.

Policy Option 3. Harmonisation of laws regarding the unlawfulness of acts of misappropriation of trade secrets.

This option consists in defining the scope of protection of trade secrets against their misappropriation, by:

– (a) defining trade secrets (i.e. information which is not, as a body or in the precise configuration and assembly of its components, generally known or readily accessible to persons within the circles that normally deal with the kind of information in question, has commercial value and has been subject to reasonable steps under the circumstances, by the person lawfully in control of the information, to keep it secret); and

– (b) establishing that certain acts of acquisition, use and disclosure of trade secrets are unlawful (i.e. the willing or negligent unlawful acquisition of the trade secret by theft, bribery, misrepresentation, breach or inducement to breach a duty to maintain secrecy, industrial espionage, and other unlawful practices; as well as the disclosure or misuse of a trade secret by a person without the consent of the trade secret holder, when such person was under a duty not to disclose it or misuse it or when that person

742 www.iprhelpdesk.eu

743 http://ec.europa.eu/civiljustice/index_en.htm

744 There is already guidance at EU level on contractual protection, including model non-disclosure/non-compete clauses. See for instance, the templates made public by the European IPR helpdesk: https://www.iprhelpdesk.eu/library/useful-documents?=Apply

745 For instance, WIPO has arbitration and mediation procedures in place for intellectual property-related disputes. These alternative resolution dispute procedures would allow to solve trade secret related disputes too. In particular, WIPO promotes the use of these procedures for disputes related to R&D and technology transfer: http://www.wipo.int/amc/en/center/specific-sectors/rd/

obtained knowledge of the trade secret following an act of unlawful acquisition) in a way that is consistent with the TRIPS Agreement[746].

Under this option, Member States would also be called to ensure that their national rules provide for measures, procedures and remedies, available to trade secret holders, in case of misappropriation.

These national rules should include appropriate and proportionate measures to preserve the confidentiality of trade secrets during and after the legal proceedings, while ensuring that the conditions for a fair trial are respected and the processing of personal data done in accordance with EU law.

Under this option, the detailed implementation of those measures, procedures and remedies would be left to Member States, subject to a general requirement on Member States to ensure that these measures, procedures and remedies are fair, equitable and proportionate, and are applied in such a manner as to avoid the creation of barriers to legitimate trade and to provide for safeguards against their abuse.

This option would also make clear that this option does not interfere with whistleblowing obligations, with rules on the disclosure of business secrets to public authorities pursuant to regulatory obligations and with rules on the transparency obligations of public authorities in this regard[747].

Policy Option 4. Harmonisation of national civil law remedies against misappropriation of trade secrets.

Firstly, this option integrates Policy Option 3 as regards the scope of protection of trade secrets against misappropriation.

Secondly, Member States would be required to establish minimum harmonisation (and principles-based) rules on civil law remedies allowing to obtain relief in case of misappropriation of trade secrets.

In particular, these rules would address the following issues:

– (a) the availability of (interim and definitive) injunctive relief allowing for the adoption of cease and desist orders against third parties (i.e. irrespective of whether there is a contractual relationship between the third party and the trade secret holder) so that they are prohibiting from using/disclosing the trade secret or requested to stop using/disclosing it. This option will not deal with the characteristics of injunctions, such as regards their duration[748];

– (b) the prohibition of imports of "resulting goods" from third countries;

– (c) the availability of corrective measures allowing for: the seizure and destruction of goods made using misappropriated trade secrets; and the destruction (or delivery up

[746] From a legislative technique perspective, it could be conceivable to establish a definition of trade secret having a scope narrower than that foreseen in TRIPS Agreement. However, it would be questionable as a policy choice. Therefore, in this Impact Assessment, the definition of trade secrets in the TRIPS Agreement is followed.

[747] See Annex 4.

[748] Member States would be free to provide for (or allow courts to do so) either unlimited injunctions (unless the trade secret comes into the public domain) or limited-in-time but renewable injunctions if the circumstances have not changed.

to the trade secret holder) of documents, materials or files containing or implementing the misappropriated trade secret;

– (d) the availability of compensation (damages) for the prejudice suffered when the violation of trade secrets has been carried out in bad faith. The rules would ensure that judicial authorities may calculate the damages on the basis of different options, including the possibility to award "abstract damages", based on a fictitious royalty fee[749].

Thirdly, Member States would be required to establish minimum harmonisation rules on the preservation of confidentiality of the trade secret during and after the litigation on misappropriation of trade secrets, while ensuring that the conditions for a fair trial are respected and the processing of personal data is done in accordance with EU law. In particular, the rules would address:

– (a) the protection of trade secrets included in any document submitted by the parties[750] or third parties (e.g. in reaction to a request to submit evidence) during the judicial proceedings. The rules would require that the need to protect trade secrets is taken into account by the court when ordering the production of evidence and that appropriate measures are taken in that regard, such as the following: examination of the document containing trade secrets would only be possible for persons subject to a confidentiality obligation and no copies could be made by the other party (or the parties if the trade secret was disclosed by a third party); or the evidence is not disclosed to the other party, but merely to their legal representatives and authorized experts (see below on hearings);

– (b) the carrying out of in-camera hearings, thus excluding the general public from those hearings. The rules would also address the possibility to carry out the hearings only in the presence of authorised experts and the legal representatives of the parties, to the exclusion of the parties themselves[751];

– (c) the preparation of non-confidential versions of documents containing trade secrets;

– (d) the publication of non-confidential versions of judicial decisions. The court would be required to ensure that the judicial decisions do not disclose trade secrets. For this, the court should be able to publish only a non-confidential version of the decision in which the passages containing trade secrets are deleted and replaced by summaries.

– (e) confidentiality obligations of the parties. The parties to the court cases as well as other persons participating or assisting in the proceedings would be required not to disclose trade secrets whose knowledge has been acquired in the course of the court case.

Fourthly, Member States would be requested to establish specific safeguards to ensure a proportionate application of the law by judicial authorities (by balancing different interest at stake)

749 Similarly to Article 13, second subparagraph, of Directive 2004/48/EC.

750 The procedural rules on civil litigation normally allows a court to order a party to present evidence under his/her control upon request of the other party. See for instance, Article 6(1) of Directive 2004/48/EC regarding civil litigation on the enforcement of intellectual property rights.

751 As in the so-called Dusseldorf procedure, which is used in Germany. This procedure, originally developed for patent law claims) consists in a procedure where courts order independent proceedings for the preservation of evidence as an interim injunction handed to the defendant together with the statement of claims so that there is no chance to destroy evidence. Evidence is then examined exclusively by authorized experts and attorneys bound to confidentiality. The parties do not have access to the confidential information. Cf. Baker & McKenzie (2013), B3.

and the respect of the rights to a fair trial and rights of defence (see Annex 21) when deciding on the granting of these measures and remedies:

– (a) judicial authorities are requested to take into account the value of the trade secret, the seriousness of the conduct of the person who violated the trade secret, the impact of the unlawful use or disclosure of the trade secret, the legitimate interests of the trade secret owner but also impact of the measures in the market, including on the legitimate interests of third parties;

– (b) injunctive relief when the trade secret is in the public domain (i.e. the information is no longer secret) should not be possible[752];

– (c) when injunctive relief would be disproportionate, good faith third parties could continue using the trade secret subject to the payment of appropriate compensation.

Fifthly, the general anti-abuse clause (cf. Policy Option 3) would be completed by a request to sanction manifestly abusive behaviour during litigation.

These rules would be similar to those contained in Articles 3 and 9 to 14 of Directive 2004/48/EC on the infringements of intellectual property rights. They would be integrated into the general rules of procedure of the Member States.

These rules could, in principle, be included in either a recommendation or a directive.

Policy Option 5. Harmonisation of national civil law and criminal law remedies against the misappropriation of trade secrets.

This option integrates Policy Options 4[753]. In addition, it consists of requiring Member States to criminalise the most important acts of misappropriation of trade secrets and to establish a penalty framework for those. The criminalised conduct would be:

– the unauthorised use or disclosure of trade secrets; and

– business/industrial espionage.

The penalty framework would ensure that maximum penalties are set at, at least, two and four years imprisonment respectively.

752 Without prejudice to the possibility to impose an injunction to the person responsible for the disclosure of the trade secret to make sure that he cannot take advantage of this act.

753 Providing for criminal law responses to misappropriation of trade secrets do not (and cannot) replace the need to address the deficiencies in the civil law protection. Civil law protection and criminal law protection are not substitute to each other in this area.

ANNEX 20 – DISCARDED POLICY OPTIONS

The policy options described in this annex have not retained for further examination in the context of this impact assessment.

DO1. Uniform EU rules on civil law remedies against misappropriation of trade secrets.

This option would consist in establishing uniform EU rules (i.e. a Regulation achieving maximum harmonisation) on civil law remedies applicable in case of misappropriation of trade secrets, thus completely replacing national rules in this area.

This option has not been retained for further examination for the following reasons.

– While it could be *prima facie* seen as an effective option to address the objectives, in practice a uniform EU regime would introduce additional complexity to litigation before EU courts. Litigation on misappropriation of trade secrets is not necessarily done in isolation; it is often done in combination with litigation on the infringement of an intellectual property right or on other breaches of law (e.g. contractual breaches). This could be overly burdensome and lead to incoherent civil procedure at national level with different ways of handling matters, depending on the subject matter involved.

– Furthermore, a uniform EU regime would be disproportionate in so far as it would create a specific EU regime for torts in this area, derogating from the general national regime, without sufficient justification.

DO2. Regulation of protective measures which trade secret holders would be required to adopt to protect their trade secrets against possible misappropriation.

Under this option trade secret holders would be requested to adopt protective measures to protect their trade secrets against possible misappropriation. Such protective measures could consist in: marking documents as confidential, restricting access to the information to key staff and on a need-to-know basis, physical access restrictions, security measures in connection to digital and information systems, contractual protection (e.g. non-disclosure clauses), etc.

This option has not been retained for further examination for the following reasons.

– Firstly, protective measures alone are insufficient to prevent third parties from benefiting from the misappropriation of the trade secrets, as they do not provide for relief once the trade secret has been misappropriated (unless on the basis of contractual clauses and against the contractual counterparts only). Therefore, operational objectives C (access to a sufficient and comparable level of redress in case of misappropriation) and D (deterring third parties from misappropriating trade secrets) are not addressed.

– Secondly, EU rules of this type are likely to be inefficient and disproportionate. Trade secrets holders already apply protective measures to safeguard the confidential character of their valuable information voluntarily, as otherwise they would not be in a position to claim before a judge that the information in question was a trade secret in the first place (i.e. there is an ex-post judicial assessment). In order to avoid a disproportionate limitation of business freedom, possible EU rules requiring trade secret holders to take specific protective measures would need to be general in nature – thus unable to provide a sufficient granularity having regard to the context and

circumstances[754], and likely to result in the adoption of costly protective measures by trade secret holders who would otherwise not need to do so. This would be less efficient and less proportionate than an ex-post case-by-case judicial assessment (when litigating for relief against misappropriation of the trade secret), which will take account of the circumstances of the case without imposing a one-size fits all approach.

DO3. Uniform rules applicable to non-compete clauses and/or to non-disclosure clauses between the trade secret holder and its employees and/or business partners who have access to trade secrets

This option would regulate contractual relationships by requiring trade secret holders to include uniform non-compete and/or non-disclosure clauses in their contracts with their employees and/or business partners who have access to the relevant trade secrets. This option is a sub-option of the discarded policy option n°2 (DO2) in so far as the contractual non-compete/non-disclosure clauses are protective measures. The difference compared to the DO2 is that in the discarded policy option n°3 (DO3), clauses are uniform.

DO3 is different from Policy Options 3 and 4 which do not address contractual clauses at such, although there would be interactions. Policy Options 3 and 4 set out the conduct that is considered to be misappropriation of trade secret and the consequences, in civil law terms[755], thereof. They apply irrespective of the existence of a contractual relationship, but may impact on contractual clauses in two different, opposite, ways. On the one hand, they somehow restrict the risk that contractual clauses are overly protective to the advantage of the trade secret holder. It would be difficult, if not impossible, for the trade secret holder to establish confidentiality/non-compete restrictions beyond the terms of the statutory definition of trade secret (i.e. if the information is generally known or readily accessible to person within the circles that normally deal with the kind of information in question). On the other hand, a contractual relationship may modulate the application of Policy Options 3 and 4. Contractual clauses would remain important for the purpose of granting consent on the lawful use of the trade secret (absence of consent of the trade secret holder is a condition for proving the misappropriation of the trade secret). Contractual non-compete/non-disclosure clauses are also likely to remain important for a trade secret holder willing to claim before a judge that the information in question was a trade secret in the first place.

This option has not been retained for further examination for the following reasons.

– Firstly, in terms of effectiveness, uniform rules of this type, which are of preventive nature, are insufficient to prevent third parties from benefiting from the misappropriation of the trade secrets by themselves. These contractual clauses would allow the trade secret holder to try to obtain judicial enforcement of the contract, thus making his counterparts liable for breach of contract. However, the enforcement of the contract would be ineffective vis-à-vis third parties who may have acquired the trade secret in the meantime. Therefore, redress would be insufficient. The fact that the clauses would be uniform across Europe does not change the analysis.

754 E.g. industry concerned, type of information concerned, competitive environment, size of trade secret holder etc.

755 Policy Option 5 would similarly set out the consequences in terms of criminal law. For the purposes of simplifying the analysis no further reference to Policy Option 5 will be made here.

– Secondly, in terms of efficiency, the need of DO3 is questionable. Such rules, despite the fact of being uniform, are unlikely to be able to provide sufficient granularity for all cases, having regard to the context and circumstances[756]. Setting EU uniform rules on non-compete clauses (or on non-disclosure clauses) would be in contradiction with one of the advantages that Policy Option 4 may have: the convergence of national rules dealing with judicial redress in case of misappropriation of trade secrets is likely to result in less expenditure (lower transaction cost) on protective measures, including in particular as regards confidentiality or non-compete agreements with partners and employees (which may not be needed in certain cases). This would be at odds with a requirement to apply uniform rules in all cases, which would *de facto* result in imposing a minimum cost (even if having model clauses would limit such cost) in cases where such incurring such cost would not be needed.

– Also, in terms of proportionality, imposing uniform clauses of the type in question in business-to-business relationships may lack proportion. Setting uniform EU rules on contractual clauses would be an intrusive measure inevitably restricting the freedom of contract principle, which lies at the heart of the law of contracts and economic activity. It would be more proportionate to allow trade secret holders to decide how they want to use their contractual freedom to protect their trade secrets. In this connection, there is already guidance at EU level of this type of contractual protection, including model clauses, which do not interfere with the freedom of contract principle[757]. At the same time, justification of the uniformity of such clauses on public ground/interests would be difficult.

– As a result, DO3 would be less efficient and less proportionate than an ex-post case-by-case judicial assessment (when litigating for relief against misappropriation of the trade secret), which will take account of the circumstances of the case without imposing a one-size fits all approach.

DO4. Extension of the scope of existing intellectual property rights and/or creation of sui generis intellectual property rights.

It could be conceivable to extend the scope of existing intellectual property rights and/or creation of *sui generis* intellectual property rights to protect trade secrets as subject matter[758]. This has been done in the past. For instance, copyright protection was extended in Europe to databases[759] although this has not been done in other countries, such as the US. In this context, one could imagine extending the scope of patent protection to technological know-how which today is not patentable: e.g. incremental innovation etc. Also, a *sui generis* right was created for the protection of the topography of semi-conductors[760].

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756 E.g. industry concerned, type of information concerned, competitive environment, size of trade secret holder etc.

757 See for instance, the templates made public by the European IPR helpdesk on non-disclosure agreements: https://www.iprhelpdesk.eu/library/useful-documents?=Apply

758 It should be noted that this discarded policy option n°4 should be distinguished from the possibility to extend the scope of Directive 2004/48/EC on the enforcement of intellectual property rights to also encompass trade secrets (see Annex 23 on this issue).

759 Directive 96/9/EC of the European Parliament and of the Council of 11 March 1996 on the legal protection of databases, OJ L 77, 27.3.1996, p. 20.
However, Copyright protection was extended in Europe to databases, however this is not the case in other countries where databases are not protected by copyright.

760 Council Directive 87/54/EEC of 16 December 1986 on the legal protection of topographies of semiconductor products, OJ L 24, 27.1.1987, p.36.

This option has not been retained for further examination for the following reasons.

– Following this option would result in creating monopoly rights on information which would be opposable *erga omnes.* However, there is little (if any) justification supporting the need for creation of additional monopoly rights. The extension of the scope of existing intellectual property rights or a *sui generis* intellectual property right on trade secrets could hardly cover the whole spectrum of valuable information currently protected by secrecy [761] ; therefore this option would result in over protection for some trade secrets and under protection for others[762].

– Additionally, a monopoly right would not allow for distinguishing between the misappropriation of information and the mere acquisition of knowledge (e.g. by reverse engineering or by parallel discovery).

– Finally, existing intellectual property rights already provide a certain degree of (exclusive) protection to innovation developed by secrecy: protection of innovation through trademark or design rights once the products are in the market is likely to be sufficient in most cases to secure a competitive advantage (being first in the market) to the trade secret holder, without restricting others' possibility to reverse engineer the innovation, thus allowing society to achieve maximal benefit from innovation.

DO5. Extension of the scope of the EU rules on customs enforcement of intellectual property rights to also include trade secrets misappropriation.

This option would consist in extending the scope of Regulation (EC) No 1383/2003 so that the customs regime applicable to goods suspected of infringing intellectual property rights would also be extended to goods suspected of misappropriating trade secrets.

This option has not been retained for further examination for the following reasons.

– Such an extension would not be without problems. In the case of an intellectual property right, there is a presumption of validity of that right, which explains why the right holder can ask customs authorities to detain suspected goods entering into the EU before filing a case with a court for the infringement of the right in question. Also, the rightholder will be enforcing an exclusive right on the subject matter protected by the intellectual property right: in other terms, the goods in question would infringe the intellectual property right whenever the authorisation of rightholder to the use of the intellectual property right in question is missing. A case on the misappropriation of a trade secret presents, however, a different scenario. The misappropriation of a trade secret results from the unlawful conduct of a person (a third party) in obtaining the relevant information that will be used for the manufacturing of the goods. At the same time, the owner of the trade secret does not have an exclusive right on that information. In other terms, a person unconnected to the misappropriation of trade secrets but producing identical goods would not be infringing any trade secret[763]. Therefore, the act of misappropriation would need to be first proved and a court decision would be needed on this issue. In this context, it does not appear *prima facie* proportionate to allow customs authorities to detain imported goods on the basis of an alleged trade secret misappropriation in the

761 Granting a patent right or creating a *sui generis* right covering strategic business information, even if valuable to its holder, appears disproportionate.

762 Lowering patentability standards would also create additional problems for the examination of patent applications.

763 For instance, this third person may have reversed engineered a lawfully acquired product or discovered the same relevant information in parallel.

absence of a judicial decision establishing the existence of an unlawful act first and requiring that the goods in question are detained.[764].

– Moreover, the Commission examined in 2011 whether the customs regime applicable to goods suspected of infringing intellectual property rights should also be extended to goods suspected of misappropriating trade secrets[765]. However, it eventually decided not to include the misappropriation of trade secrets in the scope of protection of the proposal for a new Regulation in this area[766].

See Annex 13 for further detail.

764 This is without prejudice to the possibility that a court may order the (provisional or definitive) seizure of imported goods (and the assistance of customs authorities in this regard), upon the application of a trade secret holder who is able to present enough evidence in support of his/her claim (and, where appropriate, to meet the criteria for obtaining provisional and precautionary measures).

765 See the impact assessment accompanying the proposal: European Commission Staff (May 2011), in particular p. 13 and p.16

766 See European Commission (May 2011b), in particular the definitions of "*intellectual property right*" and of "*goods suspected of infringing an intellectual property right*" in points (1) and (7) of Article 2.

ANNEX 21 – IMPACT ON FUNDAMENTAL RIGHTS

A21.1. The protection of trade secrets and the Charter on Fundamental Rights of the European Union

The Charter on Fundamental Rights of the European Union[767] (hereinafter, the "Charter") can be read as supporting that trade secrets are worth being protected.

Article 7 of the Charter: respect for private and family life

First of all, Article 7 states that "*[e]veryone has the right to respect for his or her private and family life, home and communications*". The rights guaranteed in this Article correspond to those guaranteed by Article 8 of the European Convention on Human Rights (hereinafter, ECHR). In accordance with Article 52(3) of the Charter, the meaning and scope of the right covered in Article 7 are the same as those of the corresponding article of the ECHR[768].

Several judgments of the European Court of Human Rights have interpreted that the notion of 'private life' cannot be taken to mean that the professional or commercial activities of either natural or legal persons are excluded[769]. This case-law has been recognised by the European Court of Justice, which refers to the right to respect for private life as flowing from the common constitutional traditions of the Member States[770]. As a result, an economic actor who protects valuable information through secrecy (i.e. as a trade secret) is indeed exercising his or right to private life and, as a result, a misappropriation of a trade secret constitutes an intrusion into/interference with such right[771].

For the purpose of the analysis in Section A21.2 of this Annex, it is concluded that the Charter guarantees the protection of trade secrets under Article 7.

Article 41 of the Charter: right to good administration

Moreover, Article 41 of the Charter confers a right to every person "*to have his or her affairs handled impartially, fairly and within a reasonable Institutions, bodies and agencies of the Union*." It confirms the view that trade secrets (understood as included in the "business secrets" category) have a value for the owner of the secret because of their secrecy, which is worth preserving. This Article aims at avoiding that a "business secret" held by a public administration is disclosed to third parties or the public and it refers to the need for the administration to respect "*the legitimate interests of confidentiality and of professional and business secrecy*"[772].

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767 OJ C 83, 30.3.2010, p.391.

768 See the Explanations relating to the Charter of Fundamental Rights, OJ 303, 14.12.2007, p.17, 20.

769 See, for instance, *Niemietz v Germany*, judgment of 16 December 1992, §29; *Société Colas Est and Others v France*, §41; *Amann v Switzerland*, judgment of 16 February 2000, §65 ("…*the term 'private life' must not be interpreted restrictively. […] furthermore, there is no reason of principle to justify excluding activities of a professional or business nature from the notion of "private life*"); Peck v The United Kingdom, judgment of 28 January 2003, §57 ("…*That Article […] may include activities of a professional or business nature. […]*".

770 E.g. Judgment of the Court of 14 February 2008, *Varec*, C-450/06, §48.

771 Similarly, it has also been claimed that industrial espionage is an "*intrusion in business life*". See UK Law Commission (1997), p. 11.

772 Article 41(2)(b) of the Charter: "*This right [of good administration] includes: […] (b) the right of every person to have access to his or her file, while respecting the legitimate interests of confidentiality and of professional and business secrecy*".

While article 41 of the Charter is not directly applicable to Member states and their administrations, there is settled case-law of the European Court of Justice. The Court has acknowledged that the protection of "business secrets" is a general principle of law[773]. For the Court, "business secrets" are information of which not only disclosure to the public but also mere transmission to a person other than the one that provided the information may seriously harm the latter's interest[774]. For instance, the Court of Justice ruled in the *Varec* case that the undertaking concerned might suffer *'extremely serious damage'* if there were improper communication of certain information to a competitor[775].

Article 17 of the Charter: right to property

In the third place, one could raise whether Article 17 of the Charter could also support that trade secrets must be protected. This article has two paragraphs. According to the first paragraph, "*[e]veryone has the right to own, use, dispose of and bequeath his or her lawfully acquire possessions*." This first paragraph is based on Article 1 of the Protocol to the ECHR which states that every natural or legal person is entitled to the peaceful enjoyment of his possessions. The protection of intellectual property, one aspect of the right of property, is explicitly mentioned in paragraph 2 of this Article[776] "*because of its growing importance and Community secondary legislation*"[777]. In doing so, it also complies with the case-law of the ECHR which has recognised that intellectual property is protectable under Article 1 of the Protocol to the ECHR[778]. In accordance with Article 52(3) of the Charter, the meaning and scope of the right provided for in Article 17 of the Charter are the same as those of the right guaranteed by the ECHR and the limitations may not exceed those provided for there.

The question at stake is whether trade secrets could be protectable, either within the category of "intellectual property" or as a generic "possession".

The question of whether trade secrets are “intellectual property” is subject to debate. It could be argued that trade secrets should not be protected under Article 17(2) of the Charter because they are not intellectual property rights, such as patents or trademarks[779]. However, there are other

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773 See Case 145/83, *Adams v Commission*, § 34; Case 53/85 *AZKO v Commission*, §28; case C-36/92P, *SEP*, §37. Most of the relevant case-law relates to "business secrets" held by European institutions (e.g. the Commission) pursuant to regulatory obligations (e.g. in antitrust cases).
In this context, the general principle that undertakings are entitled to the protection of their business secrets finds expression in Article 339 TFEU: "*The members of the institutions of the Union, the members of committees, and the officials and other servants of the Union shall be required, even after their duties have ceased, not to disclose information of the kind covered by the obligation of professional secrecy, in particular information about undertakings, their business relations or their costs components.*"

774 See Case T-353/94, *Postbank v Commission*, §87. For the Court, in order that technical information be of the kind to fall within the ambit of the obligation of professional secrecy, it is necessary, first of all, that it be known only to a limited number of persons. It must then be information whose disclosure is liable to cause serious harm to the person who has provided it or to third parties. Lasts, the interests liable to be harmed by disclosure of the information must be objectively worthy of protection (see case T-198/03, *Bank Austria Creditanstalt v Commission*, §71).

775 Judgment of the Court of 14 February 2008, *Varec*, C-450/06, §54.

776 "*Intellectual property shall be protected*"

777 Explanations relating to the Charter of Fundamental Rights, OJ L 303, 14.12.2007, p.17, 23.

778 See for instance case the judgment of 11 January 2007, Anheuser-Busch v Portugal, No 73049, §72: "*[…] the Grand Chamber agrees […] that Article 1 of Protocol No 1 is applicable to intellectual property as such*." See also *Dima v Romania*, No 58472/00 (admissibility decision) and *Melnychuk v Ukraine*, No 28743/03 (admissibility decision). For a description of these decisions, see Helfer (2008).

779 For instance, trade secrets are not included in the interpretative statement made by the Commission in 2005 in connection to Directive 2004/48/EC on the enforcement of intellectual property rights. Since

legislative texts or case-law where they are recognised as intellectual property rights: (a) in the TRIPS Agreement, trade secrets are considered intellectual property rights (cf. Article 1(2) of TRIPS Agreement[780]); (b) the technology transfer block exemption regulation[781] includes know-how[782] as an intellectual property right alongside industrial property rights, copyright and neighbouring rights[783]; (c) in the *Microsoft* case, the Court of First Instance accepted that trade secrets could be assimilated to intellectual property rights[784]. Whether trade secrets are intellectual property rights or not, the Charter does not say either that intellectual property must be protected in all cases through intellectual property rights[785]. Indeed, it does not provide a definition of intellectual property. The explanatory text says that "*intellectual property covers not only literary and artistic property but also inter alia patent and trademark rights and associated rights*"[786]. One can conclude that trade secrets are neither explicitly included nor excluded from this definition.

Even if trade secrets were not "intellectual property", the question remains as to whether they could fall within the generic provision of the first paragraph of Article 17: the "possessions". The European Court of Human Rights has given autonomous meaning to the concept of possessions, "*which is not limited to ownership of physical goods and is independent from the formal classification in domestic law: certain rights and interests constituting assets can also be regarded as 'property rights', and thus as 'possessions' for the purpose of this provision*"[787]. While there appear to be no cases of the European Court of Human Rights that directly pronounces on the right to protection of trade

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this Directive did not define intellectual property rights or intellectual property, the Commission published an interpretative list of intellectual property rights which were "at least" covered by the Directive. Trade secrets were not included in that list. See Section A5.4 of Annex 5.
The regulation on customs enforcement of intellectual property rights does not include trade secrets in its scope either. See Annex 13.

780 "*For the purposes of this Agreement, the term "intellectual property" refers to all categories of intellectual property that are the subject of Sections 1 through 7 of Part II.*" Part II is named "*Standards concerning the availability, scope and use of intellectual property rights*". Section 7 of Part II of the agreement deals with the "*Protection of Undisclosed Information*". Moreover, it is undisputed that Part III of the TRIPS (*Enforcement of intellectual property rights*) also applies to trade secrets as defined in section 7 of Part II. See for instance Bronckers & McNelis (2012), p. 677.

781 Commission Regulation (EC) No 772/2004 of 27 April 2004 on the application of Article 81(3) of the Treaty to categories of technology transfer agreements, Official Journal L 123, 27.04.2004, p. 11.

782 The definition of know-how in the Regulation is similar to that of trade secrets (cf. Article 1(1)(i)): *""know-how" means a package of non-patented practical information, resulting from experience and testing, which is: (i) secret, that is to say, not generally known or easily accessible, (ii) substantial, that is to say, significant and useful for the production of the contract products, and (iii) identified, that is to say, described in a sufficiently comprehensive manner so as to make it possible to verify that it fulfils the criteria of secrecy and substantiality".*

783 Cf. Article 1(1)(g).

784 Judgement of the Court of First Instance of 17.9.2007, case T-201/04, *Microsoft*, §289.This case concerned the refusal to licence interoperability information related to proprietary software. Facing the question of whether such information was protected by a patent, copyright or not, the Court concluded that it would proceed on the presumption that the information in question was covered by intellectual property rights or constituted trade secrets and that those trade secrets must be treated as equivalent to intellectual property rights. Thus the Court of First Instance assumed that trade secrets were entitled to the same protection as intellectual property rights. See Bronckers & McNelis (2012), p. 683

785 In economic terms innovative information which is kept secret by its holder is, no doubt, some kind of intellectual property. The economic literature certainly regards trade secrets as part of the intellectual property domain. Moreover, in many cases, trade secrets will interact with intellectual property rights as regards the protected information: e.g. the secret information may be patentable but it has not been patented (the trade secret is used as substitute or alternative to a patent) or not yet (e.g. the information is kept secret in the pre-patent phase). See generally Annex 6.

786 Explanations relating to the Charter of Fundamental Rights, OJ L 303, 14.12.2007, p.17, 23. Emphasis added.

787 See case *Anheuser-Busch v Portugal*, No 73049, §63.

secrets[788], there are no cases speaking against such an interpretation either. On the contrary, commentators raise different arguments suggesting that, if confronted to such a case, the Court of Human Rights could accept that trade secrets be covered by the protection[789]: (a) that Court has given a fairly broad and open-ended description of economic interests in intangible knowledge goods that would fall under the protection of Article 1 of the first Protocol to the ECHR[790]; (b) information protected as trade secrets may represent a substantial financial value[791], as traditionally requested by the Court for the object for which protection is claim as 'possession'[792]; (c) such information can be licenced to third parties for consideration[793]; (d) that Court has not considered that exclusivity is a condition for the 'possession', at least regarding intellectual property[794]; and (e) finally, "*there is no conceptual barrier to characterising trade secrets as intellectual property because of the limitation which are generally recognised (in the United States, in the EU as well as in TRIPS) as inherent in the protection of trade secrets, such as independent development or reverse engineering*"[795].

Having said this, it must be acknowledged that there is no consensual view as to whether the holder of the trade secret has property rights over information kept as a trade secret. In the absence of such property rights, the application of Article 17 to trade secrets remains to be proven. In any event, the economic rationale behind Article 17, and in particular its second paragraph, would support the idea that trade secrets are worth being protected.

A21.2. Impacts of policy options on fundamental rights

The analysis below will examine the impacts of the policy options on certain fundamental rights. Further to Articles 7, 41 and 17 of the Charter (see Section A21.1 of this Annex), the following fundamental rights will be included, where appropriate, in the examination:

– Article 8(1), protection of personal data: "*Everyone has the right to the protection of personal data concerning him or her*.";

– Article 11(1), freedom of expression and information: "1. *Everyone has the right to freedom of expression. This right shall include freedom to hold opinions and to receive and impart information and ideas without interference by public authority and regardless of frontiers.*";

– Article 15, freedom to choose an occupation and right to engage in work: "*1. Everyone has the right to engage in work and to pursue a freely chosen or accepted occupation. 2. Every citizen of the Union has the freedom to seek employment, to*

788 The European Court of Justice has not judged either whether Article 17 of the Charter applies to trade secrets.

789 Bronckers and McNelies "*expect no particular hesitation from the ECtHR to afford protection to trade secrets under Art. 1 FAP as 'possessions', especially when the information at issue is economically valuable*" although they agree that it is "*more than an open question whether the ECtHR will characterize trade secrets as intellectual property*". See Bronckers & McNelis (2012), p. 681.
Helfer also arrives at this conclusion, although he makes a different interpretation as regards the question of exclusivity. See Helfer (2008), p.13.

790 See Bronckers & McNelis (2012), p. 680. In case Anheuser-Busch v Portugal (No 73049), the Court accepted that an application for a trademark registration already created an interest of proprietary nature that is protected under Article 1 of the first Protocol to the ECHR (§78).

791 See generally Annexes 5 and 6.

792 See case *Anheuser-Busch v Portugal*, No 73049, §76. See Also Helfer (2008), p. 24.

793 Helfer (2008), p.24; Bronckers & McNelis (2012), p. 681.

794 In the area of intellectual property, there are exceptions to the exclusivity, in particular regarding copyright. Yet, copyright is still considered a property right. Cf. Bronckers & McNelis (2012), p. 678.

795 Bronckers & McNelis (2012), p. 678. These authors recalled that the US Supreme Court has already recognised that trade secrets are property, thus illustrating that there is no such conceptual barrier.

work, to exercise the right of establishment and to provide services in any Member State. […]";

– Article 16, freedom to conduct a business: "*The freedom to conduct a business in accordance with Union law and national laws and practices is recognised.*";

– Article 47, first subparagraph, right to an effective remedy: "*Everyone whose rights and freedoms guaranteed by the law of the Union are violated has the right to an effective remedy before a tribunal in compliance with the conditions laid down in this Article.*";

– Article 47, second subparagraph, right to a fair trial: "*Everyone is entitled to a fair and public hearing within a reasonable time by an independent and impartial tribunal previously established by law. Everyone shall have the possibility of being advised, defended and represented.*";

– Article 48(2) right of defence: "*2. Respect for the rights of the defence of anyone who has been charged shall be guaranteed.*";

– Articles 49 and 50: principles of legality and proportionality of criminal offences and penalties[796]; right not to be tried or punished twice in criminal proceedings for the same criminal offence[797].

Policy option 1 (Baseline scenario).

Under the current regulatory scenario, the risk of misappropriation of trade secrets is higher while the legal means at the disposal of the trade secret owner to stop the misappropriator and obtain compensation for the wrongdoing are uneven across the EU and do not guarantee that the misappropriator would not take advantage of the wrongdoing. This has negative impacts on: (i) primarily, the right to a private life and communications (Article 7 of the Charter), which is not sufficiently protected[798]; (ii) the freedom to conduct a business (Article 16), since the conduct of legal businesses in accordance with the law are disrupted by unfair and dishonest practices by competitors; and (iii) the right to an effective remedy (Article 47), which is compromised by the absence of appropriate remedies in case of misappropriation of trade secrets. Moreover, increased reliance by companies on protective measures implies that they could be tempted to impose working conditions on employees which could undermine their fundamental rights to privacy (Article 7) and right to the protection of personal data (Article 8): e.g. companies could in theory attempt at disproportionally monitoring employees' behaviour to avoid breaches of secrecy obligation[799]. Also, the uneven rules across the EU create legal uncertainty as to when a conduct constitutes a misappropriation of trade secrets in the different Member States, which may discourage the cross-border mobility of workers, thus affecting the right to work (Article 15).

Policy option 2 (Information and awareness).

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796 *"1. No one shall be held guilty of any criminal offence on account of any act or omission which did not constitute a criminal offence under national law or international law at the time when it was committed. Nor shall a heavier penalty be imposed than the one that was applicable at the time the criminal offence was committed. If, subsequent to the commission of a criminal offence, the law provides for a lighter penalty, that penalty shall be applicable. […]"*

797 "*No one shall be liable to be tried or punished again in criminal proceedings for an offence for which he or she has already been finally acquitted or convicted within the Union in accordance with the law.*"

798 And the right to property (Article 17), assuming it would be applicable.

799 According to The Economist (2013), multinational businesses are increasingly screening their own employees' behaviour to avoid e.g. regulatory breaches.

The impacts on fundamental rights of the previous option would be maintained. Option 2 would neither entail any significant improvement nor a deterioration of the situation.

Policy option 3 (Prohibition of acts of misappropriation of trade secrets).

Option 3 has beneficial effects as regards Article 7 in so far as it implies a better delimitation of the scope of protection of trade secrets across the EU[800]. Also, this option has indirect beneficial effects as regards personal data protection (Article 8). Information kept as trade secrets (such as list of clients/customers; internal datasets containing research data or other) may include personal data. The protection of trade secrets against misappropriation therefore reinforces the protection of personal data from unauthorised used by third parties. In addition, this option is likely to reduce the need for the use of extraordinary protective measures, thus reducing the risk of intrusion in the privacy sphere of employees and of disproportionate personal data processing.

However, from the perspective of the right to an effective remedy (Article 47), this option has a moderate positive impact. While this option would require that remedies are available nationally, it would leave the design of the appropriate remedies to national law. Thus, this option does not ensure that the remedies will be effective.

This option does not affect, interfere with or undermine the right of good administration and the related preservation of professional secrecy and secrecy of business in cases of access to documents held by Union institutions and bodies (Article 41(2)(b)): this option does restrict the right of the Union institutions and bodies to require companies to submit information when so provided by law; it does not restrict either the possibility for the Union institutions and bodies to provide access to relevant documents when the conditions for such access are met pursuant to the relevant legislation. Moreover, by clarifying this relationship it will add clarity and legal certainty, thus having a slight positive effect.

For the impacts on the rights to a fair trial (Article 47) and to defence (Article 48), see below the analysis regarding the rules on preservation of confidentiality of trade secrets during and after litigation.

The prohibition of acts of misappropriation of trade secrets improves the situation as regards the freedom to conduct a business (Article 16 of the Charter)[801]. On the one hand, better protecting a trade secret has positive effects for the freedom to conduct a business of the trade secret owner in so far as he is protected from unfair competition or dishonest practices of competitors. On other hand, the rights of competitors to conduct business are not affected: Article 16 cannot be read as supporting the idea that the misappropriation of trade secrets should be acceptable as a normal business method[802]. Moreover, since the trade secret does not create any exclusive right on the

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800 And the right to property (Article 17), assuming it would be applicable. If so, it must be noted that the Anheuser-Bush judgement of the European Court of Human Rights emphasizes the state's positive obligations to protect private property (i.e. taking affirmative steps to ensure that rights holders can effectively exercise their rights). According that judgement, states must "*afford the parties to the dispute judicial procedures which offer the necessary procedural guarantees and therefore enable the domestic courts and tribunals to adjudicate effectively and fairly in the light of the applicable law*" (§83). Should Article 17 of the Charter cover trade secrets, this policy option would undoubtedly have positive impacts on the application of that Article. See Helger (2008), p. 35 and seq. (on the consequences of the protection of intellectual property by Article 1 of the First Protocol to the ECHR – for him, intellectual property includes trade secrets).

801 The freedom to conduct a business in accordance with Union law and national laws and practices is recognised.

802 This conclusion is very clear as regards the wilful misappropriation of a trade secret. However, one could argue that protection of trade secrets against misappropriation could result in certain restriction of the freedom to conduct business for other companies (e.g. competitors, including competing businesses

information, competitors are entitled to develop the same information independently or to reverse engineer any product they have legally acquired. In this sense, their business opportunities are not restricted. Furthermore, this option also include appropriate safeguards (an anti-abuse clause) to ensure that bad faith abusive litigation, with the intention to foreclose markets and competitors and/or establish barriers within the internal market, which could potentially result from rules facilitating the enforcement of trade secrets, does not take place. Therefore, this option provides enough guarantees to ensure that the freedom to conduct business is not affected.

Policy Option 3 does not restrict the freedom to choose an occupation and right to engage in work (Article 15 of the Charter). Firstly, this option does not restrict employee mobility. While any protection of trade secrets against their misappropriation may result in restricting the information that an employee can take with him and use in any future working assignment for another employer, Article 15 of the Charter, however, cannot be read as giving an unconditional right to an employee to use all information obtained from his previous employer in future working assignments. This option fully recognises that any judicial authority deciding on a misappropriation case will need to carefully evaluate different factors before deciding on whether a misappropriation of a trade secret has taken place. It notably considers that "*information which is generally known among or readily accessible to persons within the circles that normally deal with the kind of information in question cannot be considered trade secrets*". This criterion should allow to distinguish between the general knowledge in the field accumulated by an employee working in a particular field and true trade secrets owned by the particular company where he is working. Moreover, the anti-abuse clause of this option should make sure that the trade secret owner does not initiate legal proceedings with the purpose of intimidating employees exercising mobility. Secondly, this policy option could have positive impacts as regards employees' possibilities to exercise mobility in so far as it provides more legal certainty on what is misappropriation of a trade secret, in particular in a cross-border scenario. Such increased legal certainty may facilitate employee mobility.

This policy option does not disproportionately limit the freedom of expression and information, and in particular journalistic freedom, guaranteed by Article 11 of the Charter[803]. Considering the wide freedom of expression and information formulated in the Charter, it is certainly legitimate to wonder whether this policy option, by rendering unlawful the use and disclosure of misappropriated trade secrets, would not restrict or limit that freedom. Therefore, it is necessary to examine the conditions of Article 52(1) of the Charter in order to see if such limitation could be justified: "*Any limitation on*

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set up by former employees) to the extent that they cannot use all the information they may have acquired in good faith (i.e. in the event that the party in question obtained the trade secret in good faith). If this were the case, it must be noted that in accordance with the Court of Justice case-law, the freedom to conduct a business is not absolute, but must be viewed in relation to its social function (see judgment of the Court of 22 January 2013, *Sky Österrreich*, case C-283/11, §45 and seq.).

803 According to the Explanations Relating to the Charter of Fundamental Rights, the meaning and scope of Article 11 of the Charter must be the same as those guaranteed by the Article 10 ECHR, which reads as follows:

"*1. Everyone has the right to freedom of expression. This right shall include the right to hold opinions and to receive and impart information and ides without interference by public authority and regardless of frontiers. […]*

2. The exercise of these freedoms, since it carries with it duties and responsibilities, may be subject to such formalities, conditions, restrictions of penalties as are prescribed by law and are necessary in a democratic society, in the interests of national security, territorial integrity or public safety, for the prevention of disorder or crime, for the protection of health or morals, for the protection of the reputation or rights of others, for prevention the disclosure of information received in confidence, or for maintaining the authority and impartiality of the judiciary."

the exercise of the rights and freedoms recognised by this Charter must be provided by law and respect the essence of those rights and freedoms. Subject to the principle of proportionality, limitations may be made only if they are necessary and genuinely meet objectives of general interest recognised by the Union or the need to protect the rights and freedoms of others." The second paragraph of Article 10 ECHR already indicates that the freedom of expression and information may be limited, if such limitation is prescribed by law, pursues a legitimate aim and is necessary in a democratic society (i.e. a balancing of interests would need to be carried out). In this context, the following must be considered:

– (a) the second paragraph of Article 10 ECHR states that "*preventing the disclosure of information received in confidence*" would be a legitimate aim. Protection of information shared in confidence appears therefore as an objective of general interest in the light of Article 52(1) of the Charter. The measures envisaged by policy option A3 should be seen in this context. They aim, inter alia, at preventing the unlawful acquisition, use and disclosure of trade secrets, including in particular of trade secrets which are shared for R&D and innovation purposes within research and/or trading partners. The European Court of Justice has expressed that safeguarding the right to respect for private life would undoubtedly constitute a legitimate aim in the general interest[804];

– (b) the second paragraph of Article 10 ECHR also states that *the protection of the reputation or rights of others*" could also be a legitimate aim. Policy option A3 would also aim at protecting the rights and freedom of others, namely the trade secret owner who developed the valuable information at stake and invested time and money on it. This policy option would ensure that the acquisition, use or disclosure of his trade secret by any third party without his consent would be unlawful;

– (c) concerning the balancing of interests (and the test on the necessity in a democratic society), the Court of Justice has already expressed that where several rights and fundamental freedoms protected by the European Union legal order are at issue, the assessment of the possible disproportionate nature of a provision of European Union law must be carried out with a view to reconciling the requirements of the protection of those different rights and freedoms and a fair balance between them[805]. It should be noted in this regard, that the restrictive measures in question would be limited to the prohibition of certain practices, such as the unlawful acquisition of a trade secret through theft,[806] which are likely to unduly harm the owner of the trade secret. In this balancing of interests, the protection and the reputation of the rights of others has already been accepted by the European Court of Human Rights as a valid reason to accept the compatibility with the ECHR of an injunction addressed at a third party in order to prevent the dissemination of confidential business information without the consent of the owner, paying regard to the particular harm which could be suffered by the company should the information be publicly disclosed[807]. The fact that the third party could be a journalist does not change the reasoning on this point[808]. At the same time, it would possibly be

804 See, for instance, judgment of the Court of 14 February 2008, *Varec*, C-450/06, §54.

805 See judgment of the Court of 22 January 2013, *Sky Österrreich*, case C-283/11, §60.

806 The protection of trade secrets against misappropriation does not unreasonably restrict the rights of third parties since no exclusive right on the information is created: any third party could engage in parallel developing of innovation or reverse-engineer any lawfully acquired good etc.

807 Judgment of 27 March 1996, *Goodwin v. The United Kingdom*, No 17488/90, §42.

808 *Ibid*.
The issue could be different should this policy option require a journalist to disclose his sources to the trade secret owner in order to allow him to bring legal proceedings against the journalist sources as the

unreasonable to allow a trade secret owner to rely on trade secret protection in order to prevent an employee, or another third party, to report suspected wrongdoings or otherwise complying with a whistleblowing obligation in the public interest. For this reason, a specific safeguard clause in this regard is included in this policy option.

As a result, the measures envisaged by Policy Option 3 should be seen as being compatible with the requirements of Article 52(1) of the Charter, as far as the limitations to Article 11 are concerned

Policy Option 4 (Prohibition of acts of misappropriation of trade secrets and convergence of national civil law remedies).

This option integrates Option 3. Therefore, the impacts of the latter would remain.

In addition, this option would reinforce the right of access to justice (Article 47, on the right to an effective remedy) of the trade secret owner in so far as this option would specifically provide for effective remedies, such as the possibility to request the misapropriator to stop using the misappropriated trade secrets and to compensate for the prejudice caused.

This option would also provide for the publication of judicial decisions and possible additional publicity measures as a specific remedy, in order to deter the misappropriation of trade secrets. In order to ensure that such publicity measures do not affect the right to privacy (Article 7) and the protection of personal data (Article 8) of natural persons, a safeguard clause has been introduce. The judicial authorities will be required to balance different interests at stake before granting the applicant's request to publish the judicial decision. Those interests are: the possible harm that such measure could cause to the privacy and reputation of the misappropriator, the value of the trade secret, the seriousness of the conduct, the impact of the misappropriation and the likelihood of any further unlawful use of the trade secret in question by the misappropriator.

Policy Options 3 and 4 as regards the preservation of confidentiality/secrecy during and after legal proceedings.

Policy Options 3 and 4 also deal with procedural rules to ensure the preservation of the confidentiality of the trade secret during and after legal proceedings. By guaranteeing such preservation, these options contribute to ensuring that the trade secret owner will be in a position to apply for an effective remedy before a tribunal in case of misappropriation of a trade secret and to secure that the secrecy of his trade secret will be maintained in the future. Therefore, from the perspective of ensuring a fair remedy (Article 47, first subparagraph) and of enforcing the right to private life and communication (Article 7)[809], these policy options have a positive effect.

These policy options require that the processing of personal data concerned by the trade secrets in question is done in accordance with relevant EU law on data protection[810]. Therefore, from this perspective, it contributes to providing clarity and certainty on this issue.

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alleged misappropriator. The European Court of Human Rights has already ruled twice that the "protection of the rights of others" is not enough justification to justify the restriction of the "freedom of information" which identifying the sources would entail. See *Goodwin v. The United Kingdom*, notably §45 and *Financial Times Ltd and others v. the United Kingdom*, No 821/03, §71. However, this policy option does not envisage such measure, therefore not interfering with this case-law.

809 And the right to property (Article 17), assuming it would be applicable.

810 It could not be done in a different manner either.

The application of these policy options on the preservation of confidentiality/secrecy during legal proceedings by judicial authorities could imply in practice that certain information is not disclosed among (or to) the parties or the need to restrict access to hearings, so as to preserve the confidential character of trade secrets. The possibility to adopt such measures is explicit in Policy Option 4, but not in Option 3 which merely refers to a general principle requiring Member States to take appropriate and proportionate measures to preserve the confidentiality/secrecy of the trade secrets during and after the legal proceedings. However, the measures referred to above (restricting access to documents/evidence or to hearings) neither disproportionally limit the second subparagraph of Article 47 of the Charter, which provides for a "*fair and public hearing*"[811], nor the right to defence of Article 48[812] of the Charter as regards civil law litigation[813].

As regards the question of access to evidence, the European Court of Human Rights has consistently held that the adversarial nature of proceedings is one of the factors which enables their fairness to be assessed, but it may be balanced against other rights and interests. According to its case-law, the adversarial principle means, as a rule, that the parties have a right to a process of inspecting and commenting on the evidence and observations submitted to the court. However, the European Court of Human Rights has stated that in some cases it may be necessary for certain information to be withheld from the parties in order to preserve the fundamental rights of a third party or to safeguard an important public interest[814]. The European Court of Justice, in is *Varec* judgement, has stated that one of the fundamental rights capable of being protected in this way is the right to respect for private life, enshrined in Article 8 of the ECHR (and Article 7 of the Charter)[815]. In this case (concerning the review of a decision taken by a contracting authority in relation to a contract award procedure) the Court further decided that

> "*[…] the adversarial principle does not mean that the parties are entitled to unlimited and absolute access to all of the information relating to the award procedure concerned which has been filed with the body responsible for the review.*

811 The second paragraph of Article 47 of the Charter corresponds to Article 6(1) of the ECHR which provides as follows: "*In the determination of his civil rights and obligations or of any criminal charge against him, everyone is entitled to a fair and public hearing within a reasonable time by an independent and impartial tribunal established by law. Judgment shall be pronounced publicly but the press and public may be excluded from all or part of the trial in the interest of morals, public order or national security in a democratic society, where the interests of juveniles or the protection of the private life of the parties so required, or to the extent strictly necessary in the opinion of the court in special circumstances where publicity would prejudice the interests of justice*." [emphasis added].

812 The second paragraph of Article 48 of the Charter corresponds to Article 6(3) of the ECHR which provides as follows: "*3. Everyone charged with a criminal offence has the following minimum rights: (a) to be informed promptly, in a language which he understands and in detail, of the nature and cause of the accusation against him; (b) to have adequate time and facilities for the preparation of his defence; (c) to defend himself in person or through legal assistance of this own choosing or, if he has not sufficient means to pay for legal assistance, to be give it free when the interests of justice so require; (d) to examine or have examined witnesses against him and to obtain the attendance and examination of witnesses on his behalf under the same conditions as witnesses against him; (e) to have the free assistance of an interpreter if he cannot understand or speak the language used in court.*"

813 This question would be more problematic as regards criminal law litigation. This is why measures on the preservation of confidentiality of the trade secret during and after litigation are not included in option 5.

814 See *Rowe and Davis v The United Kingdom*, no 28901/95 §61; and *V v Finland*, no 40412/98, §75. See also *Antunes et Pires v Portugal*, no 7623/04, §35 referring to the exceptionality of the situation in which the parties do not have access to elements of the file.

815 Judgment of the Court of 14 February 2008, *Varec*, C-450/06,§48. The Court further refers to the protection of business secrets as a general principle (§49) and the maintenance of fair competition (in the context of contract award procedures) as an important public interest (§50).

On the contrary, that right of access must be balanced against the right of other economic operators to the protection of their confidential information and their business secrets.

The principle of the protection of confidential information and of business secrets must be observed in such a way as to reconcile it with the requirements of effective legal protection and the rights of defence of the parties to the dispute […] and, in case of judicial review or a review by another body which is a court or tribunal within the meaning of Article 234 EC, in such a way as to ensure that the proceedings as a whole accord with the right to a fair trial".[816]

Concerning the question of the public hearing, the European Court of Human Rights has also stated the right to a public hearing under Article 6 entails an entitlement to an "oral hearing" unless there are exceptional circumstances that justify dispensing with such a hearing[817].

Policy Option 4 presents specific safeguards in this regard. It provides that the competent judicial authorities, when deciding on the granting or the rejection of the application[818] to preserve the confidentiality of a trade secret, must take into account the legitimate interest of the parties (and, where appropriate, third parties), as well as any potential harm for either of the parties (and, where appropriate, third parties) resulting from the granting or rejecting of such application. It also provides that the judicial authorities shall ensure that any measure to preserve the confidentiality of a trade secret is proportionate and reasonable and does not unduly limit the rights of the parties to a fair trial. It is also specifically provides that, where judicial authorities restrict parties the access to certain documents or to the hearing of certain witnesses, they may nevertheless authorised that the legal representatives of the parties – subject to appropriate confidentiality conditions – could have access to such documents or hearings. Moreover, this option also provides that any obligation to maintain confidentiality ceases to exist if the information covered by the trade secret does no longer meet the conditions to remain a trade secret.

These procedural safeguards are in line with the European Court of Justice case-law regarding disclosure of business secrets, which requires that a balance between the different interest is found as regards each piece of information. For instance, in a request for confidential treatment made before the Court of First Instance[819], the president of the chamber explained that:

"[a]ccording to case-law, for the purpose of determining the conditions under which confidential treatment may be given to certain documents in the file, it is necessary to balance, in respect of each document or part of a document on the Court's file for which confidential treatment is claimed, the applicant's legitimate concern to prevent substantial damage to its business interests and the interveners' equally legitimate concern to have the necessary information for the purpose of being fully in a position to assert their rights and to state their case before the Community Court (orders of the Court of First Instance in Case T-30/89 Hilti v Commission [1990] ECR II-163, paragraph 11, and of the President of the First Chamber of the Court of

816 *Ibid*. §§51 and 52.

817 See *Kluger v Austria*, no. 65631/01, §46 and *Nevskaya v. Russia*, no. 24273/04, §§35 and seq.

818 In principle, both parties may be applicants for this purpose.

819 The request for confidential treatment was made on the basis of Article 116(2) of the then Rules of Procedure of the Court of First Instance, which provided that '*the intervener shall receive a copy of every document served on the parties*', but that '*[t]he President may, however, on application by one of the parties, omit secret or confidential documents'*.

First Instance in Case T-168/01 Glaxo Wellcome v Commission [2003], not published in the ECR, paragraph 35).”[820]

By clarifying the rules and providing for appropriate safeguards, policy option 4 contributes to increasing legal certainty and has therefore observable positive impacts as regards the rights to a fair trial and the right to defence.

Policy Option 3 is, however, less explicit in this regard. It only provides for a general principle on the need, for Member States, to ensure the conditions for a fair trial but it is silent as to how to achieve it. Therefore, it does not result, as such, in any observable improvement (nor in a deterioration of the situation either).

These policy options do not have any negative impact from the perspective of Article 11 of the Charter: cf. the reasoning above concerning Policy Option 4 on the possibility to restrict the disclosure of information in order to protect the reputation or rights of others and to prevent the disclosure of information received in confidence.

Sanctions (as regards Policy Option 4)

Policy Option 4 would provide for a general sanctioning regime with a view to ensure compliance with their rules[821]. It would include a general principle requesting Member States to provide for effective, proportionate and dissuasive sanctions in case of non-compliance with certain types of orders which judicial authorities could take pursuant to a claim on misappropriation of trade secrets: i.e. cease and desist orders, orders for corrective measures (e.g. order to a misappropriator to destroy documents containing the misappropriated trade secret) or orders in relation to the preservation of confidentiality of trade secrets during litigation. The sanctioning regime would remain at a general level and respect national legal frameworks: it would not set the level of any of the penalties; nor the type of penalty (although it would require Member State to allow judges to apply recurring penalty payments in case of non-compliance with cease and desist orders and orders for corrective measures); it will not harmonise any rules as regards liability or procedure for the imposition of sanctions. Therefore, it will preserve Member States' current arrangements for ensuring compliance with procedural rights such as the right to an effective remedy and to a fair trial (Article 47), the presumption of innocence and the right of defence (Article48).

Policy option 5 (Prohibition of acts of misappropriation of trade secrets and convergence of national civil law remedies and criminal law remedies against the misappropriation of trade secrets).

This option would integrate Policy Options 3 and 4. The impacts of both options would remain.

For the same reasons as those explained above, this policy option would not restrict the freedom to choose an occupation and to conduct a business (Articles 15 and 16).

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820 Order of the president of the fifth Chamber of the Court of First Instance of 15 June 2006, case T-271/03, *Deutsche Telekom v Commission*, §10.

821 Option 3 would not interfere with the types of remedies available at national level, therefore it would be inappropriate to provide for sanctions at national level to ensure compliance with those national remedies. Option 5 would not need such a regime, as national legislation already contains their own provisions to ensure compliance with criminal sanctions.

Policy Option 5 would, in addition, have positive impacts on the right to an effective remedy included in Article 47 of the Charter. This option would have additional legal remedies before courts (criminal proceedings, entailing criminal penalties for acts of misappropriation of trade secrets), therefore having, from the perspective of the trade secret owner, additional effective remedies.

Harmonisation of definitions of offences and sanctions may have a direct effect on certain fundamental rights: presumption of innocence (Article 48); principles of legality and proportionality of criminal offences and penalties (Article 49); and right not to be tried or punished twice in criminal proceedings for the same criminal offence (Article 50). However, the provisions considered by this policy option do not restrict any of those rights and are in line with the principles set in Articles 48 to 50[822]. At the same time, they do not constitute any particular improvement regarding the existing situation at national level from the perspective of those rights: no information is available suggesting that the Member States which have criminal provisions in place on the misappropriation of trade secrets would be, by reason of those provisions, violating or undermining any of these three articles of the Charter.

Summary of impacts on fundamental rights

Table 21.1 – Summary of impacts of policy options on fundamental rights

Policy options	**Article 7** (respect for private and family life) and **17** (right to property)	**Article 8** (protection of personal data)	**Article 11** (freedom of expression and information)	**Article 15** (freedom to choose an occupation and right to engage in work)	**Article 16** (freedom to conduct a business)	**Article 41(2)(b)** (right to good administration, access to file and preservation of secrecy of business)	**Article 47** (right to an effective remedy)	**Article 47** (right to a fair trial)	**Article 48** (right of defence)	**Articles 49** (principles of legality and proportionality of criminal offences and penalties)	**Article 50** (*non bis in idem* rule in criminal proceedings)
1. Status quo: (Baseline)	0	0	0	0	0	0	0	0	0	0	0
2. **Information/ awareness** on existing redress tools in case of misappropriation of trade secrets:	0	0	0	0	0	0	0	0	0	0	0
3. Prohibition of **acts of misappropriation** of trade secrets.	+	+	0/-	0/+	+	0/+	0/+	0	0/-	N/A	N/A
4. Prohibition of acts of misappropriation of trade secrets and convergence of national **civil law remedies**.	+	+	0/-	0/+	+	0/+	+	0/+	0/-	N/A	N/A

822 The right to liberty and security (Article 6) are not affected by any criminal sanction implying imprisonment. As provided for in the Explanations relating to the Charter of Fundamental Rights, the rights in Article 6 are the rights guaranteed by Article 5 of the ECHR, and in accordance with Article 52(3) of the Charter, they have the same meaning and scope. Article 5 ECHR recognises that a person may be deprived of his liberty after conviction by a competent court.

5. Prohibition of acts of misappropriation of trade secrets and convergence of national **civil law and criminal law remedies** against the misappropriation of trade secrets.	+	+	0/-	0/+	+	0/+	++	0	0	0	0

* Comparison vis-à-vis Baseline: -- significant deterioration of the situation; - slight deterioration; 0 no relevant change; + slight improvement; ++ significant improvement.

ANNEX 22 – POLICY OPTION 2: COSTS

Implementation of Policy Option 2 would involve some costs. This Annex tries to give a very rough estimate of the costs of the three elements of the option:

(*a) Preparation of fact sheets including appropriate information on the measures, procedures and remedies available against trade secret misappropriation in each Member State, as well as on the availability of arbitration/mediation procedures.*

The preparation could either (i) be done by an EU institution (i.e. the Commission) or body (e.g. the EU IPR Helpdesk run by the Executive Agency for competitiveness and innovation) or (ii) be outsourced to qualified third parties (e.g. law firms).

In order to produce the 28 fact sheets (including Croatia), it would be necessary to closely analyse the relevant laws in all Member States and potentially administrative orders, e.g. on arbitration/mediation procedures. On the assumption that this information gathering, processing and editing would take between 5 and 10 man/working days per country[823]., this would add up to between 140 and 280 man/working days. If it was done in-house this would amount to between €45 000-90 000€, if it was outsourced, costs could be around €154 000 to 308 000[824].
To keep these fact sheets up-to-date they would have to be reviewed, probably at an annual basis. As one could revert to the original analyses it should not take more than a man/day per Member State, i.e. max. €9 000-18 000 or €30 800-61 600.
(b) Providing awareness to stakeholders about the measures, procedures and remedies currently available at national level to obtain relief in case of the misappropriation of trade secrets or to help preventing misappropriation occurring and (c) promoting the use of arbitration/mediation procedures to solve trade secrets disputes
A one-off awareness campaign planned by an EU agency is currently budgeted at €730 000€ for two events, a school campaign and the development of an online information centre. However, these costs include neither the operating costs for the information centre nor the costs of events on the spot in Member States, e.g. with SMEs or research institutions, which would most likely be necessary in order to ensure sufficient outreach. As more than one event would be needed for the larger Member States, there might be around 50 events in total of about €20 000€ each, i.e. €1 000 000€ in total.

These costs would only cover a one-off awareness campaign. If, after a number of years, the campaign would need to be reproduced, cost would be multiplied by the number of campaigns.

Summary table

Table A22.1

Elements	**Lower end estimate**	**Upper end estimate**
a) preparation of fact sheets	45 000€ (initial cost) 9 000€ (per year)	€308 000 (initial cost) €61 600 (per year)
(b) and (c) providing awareness about national measure and promoting use of	€730 000	€1 730 000

823 Conservative estimation made by Commission staff.
824 Assuming a fee of €1000 man/day and related overheads at 10%.

arbitration/mediation (one-off campaign)		
Total:	€775 000 (initial cost) + 9.000€ (per year)	€2 038 000 (initial cost) + €61 600 (per year)

ANNEX 23 – CHOICE OF LEGAL INSTRUMENT

Single legal instrument vs different legal instruments for each of the policy options

The preferred policy options would be best implemented in a single legal instrument because of their interrelation and complementarity, as it would ensure the coherence and effectiveness of both policy options.

Non-binding legal instrument vs binding legal instrument

A non-binding legal instrument, e.g. a Commission Recommendation, could *a priori* be a conceivable option to implement Policy Option 4. It would set a target for the protection of trade secrets against misappropriation and recommend Member States to align their legislation to such target. The advantage of such an approach is the flexibility granted to Member States to adapt the recommendations to their own legal frameworks, both in terms of substance and timing. However, this approach also has important drawbacks:

– Member States would be under no obligation to act. In other terms, the above-described positive impacts of these options (e.g. legal certainty, harmonisation of the level of protection – see Section 5 and Section 6.1) would only materialise to the extent that Member States voluntarily implement the recommendation. It should be noted that this area is not a fully greenfield area and the TRIPS Agreement has acted as a *de facto* recommendation, but failed to achieve any significant convergence in the protection of trade secrets. A Commission recommendation would add little, if at all, compared to the TRIPS Agreement requirements. Under those circumstances, the likelihood that (at least) a few Member States would not follow the Recommendation is high and thus, the harmonisation effect leading to a similar scope of protection and the positive impacts on the Internal Market could not be guaranteed.

– In addition, the subject matter covered by the preferred policy options concerns the protection of a right before courts. In this context, other factors, which are of particular importance in this context, such as the need to ensure a fair trial, the right to effective remedies or the right of defence, can hardly be guaranteed by a non-binding instrument.

– Finally, the inter-institutional balance has evolved over time and the case for Commission's recommendations in areas where a legal basis for legislation exist is weaker[825].

On the contrary, a binding legal instrument – Regulation or Directive – appears more appropriate to implement the preferred policy options, since the EU added value in this case essentially relies on the compulsion that a binding instrument can have. In terms of effectiveness, both a Regulation and a Directive would provide for sufficient legal certainty and convergence in the level of protection

825 The Lisbon Treaty repealed old Article 211 of the Treaty on the European Community which contained the express reference to the Commission's general power to adopt recommendations. There is no express reference to such general power in the Treaty on European Union (TEU) or the TFEU. The possibility to adopt recommendations results from the interpretation of Article 17 of the TEU on Commission's role and its powers.
According to point 43 of the 2010 Framework Agreement on relations between the European Parliament and the European Commission (OJ L 304, 20.11.2010, p. 47), in areas where Parliament is usually involved in the legislative process, the Commission should only adopt recommendations in duly justified cases and after having given the Parliament the opportunity to express its views.

across the Internal Market (in the case of the Regulation this is fully guaranteed since rules become uniform), thus guaranteeing that positive effects could be delivered. A legally binding solution is also the preference of the respondents to the 2013 Public Consultation: 79% of the those in favour of EU action would prefer a legislative solution as opposed to a mere 3,5% in favour of a recommendation.

Directive vs Regulation

A Regulation has the advantage of its rapid implementation (thus, being more efficient), as no national transposition measures (and the subsequent related monitoring work) are required. However, a Regulation would create complexity (both for judicial authorities and for litigants) as regards the relationship with national law in related areas: e.g. enforcement of intellectual property rights, unfair competition, civil litigation etc. and may not be fully compatible with the principles of subsidiary and proportionality.

A Directive needs to national transposition measures. This would provide flexibility to Member States on how to integrate the requirements into their national law (i.e. allowing for better consistency with national alw). This is particularly important since the substance of the preferred policy options is closely related to the rules on the enforcement of intellectual property rights (which are dealt with in a Directive and transposed into national law) and to the national rules on civil law litigation (which reflect different traditions existing in Member States).

One might argue that national divergences may subsist after transposing a Directive and that, therefore, the harmonisation effect could ultimately not be achieved. This could be particularly dangerous as regards the scope of protection. This risk, however, is not likely to materialise at the level of legislation. The scope for national divergences depends on the margin of manoeuvre that would be left by the directive terms. In this case, the preferred policy option would not leave choices to make or options to take to Member States. Also, the language on the definitions of trade secret/misappropriation and on the remedies could be sufficiently precise so that, in practice, the scope for deviation at the level of the national transposition would be minor, if any. A different issue is the application of the rules by courts to specific cases. There is the possibility that divergences between courts appear, whether within the same Member State or cross-border. However, this will happen whether the rules to be applied by the judges are in an EU Regulation or in national rules transposing a Directive. The way to correct these divergences is through appeals to higher courts which can provide uniform interpretations. This is like in any other area of law where judges take decisions; it is not trade-secret specific issue. Concerning the EU dimension, the European Court of Justice will have an important role to play in this regard and, actually, this is one of the most important factors for the future success of the measures.

A Directive therefore appears as the most suitable legal instrument.

A self standing directive vs amendment ofh Directive 2004/48/EC

In principle, it could be conceivable to extend the scope of Directive 2004/48/EC on the enforcement of intellectual property rights to also encompass the measures addressing the misappropriation of trade secrets. Directive 2004/48/EC deals with on the civil law measures to enforce intellectual property rights before courts and the type of measures (rules on injunctive relief, damages etc) would be similar the remedies envisaged under Policy Option A, at least to a certain extent.

Legally speaking, the extension of the scope of Directive 2004/48/EC could be done by enacting, *for the purposes of that directive only*, a definition of "intellectual property right" which would include trade secrets in addition to the rights listed in the 2005 Commission Statement. In essence, this is what the TRIPS Agreement did, where "undisclosed information" is considered an "intellectual property right" *for the purposes of that Agreement*. It should be noted, however, that adding such definition would not grant, by itself, any exclusive right to the trade secret in question.

Integrating the protection of trade secrets against misappropriation into Directive 2004/48/EC is, however, not a good solution. There are important differences that need to be taken into account:

– Nature and type of protection: Directive 2004/48/EC deals with the enforcement of intellectual property rights and trade secrets are not intellectual property rights. Intellectual property rights are exclusive/monopoly rights, providing exclusivity against any other third party (opposable *erga omnes*) and are granted by public authorities (e.g. patents, trademarks) or law (e.g. copyright). There is also publicity about the existence of the rights, either through a registry (e.g. patents, trademarks) or publication (e.g. copyright). The use of an intellectual property right by a third party without the consent of the holder of the right (irrespective of his intention or bad faith) constitutes an infringement of that right. There is also a presumption of validity of those intellectual property rights upon enforcement[826]. This is reflected in Directive 2004/48/EC which does not even define what an intellectual property right is, leaving it to the Member States to decide this issue.

  On the contrary, in the case of trade secrets, there is no exclusive right created, no registry or publicity of the trade secret and the use of the information covered by the trade secret is not necessarily an infringement (as the other party may have reverse-engineered a product or conducted parallel research).

  Additionally, in the case of trade secrets, specific conduct carried out by both parties is paramount for any outcome of litigation: the efforts done by the holder to preserve the value and confidentiality of the trade secret (as otherwise it would not be a trade secret), on the one hand, and the unlawful conduct of the other party to misappropriate the trade secret (e.g. theft, breach of contract etc.) on the other hand. Therefore, it is necessary that the legal instrument implementing Policy Option A4 addresses the question of the scope of protection. This is not done in Directive 2004/48/EC as regards intellectual property right.

  Therefore, mixing trade secrets and intellectual property rights in the same instrument risks adding confusion in this area as their nature is different: litigation concerning trade secrets traditionally belongs to the general branch of tort/delict law (and unfair competition law within that branch). Trade secrets would appear as "transplanted" items into Directive 2004/48/EC.

  Such confusion would not be beneficial for citizens who, in their replies to the 2013 Public Consultation, gave a negative perception on trade secrets as intellectual property rights.

– Different scope of the two instruments. As advanced above, some measures in Directive 2004/48/EC would also appear in a self-standing legal instrument on the protection of trade secrets against misappropriation (e.g. rules on injunctive relief, rules on damages). However, there are also differences. Firstly, the legal instrument on the protection of trade secrets would also require the integration of rules which

826 Although a party may challenge their validity, of course.

are not present in Directive 2004/48/EC: i.e. on preservation of the confidentiality of trade secrets during litigation, which is not an issue for intellectual property rights since the latter are public, as well as on stricter anti-abuse and safeguard rules considering the nature of trade secrets (no exclusive rights granted by legislation). Secondly, there are elements of Directive 2004/48/EC which are not addressed by this initiative on trade secrets. This concerns notably the rules on evidence, preservation of evidence and right of information. Specific rules on these issues are present in Directive 2004/48/EC. However, litigation on trade secrets would rather rely on the normal national civil law procedural measures for evidence and preservation of evidence. Given the different nature of trade secrets (e.g. no exclusive rights granted to the trade secret holder), applying specific rules on evidence and preservation of evidence would not be entirely justified at this stage.

– Relationship with other legal instruments. Integrating trade secrets into Directive 2004/48/EC would not add legal clarity as regards other important legal instruments on civil litigation within the EU. Rome II Regulation (on applicable law) makes a clear distinction between litigation on traditional tort/delict (which encompasses litigation on trade secrets, cf. Annex 16) and litigation on intellectual property rights as far as the criteria for determining the applicable law are concerned; the same is true for Brussels I Regulation on the choice of forum. Bringing together trade secrets and intellectual property rights in the same legal instrument and/or qualifying a trade secret as intellectual property right could create confusion as regards the application of Rome II and Brussels I Regulations.

Therefore, this initiative would be better dealt with in a separate legal instrument.

This would also facilitate legislative negotiations, which would only focus on the trade secrets aspects without the need to reopen any issue dealt with in Directive 2004/48/EC as regards intellectual property rights. The coexistence of the two legal instruments should, *a priori*, not pose any particular legal problem for the transposition of a new instrument into national law.

ANNEX 24 – ECONOMIC RESEARCH ON THE IMPACT OF TRADE SECRET LEGISLATION ON LABOUR MOBILITY AND WAGES

This annex presents a short review of economic research on the impact of non-compete clauses and trade secret legislation on labour mobility and wages[827].

The enforcement of trade secret protection requires that firms take pro-active steps to protect trade secrets from disclosure. Such steps may include the use of non-disclosure provisions or non-compete clauses in employment agreements with key employees. Such provisions are intended to limit disclosure and spillovers of knowledge from the inventing firm to competing firms who seek to discover and copy particular trade secrets. However, such provisions also have the potential to restrict an employee's mobility and value to competing firms who may want to hire the employee.

The enforceability of non-compete provisions may vary substantially among jurisdictions, as they do among different US states. As noted by Ottoz and Cugno (2011), the scope and effectiveness of trade secret protection depends in part on the degree of acceptance on non-compete and other provisions in specific jurisdictions[828].

As noted by some economists, worker mobility may play a role in promoting disclosure and dissemination of innovative ideas among firms and industries[829]. Motta & Ronde (2002), for example, analyze the trade-offs between strong trade secret protection as compared to the use and enforcement of non-compete clauses in employee contracts. The authors conclude strong trade secret protection, combined with incentive compensation for successful research output, may be preferable to non-compete clauses in terms of enhancing firm profitability and inventive productivity. The strength of trade secret laws can thus interact with employee contracting and compensation arrangements, thereby impacting employee mobility in innovative industries.

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827 Most of this research is in the US, where job mobility is often carried out more frequently than in Europe.

828 Ottoz & Cugno (2011), at 220.

829 Arrow (1962) noted the impact of employee mobility on the disclosure and dissemination of innovations ("Mobility of personnel among firms provides a way of spreading information."). Arrow (1962), at 615. See also Ottoz & Cugno (2011), Saxenian (1996), Gilson (1999), Hyde (2003), Png (2012), and Motta & Ronde (2002).
Gilson (1999) in particular is of the view that the key to the success of Sillicon Valley in California was largely due to the fact that California's law declared void non-compete agreements and Californian courts effectively applied such ban in California irrespective of a possible different applicable law designated by contract. As a result, knowledge spillovers across companies (as employees leave to take up employment with a competitor) and the creation of competing start-ups by leaving employees flourished.
Png (2012) slightly disagrees with Gilson (1999) as regards the cause of Sillicon Valley's success. His findings suggest that attention ought to be given to california's avowed rejection of the doctrine of inevitable disclosure in trade secrets law. In the US, by this doctrine, a firm can seek an injunction to prohibit a former employee from working for a competitor, on the ground that he would inevitably disclose trade secrets. The plaintiff in this case need not prove that the former employee had used or disclosed any trade secret. Rather, the plaintiff would simply need to show that the former employee would be employed in such a capacity that he 'inevitably' would disclose the trade secret. This doctrine has been developed by case law. It appeared in US federal courts in 1985, in the Pepsico v Redmond case. In any case Png's views reinforce Gilson's conclusion that knowledge spillovers are positive for innovation.
To the knowledge of the authors of this impact assessment, this doctrine does not exist in the EU.

Recent empirical research by Png[830] analyses the impact of US State-level trade secret law on the mobility of engineers and scientists among employers within states. For this, he established an index to measure the protection granted to trade secret owners by trade secret law[831] and he also took into account whether the state in question enforces non-compete agreements with employees or not (e.g. in California, non-compete agreements with employees are not enforced by Courts). He found that the evolution of trade secrets law in states subject to his study had a nuanced effect on professional mobility with the (negative) impact concentrated among the most highly-qualified engineers and scientists: stronger legal protection of trade secrets was associated with lower mobility of postgraduate-qualified engineers and scientists (for instance, an increased in the index by 0.417[832], representing the effect of California's enactment of the Uniform Trade Secrets Act, was associated with 0.4% lower mobility of post-graduate-qualified engineers and scientists). By contrast, stronger legal protection of trade secrets was not associated with any significant effect on the mobility of bachelor-qualified engineers and scientists or engineering and scientific technicians. The interaction of the effect of trade secrets laws and non-compete agreements led to interesting findings too: to the extent that a state enforced non-compete agreements, the negative relation between the legal protection of trade secrets and the mobility of engineers and scientists was attenuated. Indeed, Png outlines that in a state that fully enforced non-compete agreements, changes in trade secret law would have no significant effect on professional mobility. Png also analyses the impact of the US doctrine of inevitable disclosure, which is also associated with lower mobility of post-graduate-qualified engineers and scientists.

Zabojnik (2002) analyses how trade secret protection in the presence of employee mobility can be accomplished by means of employees' compensation. Zabojnik develops a theoretical model of trade secrets in hierarchal firms, with the further assumption that each manager has access to trade secrets corresponding to his own level, but also to trade secrets at levels below. Zabojnik (2002) finds that managers may have an incentive to overpay subordinates, thereby discouraging their departure, but possibly overprotecting the firm's trade secrets at excessive cost[833].

Png (2012) also summarises the implications that would result from reduced labour mobility:

– Reduced communication and spillovers of knowledge among innovative businesses resulting in slower diffusion of technical knowledge. Technical knowledge that is explicit can be shared though joint ownership and licensing. However the spread of technical knowledge of a tacit nature depends relatively more on the movement of scientists and engineers. He also adds that the effect of reduced mobility on productivity and economic growth would be amplified to the extent that technical professionals increase productivity when they change employers.

830 Png (2012).

831 Png's index builds on 6 items representing the 3 dimensions of the law (substantive law, procedure and remedies): substantive law (whether a trade secret must be in continuous business use; whether the owner of the trade secret must take reasonable efforts to protect the trade secret and whether the mere acquisition of the secret is misappropriation); civil procedure (the limitation on the time for the owner to take legal action for misappropriation); remedies (whether an injunction is limited to eliminating the advantage from misappropriation; and the multiple of actual damages available in punitive damages). It is noted that some of these items (e.g. punitive damages) are not common in the EU.

832 The index is between 0 and 1.

833 Reliance on wage premia to discourage employee departure and loss of trade secrets has also been analysed by Biger & Plaut (2000) and Bernhardt & Dvoracek (2009). For a further discussion of the steps required of companies to protect trade secrets, see also Ronde (2001) and Martin (1993).

– Fewer spin-offs and start-ups. To the extent that employees leaving established organizations to start a new business are more constrained in using the knowledge acquired in their previous employment, their expected profit from starting a new business would be lower.

– At the same time, he underlines other positive effects on longer-term incentives. If employees are less likely to quit for other opportunities, employers would realize a greater return on investment in overall R&D and, specifically, the development of their employees. This may result in more employer investment in R&D and their employees' human capital[834].

– The impact on compensation policies would be nuanced. In the short term, employers might pay their employees less, as their outside opportunities would be less attractive. On the other hand, in the long term, the reduction in outside opportunities may imply that their employers must pay more to attract talent. With more labour mobility opportunities, employees might be willing to trade off lower salaries for the opportunity to acquire knowledge and then capitalize on that knowledge with another employer or start-up. The reduction of such outside opportunities might force employers to increase compensation.

834 Png also underlines that it would be interesting to know how the employees' own incentives to invest in their human capital would be affected. They might be induced to invest more in themselves, since their external market value would depend more on their own capabilities and less on knowledge that they bring from previous employers. On the other hand, they might be induced to invest less since they would have fewer external opportunities to realize the return on that investment.

ANNEX 25 – MONITORING AND EVALUATION

The monitoring and evaluation of the preferred policy options will be carried out in 3 steps:

– (1) a Transposition Period Plan;

– (2) the Regular Monitoring activity; and

– (3) an Evaluation of the effects of the policy.

Figure A25.1 presents the timeline for these three steps.

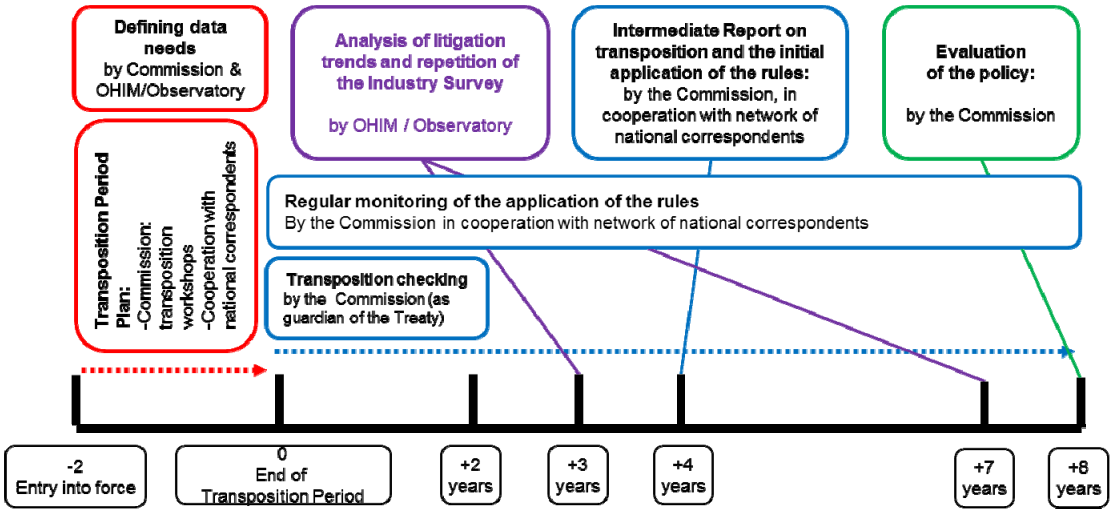

Figure A25.1 – Monitoring and evaluation

The Transposition Period Plan.

A Transposition Period Plan, running for two years after the adoption of the legal text, will be established in order to prepare for the application of the rules.

This plan will focus on the following issues:

- organising Transposition Workshops with Member States authorities in order to facilitate the understanding of the rules and their smooth integration into national law;
- setting up a network of national correspondents among Member States and between Member States and the Commission for the purposes of exchanging relevant information;
- organising *ad hoc* meetings with stakeholders to discuss regulatory issues arising in the transitional period with stakeholders;
- setting up a working group, possibly organised within the European Observatory run at OHIM to define, before the end of the transposition period, the data needs for the future monitoring of the new rules and any subsequent evaluation[835]. This group would also set a strategy for the collection of such data.

835 Selecting the right indicators to be used for the assessment of the success (or lack of it) of the policy present particular challenges (which also appear with regard to infringements of intellectual property rights and other types of infringements in general): are there more cases because there are more infringements or because the rules are better designed and courts are better enforcing them (so that

The Regular Monitoring Activity

The Commission, as guardian of the Treaty, will undertake a regular monitoring activity. In the short term, this will consist in ensuring the timely adoption of and verifying the correctness of the national transposition measures.

Additionally, in a longer perspective, the Commission will monitor the application of the national transposition measures and take legal action, where appropriate.

The Commission would be assisted by Member States authorities in this monitoring task. The network of national correspondents will be used to that end.

The Evaluation

In terms of timing, a full evaluation of the effects of the policy options could, however, only be undertaken in the longer term. Legal proceedings (whether regarding misappropriation of trade secrets or other fields) take time and both plaintiffs and defendants benefit from the possibility to appeal initial decisions. Therefore, enough time needs to lapse before impacts of the implementation of the policy options could be assessed.

Therefore, this evaluation would be done in 2 steps:

– (1) the Commission will prepare an intermediate report on the transposition and initial application of the rules within 4 years of the entry into application of the EU rules. In order to prepare this report, the Commission will benefit from the assistance of: (a) Member States authorities within the network of national correspondents (e.g. responses to questionnaires); and (b) OHIM (in the context of its activities related to the European Observatory on infringements of intellectual property rights). The European Observatory will be asked to carry out an examination on the litigation trends on trade secret misappropriation following the entry into force of the EU rules (this examination should be carried out before the Commission's intermediate report) and to regularly repeat the industry survey to test how companies' innovative behaviour and competitiveness are altered following the proposal;

– (2) the evaluation itself, to be carried out 8 years after the end of the transposition period. The full evaluation could be undertaken by the Commission or conducted externally. This choice could be made after the results of the first step (the preliminary examination and intermediate report) are known. The examination would also use preparatory work to be carried out by Member States (e.g. responses to questionnaires) and the European Observatory (a second examination of litigation trends), as well as other input from stakeholders and other sources.

In terms of content, the evaluation of the policy would focus on two main areas: (1) the effects of the rules regarding litigation and (2) the effects of the rules on businesses competitiveness and innovation within the internal market and generally the economy. Different indicators could be used. At this stage, a set of preliminary indicators is identified (see Box A25.1), but the definitive indicators should be identified by a specific working group during the Transposition Period phase.

Box A25.1 – Preliminary indicators

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victims are more willing to file new cases)?; also, would trade secret owners continue to be reluctant to litigate on trade secrets for reputational reasons?

Effects of the rules on litigation and stakeholders:

– Ease of access to national courts to solve cases of misappropriation of trade secrets: stakeholders' perception.

– Convergence of the national protection in terms of scope and remedies: qualitative assessment of the transposition and legal analysis of a representative sample of cases. The analysis would aim at understanding the reasons for the granting of protection of information as trade secret and the granting of remedies; and at mapping the negative scope. Indicators would include: protection of trade secrets was granted/not granted; (preliminary/definitive) injunctions were granted/not granted; damages were granted/not granted; level of damages.

– Abusive litigation: analysis of litigation trends based on a representative sample of cases. Indicators: number of cases where abusive litigation is identified and sanctioned by judicial authorities.

– Use of litigation to defend trade secrets: stakeholders' perception (repeated industry survey); analysis of a representative sample of cases to assess whether first instance cases are appealed or not; whether cases involve non-domestic (but still EU) plaintiffs/defendts are not etc.

– Use of measures to preserve confidentiality of trade secrets during litigation. Indicators: qualitative assessment of the transposition and analysis of a representative number of cases to assess whether judicial authorities took specific measures to preserve confidentiality of trade secrets during/after litigation (data could be disaggregated by type of measure).

– Effectiveness of the rules on preservation of confidentiality during litigation. Indicators: analysis of a representative number of cases to assess whether trade secrets were lost as a result of litigation.

Impact of the rules on innovation and the economy:

– (Cross-border) R&D and innovative activities. Indicators: levels of cross-border information sharing and knowledge transfer among businesses and research entities[836]; value of know-how licensing; private sector investment in R&D[837].

– Value of innovation protected as trade secrets. Indicators: value of information protected by secrecy compared to patents.

– Cross-border labour mobility. Indicators: level of non-domestic workers in R&D intensive sectors[838].

– Economy (growth & jobs). Indicators: business dynamism[839].

836 Annex II to the Innovation Union Communication (European Commission (October 2010)) contains the following indicators: SMEs innovating in-house as % of SMEs (Eurostat); Innovative SMEs collaborating with others as % of SMEs (Eurostat).

837 Annex II to the Innovation Union Communication (European Commission (October 2010)) contains the following indicator: Business R&D expenditure as of % of GDP (Eurostat).

838 Annex II to the Innovation Union Communication (European Commission (October 2010)) contains the following indicator: Employment in Knowledge-Intensive Activities (manufacturing and services) as % of total employment (Eurostat).

839 Annex II to the Innovation Union Communication (European Commission (October 2010)) contains the following indicators: SMEs (more than 10 employees) introducing product or process innovations as % of SMEs (Eurostat); SMEs (more than 10 employees) introducing marketing or organisational

In terms of data collection regarding litigation, it is expected that access to relevant national databases should be possible. The European Judicial Network on civil and commercial matters will be used where appropriate.

innovations as % of SMEs (Eurostat); and High-growth enterprises (with more than 10 employees) as % of all enterprises (Eurostat).

ABBREVIATIONS

CEFIC: the European Chemical Industry Council.

EBRD: European Bank for Reconstruction and Development.

ECHR: European Convention on Human Rights.

EU: European Union.

OLAF: European Anti-Fraud Office.

OHIM: Office for Harmonization in the Internal Market.

R&D: Research and development.

SME: Small and medium-sized enterprise.

TRIPS Agreement: Agreement on Trade-Related Aspects of Intellectual Property Rights.

WIPO: World Intellectual Property Organisation

WTO: World Trade Organisation.

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