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from: Secretary-General of the European Commission,  
signed by Mr Jordi AYET PUIGARNAU, Director

date of receipt: 15 April 2011

to: Mr Pierre de BOISSIEU, Secretary-General of the Council of the European  
Union

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Subject: COMMISSION STAFF WORKING PAPER - IMPACT ASSESSMENT  
Accompanying document to the proposal for a Regulation of the European  
Parliament and the Council implementing enhanced cooperation in the area of  
the creation of unitary patent protection and proposal for a Council Regulation  
implementing enhanced cooperation in the area of the creation of unitary patent  
protection with regard to the applicable translation arrangements

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Delegations will find attached Commission document SEC(2011) 482 final.

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EUROPEAN COMMISSION

Brussels, 13.4.2011  
SEC(2011) 482 final

**COMMISSION STAFF WORKING PAPER**

**IMPACT ASSESSMENT**

*Accompanying document to the*

Proposal for a

**REGULATION OF THE EUROPEAN PARLIAMENT AND THE COUNCIL**

**implementing enhanced cooperation in the area of the creation of unitary patent protection**

*and*

Proposal for a

**COUNCIL REGULATION**

**implementing enhanced cooperation in the area of the creation of unitary patent protection with regard to the applicable translation arrangements**

{COM(2011) 215 final}

{COM(2011) 216 final}

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*Disclaimer: This report commits only the Commission's services involved in its preparation and does not prejudge the final form of any decision to be taken by the Commission.*

## 1. INTRODUCTION

Patents are an important enabler for economic growth through innovation. Intangible assets<sup>1</sup> are rapidly becoming the economically most important aspect of business – in 2009 they accounted for over 80% of the global market value of companies in the S&P 500 (a US list of 500 large publicly traded companies)<sup>2</sup>. Investment in research (R&D) accounts for 1.9% of GDP in the EU<sup>3</sup>, and an effective patent system is essential to translate that investment into economic growth. An increased rate of innovation brings benefits to consumers by introducing new products to the market and creating competition.

Today patent protection in Europe is fragmented. While the European Patent Office (EPO) ensures uniformity in granting patents under the European Patent Convention (EPC), the need for a coherent system of patent protection in the internal market has been apparent for decades. Efforts made since the 1970s, however, have not led to success.

The Europe 2020 Strategy<sup>4</sup> identified the creation of an economy based on knowledge and innovation as a priority that is necessary to turn the EU into a smart, sustainable and inclusive economy delivering high levels of employment, productivity and social cohesion. It also proposed a target of 3% of the EU's GDP to be invested in R&D by 2020.

The Innovation Union, adopted in 2010 as a flagship initiative of the Europe 2020 Strategy, built on this and demanded that the "remaining barriers for entrepreneurs to bring 'ideas to market' must be removed. As an immediate step, agreement should be reached on the EU patent before the end of the year"<sup>5</sup>.

In December 2010 the Single Market Act<sup>6</sup> also highlighted that European businesses, inventors and creators must be able to develop within the internal market that is as conducive as possible to innovation and creativity, in order to better face international competition.

Both the Europe 2020 Strategy and the Single Market Act are seeking to improve the framework conditions for business to innovate by creating unitary patent protection in the EU Member States complemented by a unified European patent litigation system.

In spite of broad recognition of the competitive disadvantage European business faces in the absence of unitary patent protection, in December 2010 the Competitiveness Council had to confirm<sup>7</sup> that there were insurmountable difficulties that made the establishment of such protection in the entire European Union impossible to attain within a reasonable period. This statement was followed by a request from twelve Member States to establish enhanced cooperation in the area of unitary patent protection. The Commission subsequently submitted

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<sup>1</sup> Intangible assets are assets that are not physical in nature. Typical examples are: patents, trademarks, copyrights, goodwill, etc.

<sup>2</sup> <http://www.oceantomo.com/productsandservices/investments/indexes/ot300>

<sup>3</sup> Eurostat, 2008 data

<sup>4</sup> COM(2010) 2020 final

<sup>5</sup> COM(2010) 546 final

<sup>6</sup> COM(2010) 608 final/2

<sup>7</sup> See press release 17668/10

a proposal<sup>8</sup> to the Council for authorising enhanced cooperation that was followed by the request of another 13 Member States to join the cooperation. The European Parliament gave its consent to the launch of enhanced cooperation on 15 February<sup>9</sup> and the Competitiveness Council adopted the authorising decision on 10 March<sup>10</sup>. As a consequence, this impact assessment report (IA) has to take into account the conditions already set by the Council's authorising decision.

A possible future EU patent system has two main elements. The first one is the unitary patent protection that would allow for the grant of a European patent having unitary character, in the best-case scenario, in all Member States of the EU. A key component of the unitary patent protection is the translation arrangements that are given special attention in this impact assessment report. This IA, therefore, will examine the problems arising from the current patent protection system in EU and ways to improve its accessibility and efficiency in order to promote innovation and growth<sup>11</sup>.

The second element of the possible future EU patent system is the unified patent litigation system. This IA report, however, does not examine this issue as it follows a parallel work stream and will be addressed in a different legal instrument, following the decision of the Court of Justice of the European Union<sup>12</sup>.

## 2. PROCEDURAL ISSUES AND CONSULTATION OF INTERESTED PARTIES

The Commission presented its proposal for a Council Regulation on the Community patent<sup>13</sup> on 1 August 2000. It was based on Article 308 of the EC Treaty that required unanimity for its adoption in the Council, following the consultation of the European Parliament. The proposal covered all elements necessary for the creation of a single EU-wide patent, including the translation arrangements. Whilst the Council adopted a common political approach on the Community patent<sup>14</sup> in March 2003, no further progress took place in the years that followed.

In January 2006, the Commission launched a broad consultation on the future patent policy in Europe<sup>15</sup>. More than 2500 replies were received from a variety of stakeholders, including businesses in all sectors of the economy, business and SME associations, patent practitioners, public authorities and academics. Respondents were asking for a European patent system that provides incentives for innovation, ensures the diffusion of scientific knowledge, facilitates technology transfer, is available to all players in the market and is legally certain. The replies clearly showed stakeholders' disappointment with the lack of progress in the Community patent project. In particular, nearly all respondents (the users of the patent system) rejected the translation arrangements included in the Council's 2003 common political approach which

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<sup>8</sup> COM(2010) 790 final

<sup>9</sup> P7\_TA(2011)0054

<sup>10</sup> Council Decision 2011/167/EU of 10 March 2011 authorising enhanced cooperation in the area of the creation of unitary patent protection, OJ. L 76, 22.3.2011, p. 53.

<sup>11</sup> The IA uses the term "unitary patent protection" in order to avoid pre-empting policy choices as regards the ways to achieve the objectives. In references to historical documents and external contributions, however, the terms "Community patent" and "EU patent" will be used. The term "European patent" refers to any patent granted by the European Patent Office.

<sup>12</sup> A-1/09

<sup>13</sup> Proposal for a Council Regulation on the Community patent, COM(2000) 412 final

<sup>14</sup> Council document 6874/03

<sup>15</sup> The consultation document, replies from stakeholders and a report on the preliminary findings of the consultation are available at [http://ec.europa.eu/internal\\_market/indprop/patent/consultation\\_en.htm](http://ec.europa.eu/internal_market/indprop/patent/consultation_en.htm).

laid down that the patent holder would have to supply a translation of the claims (having legal effect) into all official Community languages.

Stakeholders expressed an overall support for a "unitary, affordable and competitive" Community patent. This message was repeated at a public hearing held on 12 July 2006, where a large variety of stakeholders stated their support for the creation of a truly unitary high quality patent. They, however, underlined that political compromises should not undermine the usefulness of the project. In particular, the representatives of small and medium-sized enterprises (SMEs) highlighted the importance of moderate patenting costs.

The Commission adopted the Communication "Enhancing the patent system in Europe" in April 2007<sup>16</sup>. The document outlined the way forward as envisaged by the Commission, including the creation of the Community patent and possible solutions for the translation arrangements. Discussions with stakeholders continued on the basis of this Communication throughout 2008. In October 2008, the Commission and the French Presidency of the Council organised a conference on Industrial Property Rights in Europe<sup>17</sup> and a "European Parliament of Enterprises" debate was held. An overwhelming majority of represented entrepreneurs emphasised that the continued lack of a single EU-wide patent was damaging to European businesses and called for the creation of the EU patent as soon as possible<sup>18</sup>.

The issue of unitary patent protection was also addressed extensively in the consultation on the Small Business Act for Europe that consisted of a range of initiatives targeted to help European SMEs<sup>19</sup>. Small and medium-sized businesses identified the high level of patent fees and the legal complexity of the patent system as major obstacles<sup>20</sup>. In their submissions to the consultation, businesses in general and SME representatives in particular requested a significant reduction of the costs of patenting for a future EU patent<sup>21</sup>.

Recent position papers from various stakeholders refer to the unitary patent protection. European business associations, such as BusinessEurope,<sup>22</sup> UEAPME<sup>23</sup> and Eurochambres<sup>24</sup> confirm that businesses, both large and small, request a simplified, cost-effective and accessible EU patent. National business organisations in many Member States and across industry sectors raise identical issues<sup>25</sup>. Stakeholders underlined that any solution for the unitary patent protection should build on the existing mechanisms for granting patents in Europe (see in chapter 3) and necessitate no revision of the European Patent Convention.

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<sup>16</sup> COM(2007)165 final

<sup>17</sup> Available at [http://ec.europa.eu/internal\\_market/indprop/rights/index\\_en.htm](http://ec.europa.eu/internal_market/indprop/rights/index_en.htm)

<sup>18</sup> Available at <http://www.eurochambres.eu>

<sup>19</sup> COM(2008) 394 final

<sup>20</sup> <http://ec.europa.eu/enterprise/policies/sme/small-business-act/>

<sup>21</sup> UEAPME Expectations on the Proposal for a European Small Business Act, available at [www.ueapme.com](http://www.ueapme.com). Response to the Consultation on a Small Business Act for Europe, available at <http://www.eurochambres.eu>

<sup>22</sup> Views on key issues of the patent reform debate in Europe, available at <http://www.buinesseurope.eu>

<sup>23</sup> Position on the recent policy developments on the European Community patent, available at <http://www.ueapme.com>

<sup>24</sup> Position paper on the European Patent System, available at <http://www.eurochambres.eu>

<sup>25</sup> Position papers from BDI (Bundesverband der Deutschen Industrie), DIHK (Deutscher Industrie- und Handelskammertag), CBI (Confédération of British Industries), CCIP (Chambre de commerce et d'industrie de Paris), CGPME (Confédération générale des petites et moyennes entreprises), Unioncamere, DigitalEurope, Orgalime, ACT (Association for Competitive Technology), Cefic and others.

The Lisbon Treaty introduced a more specific legal base for an EU patent system. According to Article 118(1) of the Treaty on the Functioning of the European Union (TFEU), measures for the creation of European intellectual property rights are to be established by the European Parliament and the Council acting under the ordinary legislative procedure. Article 118(2), however, sets out a specific rule for the language arrangements for European intellectual property rights that are to be established under a special legislative procedure by the Council acting unanimously after consulting the European Parliament. It follows that the translation arrangements for any EU patent system must be established by a separate legal instrument.

In December 2009, the Council adopted conclusions on an "Enhanced patent system for Europe"<sup>26</sup> and a general approach on the proposal for a Regulation on the EU Patent<sup>27</sup>. Translation arrangements, however, were not covered due to the abovementioned change in the legal base.

On 30 June 2010 the Commission adopted a proposal for a Council Regulation on the translation arrangements for the EU patent<sup>28</sup>. The proposal was accompanied by an IA report<sup>29</sup> analysing various options for the possible translation arrangements. The IA led to the conclusion that the preferable option remains the translation arrangements as set out in the revised proposal for Community Patent Regulation of 23 May 2008<sup>30</sup> that provides for a simplified and cost-effective language regime.

Regardless of the significant efforts made by the Belgian Presidency, it was recorded at the Competitiveness Council meeting of 10 November 2010 that no unanimous agreement could be reached on the translation arrangements<sup>31</sup>. On 10 December 2010 the Competitiveness Council confirmed<sup>32</sup> that there were insurmountable difficulties that made the establishment of unitary patent protection in the entire European Union impossible to attain within a reasonable period by applying the relevant provisions of the Treaties.

On the basis of the request of twelve Member States (Denmark, Estonia, Finland, France, Germany, Lithuania, Luxembourg, the Netherlands, Poland, Slovenia, Sweden and the United Kingdom) the Commission submitted a proposal<sup>33</sup> to the Council for authorising enhanced cooperation in the area of unitary patent protection. All Member States submitted their request with the condition that the Commission's upcoming legislative proposals will follow the lines elaborated during the recent negotiations in the Council. The requests also highlighted that translation arrangements should rely on the existing EPO framework. Following the adoption of the proposal, Belgium, Austria, Ireland, Portugal, Malta, Bulgaria, Romania, the Czech Republic, Slovakia Hungary, Latvia, Greece and Cyprus also requested to join the cooperation. Altogether 25 Member States have indicated their intention to participate.

In response to the requests of the Member States, recital 7 of the Commission's proposal makes it clear that unitary patent protection throughout the territories of the participating

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<sup>26</sup> Council document 17229/09

<sup>27</sup> Council document 16113/09 Add 1. The change in terminology (from the "Community" to "EU" patent) was induced by the entry into force of the Lisbon Treaty.

<sup>28</sup> COM(2010) 350 final

<sup>29</sup> SEC(2010) 796

<sup>30</sup> Council document 9465/08

<sup>31</sup> Press Release of the Extraordinary Council meeting "Competitiveness (Internal Market, Industry, Research and Space)", 16041/10, 10.11.2010.

<sup>32</sup> See press release 17668/10

<sup>33</sup> COM(2010) 790 final



Member States should be granted by the EPO. The translation arrangements should be simple, cost-effective and allow for the filing of patent applications in any language of the Union. Any applicant from the EU should have the right to file applications in their own language. However, there should be compensation of the costs related to the translation of applications to an official language of the EPO (English, French and German). Patents should be granted only in one language and, other than the translation of the claims in the two other EPO languages, no further translations should be required. Translations should not have legal effect and serve only information purposes. In the case of a dispute, mandatory translation obligations should apply to the patent proprietor.

The European Parliament gave its consent to the launch of enhanced cooperation on 15 February<sup>34</sup> and the Competitiveness Council adopted the authorising decision on 10 March<sup>35</sup>.

In January 2011 a Steering Group was formed to assist DG Internal Market and Services in assessing the impact of the different policy options that have been put forward to solve the identified problems. The Steering Group was made up of representatives of the Legal Service, the Secretariat-General, DG Enterprise and Industry, DG Information Society and Media, DG Research and DG Competition. The last meeting of the Steering Group was convened on 3 February 2011.

The impact assessment roadmap was published (2011/MARKT/037 and 2011/MARKT/038). The IA report was examined by the Impact Assessment Quality Board in written procedure; the Board issued a favourable opinion on 25 February 2011. Following the Board's opinion, a number of additional information/clarifications were included in the IA, notably: The report better explains why renewal fees are not determined by European legislation; it includes new calculation of per capita costs and cost savings when 25 Member States take part in the enhanced cooperation; it explains better why the large market size can result in increased patenting activity and how it improves the competitiveness of European business.

### **3. CONTEXT**

#### **3.1. The economic role of patents**

Today's economy is becoming increasingly knowledge-based. Innovation has a major impact on economic growth. The relation between patent rights and economic growth has not been researched extensively, however, the expected return from R&D is considered to be a key driver of innovation efforts<sup>36</sup>.

Patents are an important instrument of innovation policy<sup>37</sup> and an effective means to increase R&D. They can stimulate innovation through providing a limited monopoly in return for the broad dissemination of new ideas. A well-designed patent policy strikes a balance between

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<sup>34</sup> P7\_TA(2011)0054

<sup>35</sup> Council Decision 2011/167/EU.

<sup>36</sup> There is some empirical evidence that in more patent intensive industries strengthening patent rights resulted in higher growth. See Hu, Albert G. Z. and Png, Ivan P. L., Patent Rights and Economic Growth: Cross-Country Evidence (November 12, 2009). CELS 2009 4th Annual Conference on Empirical Legal Studies Paper

<sup>37</sup> Other instruments include the public research system or funding research performed by business. See Dominique Guellec and Bruno van Pottelsberghe de la Potterie: The Economics of the European Patent System, Oxford University Press, 2007.

the incentive for inventors and the generation of welfare for society<sup>38</sup>: On the one hand, patents guarantee inventors an exclusive right for the industrial application of their invention. This protection comes with a number of limitations, in particular as regards the length (usually 20 years) and the breadth (scope) of the patent protection. On the other hand, the publication of the description of the patented invention should disseminate knowledge and facilitate follow-up inventions.

Patents mostly generate profits if the inventions are economically exploited either by the patent holder or by the licensee, etc. They are, therefore, market-oriented instruments that allow customers and other market participants to determine the economic value of the patent and of the patented invention. In some sectors of the economy, depending on the dominant business model followed by companies, they are effective means to increase R&D.

The patent system has a special importance for SMEs as patents can enhance market entry and firm creation. Studies highlight that start-ups often adopt business models that use patents as core assets<sup>39</sup>. While in some cases SMEs may also face barriers to market entry through the creation of patent thickets by bigger and more resourceful companies, they still profit from patent systems that efficiently grant them access to enforceable intellectual property rights. In fact, where intellectual property rights are strong and well-enforced, new companies are more likely to develop new technologies and sell it to other firms without incurring high costs and risk. But a measurement carried out in eight EU Member States shows that currently only 4.8% of the patents are used to create start-ups and consequently new employment<sup>40</sup>, i.e. this opportunity is not exploited in Europe. Furthermore, particularly in the aftermath of the financial crisis, the possibility of using IP rights as security facilitates SMEs' access to bank loans<sup>41</sup>.

The importance of and the demand for the European patent is illustrated by the fact that EU applications to the European Patent Office increased by an average of over 3% per year for the period 2000-2008<sup>42</sup>. The total number of applications reached 146 644 in 2008. In 2009, however, figures show a relevant decline in all major patent offices, except in the US. It seems clear that in 2009 the negative growth caused by the global economic crisis, led to a decrease in patent filings<sup>43</sup>. Finally, there are approximately 130 000 national patent applications annually in the EU, many of which are converted to European patent applications in the second step (see section 3.2).

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<sup>38</sup> The key issues in the design of any patent regime are the patent subject matter, the height of the inventive step and the breadth of the patent. Other important elements are the amount of damages attributed by courts in case of infringements, the conditions for exemptions for research use, etc. See Patents and innovation: Trends and policy challenges, OECD, 2004. <http://www.oecd.org/dataoecd/48/12/24508541.pdf>

<sup>39</sup> Study on evaluating the knowledge economy – what are patents actually worth? The value of patents for today's economy and society. Final report, July 23 2006, p.22. [http://ec.europa.eu/internal\\_market/indprop/patent/index\\_en.htm#studies](http://ec.europa.eu/internal_market/indprop/patent/index_en.htm#studies)

<sup>40</sup> See details in Annex I.

<sup>41</sup> OECD, Intellectual Assets and Value Creation: Synthesis Report, 2008, <http://www.oecd.org/dataoecd/36/35/40637101.pdf>

<sup>42</sup> Based on applications from the Member States; see overview in Annex II.

<sup>43</sup> The total number of patent applications filed with the EPO reached 134 542 in 2009. As regards the number of granted patents, differing trends could be observed in 2009. While the Korean Intellectual Property Office (KIPO) reported a 32% and the EPO a 13% decline, there was an increase of 9% and 5% in the Japan Patent Office (JPO) and the United States Patent and Trademark Office (USPTO). Such trends, however, are only partly influenced by the number of applications; the differing grant rates and procedure durations also have an impact. See Annex III.

## 3.2. The existing patent systems in Europe

The decision whether to file a patent application nationally, regionally or internationally mainly depends on the market targeted by the applicant, the funds that are available for this purpose and their proportion to the expected profits. In the EU, patent protection can be obtained either through the national patent offices of the Member States or through the European Patent Office.

### 3.2.1. National patent systems

Each Member State has its own patent office which deals with applications for national patents. If an application and the invention to which it relates meet the requirements of national patent law (in particular the patentability requirements<sup>44</sup>), a national patent is granted.

The protection conferred by a national patent is limited to the territory of the State concerned. 45% of European inventors and businesses choose to file patent applications at a national patent office first in order to obtain an early priority<sup>45</sup>. This proportion is 55% among SMEs<sup>46</sup>. Following a novelty search and a preliminary examination carried out by the national office, the applicant decides whether to pursue or abandon the national patent application, apply for a European patent at the EPO, and/or file a patent application under the international Patent Cooperation Treaty (PCT). The application is published 18 months after it is filed. If the national patent application is pursued, the national office decides on the grant of the patent or the refusal of the application depending on the results of its examination. Patents are then registered in the national patent register.

### 3.2.2. The existing European patent system

If the applicant chooses to apply for a so-called "European patent", the application will be dealt with by the EPO under the procedures laid down in the European Patent Convention (EPC)<sup>47</sup>. The EPC was adopted in 1973 and entered into force in 1977. It does not form part of the EU legal order, but all EU Member States are Contracting States to the EPC<sup>48</sup>.

The EPC established centralised procedures for the search, examination and grant of European patents. On the basis of a single patent application processed in one of the three official languages of the EPO (English, French or German), inventors and businesses can obtain a European patent for one or more Contracting States to the EPC.

Any patent application is published by the EPO 18 months after the date of filing, in the official language of the EPO in which the application is processed (the language of

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<sup>44</sup> Patentability requirements in Europe include: the patentable subject matter, novelty, inventive step and that the invention is susceptible to industrial application.

<sup>45</sup> Priority right is a time-limited right that is triggered by the first filing of a patent application. It allows the applicant to file a subsequent application in another country for the same invention from the time of the first filing (the priority date). N.B. An early national priority also gives inventors extra time to develop the idea and assess the feasibility of other (more expensive) options for protection.

<sup>46</sup> Study on the quality of the patent system in Europe, 2011. [http://ec.europa.eu/internal\\_market/indprop/patent/index\\_en.htm#studies](http://ec.europa.eu/internal_market/indprop/patent/index_en.htm#studies)

<sup>47</sup> <http://www.epo.org/patents/law/legal-texts/html/epc/1973/e/ma1.html>

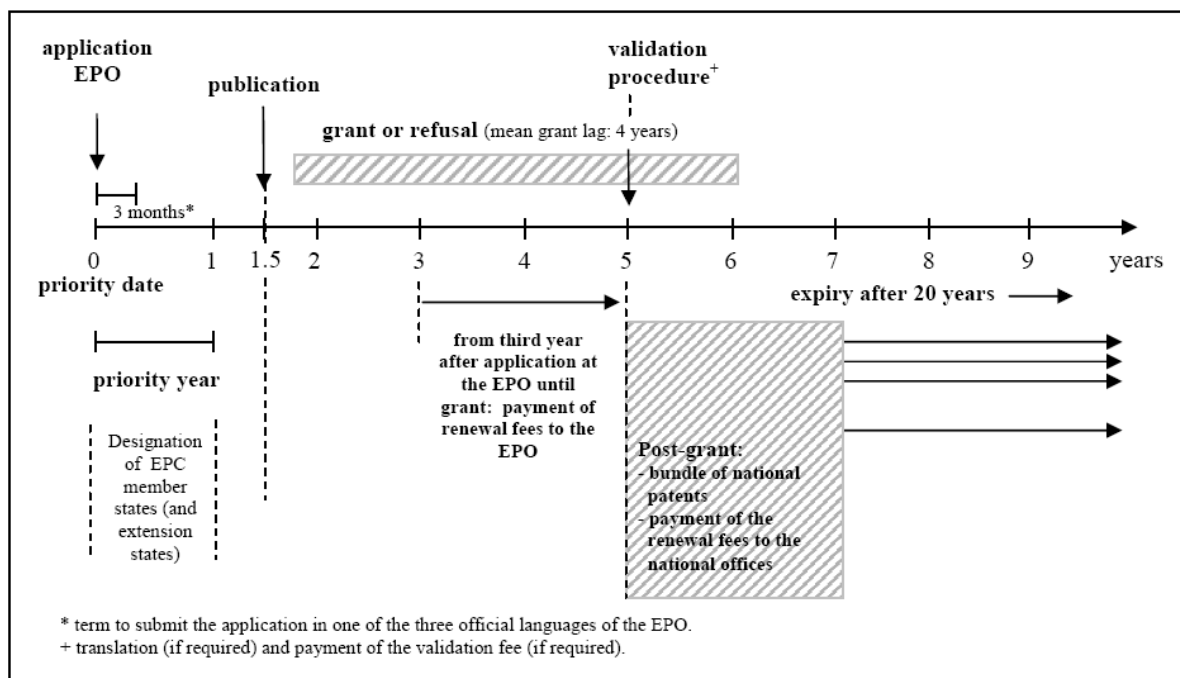
<sup>48</sup> Other larger Contracting States to the EPC include Croatia, Iceland, Norway, Switzerland and Turkey. The European Patent Organisation has 38 members altogether.

proceedings). The application (which comprises of the claims, description<sup>49</sup> and drawings) is thus made available to the public, in electronic format on the European publication server<sup>50</sup>.

Once the patent is granted, it is published by the EPO in the language of proceedings, together with a translation of the claims in the two other official languages<sup>51</sup>. The authentic text of the European patent is the text in the language of proceedings – both before the EPO and in any Contracting State to the EPC<sup>52</sup>.

A European patent has the same legal effect as a national patent in the Contracting States to the EPC in which the patent proprietor desires protection for their invention. However, the European patent does not take effect automatically in most Contracting States<sup>53</sup>. It must first be validated in the States in which the patentee wishes protection, i.e. the European patent has to be converted into a national patent<sup>54</sup>. Figure 1 below illustrates the application and renewal procedures for patent applications directly filed with the EPO.

*Figure 1 - Application and renewal procedures for patent applications directly filed with the EPO*



<sup>49</sup> The claims define the matter for which protection is sought; they determine the extent of the protection conferred by the patent (Articles 84 and 69 EPC). The description indicates the background art, discloses the invention, describes at least one way to carrying it out and indicates the way in which the invention is industrially applicable; the description is used to interpret the claims (Rule 42 and Article 69 EPC).

<sup>50</sup> The European publication server is the EPO's internet-platform for obtaining on-line copies of European patent applications and European patents. New publications are uploaded every week. See <https://data.epo.org/publication-server/?lg=en>. Other platforms maintained by EPO also enable on-line access to European patent documents; see esp@enet, epoline and Register Plus.

<sup>51</sup> On average, in 2009, a granted European patent was published 43.1 months after the application was received, see Annual Report of the EPO, 2009. <http://www.epo.org/about-us/office/annual-reports/2009.html>

<sup>52</sup> See also Article 70(3) EPC.

<sup>53</sup> The exceptions are France, Germany, Luxembourg and the UK.

<sup>54</sup> The details of this transformation are explained in section 4.1.

Source: Harhoff, Hoisl, Reichl, van Pottelsberghe, 2009, "Patent validation at the country level: the role of fees and translation costs", *Research Policy*, November 2009.

### 3.2.3. The Patent Co-operation Treaty (PCT)

The PCT is an international treaty that entered into force in 1978<sup>55</sup>. Filing an application under the PCT is another method of protecting patents in several countries<sup>56</sup>. While an application under the PCT is not an actual patent application, it extends the potential protection given by the priority right<sup>57</sup> to a period of 30 months. The PCT application is searched by one of the International Search Authorities (i.e. patent offices designated by the World Intellectual Property Organisation - WIPO<sup>58</sup>). Once the search and the optional preliminary examination are completed, the procedure continues before the national offices or the EPO that decide on granting the patent or refusing the application. Approximately half of the European patent applications are also PCT applications.

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<sup>55</sup> <http://www.wipo.int/pct/en/texts/articles/atoc.htm>

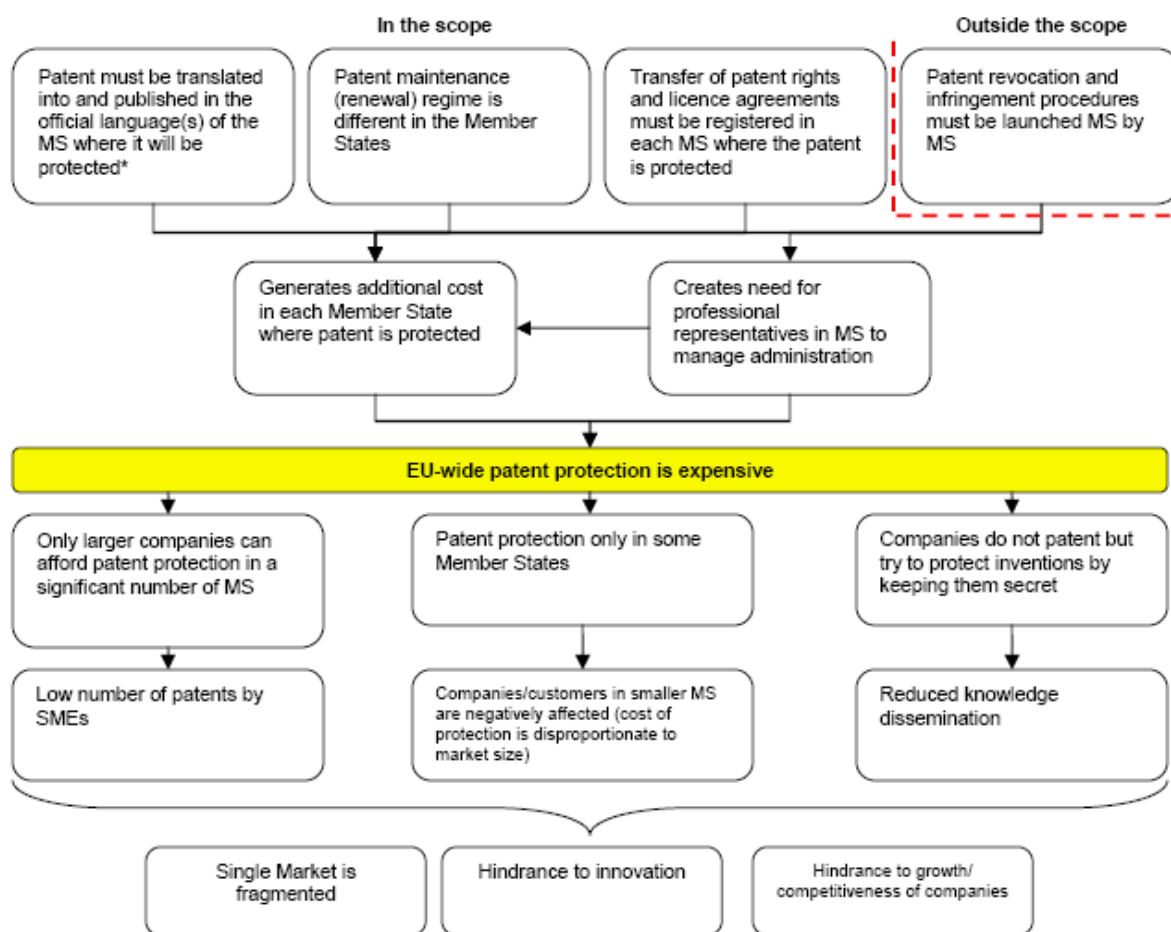
<sup>56</sup> All Member States of the EU are signatories to the PCT, it has 142 contracting states altogether (in 2011).

<sup>57</sup> See footnote 45. The usual length of protection is 12 months.

<sup>58</sup> <http://www.wipo.int/portal/index.html.en>

#### 4. PROBLEM DEFINITION

*Figure 2 – Problem tree*



\* Except under the London Agreement

Source: European Commission

Since the 1970s the procedure for searching, examining and granting European patents is centralised in Europe under the EPC (see section 3.2). This procedure is well-functioning and widely accepted by applicants from Europe and other continents. This standardised procedure, however, is complemented by post-grant procedures that are necessary for the patent to take effect in the individual Contracting States to the EPC. These post-grant procedures are complex and divergent in Europe. They generate costs for inventors and businesses that deter them from seeking for patent protection in Europe. Therefore, also in line with the request of the Member States asking for enhanced cooperation, this IA report only looks into the problems and possible solutions with respect to the post-grant stage of patent protection.

The fragmentation of the patent protection in the EU has four main aspects: high costs related to the translation and publication requirements, diverging rules in relation to renewal fees, complex national provisions in relation to registering transfers, licences and other rights and the legal uncertainties due to the lack of a unified court system. This chapter will explain economic implication and consequences of the first three problems but will not address the problems related to litigation.

#### 4.1. Problem 1: High costs related to the translation and publication of patents

After the grant of European patents, different validation requirements apply in the Member States. For example:

- the patent holder must file with the national patent office a translation of the European patent into the official language of the State where protection is desired;
- the patent holder must pay a publication fee to the national patent office; and
- the patent holder must comply with various formal requirements relating in particular to the number of copies to be filed, use of prescribed forms, and time periods.

Where the patent holder fails to observe any of the above validation requirements in a particular State, the European patent is deemed to be void *ab initio* in that State.

Direct and indirect translation costs can add up to about 40% of the overall costs of patenting in Europe. It has been estimated that a European patent validated in 13 countries is more than ten times more expensive than a patent in the US or Japan<sup>59</sup>. National laws of most Member States require that the patent proprietor supplies translations of the patent into the official languages of the Member States in which protection is sought. The translations must be filed with the national patent offices, which shall make them available to the public. Significant costs, red-tape and complexity accrue in this process:

- Costs of translations: Specialised translators are needed to translate the technical text contained in patents. On average, EUR 85 is charged per page<sup>60</sup>. The number of pages to be translated depends on the specific patent: a patent of typical length contains 15 pages of description, 4 pages of claims and 1 page of drawings<sup>61</sup>.
- Fees charged by patent agents: Local patent agents often act as intermediaries between the patent proprietor and the national patent offices where the translations are to be filed<sup>62</sup>. They may offer to arrange for translations or verify translations carried out by external translators, or they may offer to ensure that formal requirements laid down by national law are complied with<sup>63</sup>. Fees must be paid by the patent proprietor for such services, and they vary from around EUR 150 to EUR 600 per validation of a patent depending on the Member State<sup>64</sup>.

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<sup>59</sup> Bruno van Pottelsberghe de la Potterie and Didier François, the Cost factor in Patent Systems, Université Libre de Bruxelles Working Paper WP-CEB 06-002, Brussels 2006, see pp.17 et seq. <https://dipot.ulb.ac.be:8443/dspace/bitstream/2013/6307/1/bvp-0063.pdf>

<sup>60</sup> This estimation was taken as a basis by the Council in the common political approach of 3.3.2003. It is confirmed by data provided by translation service providers.

<sup>61</sup> Harhoff, Hoisl, Reichl, van Pottelsberghe, 2009, "Patent validation at the country level: the role of fees and translation costs" arrive at a actual mean number of 21,24 pages per patent. The "Study on the Cost of Patenting" carried out by Roland Berger Market Research finds an average of 23 pages, of which 4 pages of claims.

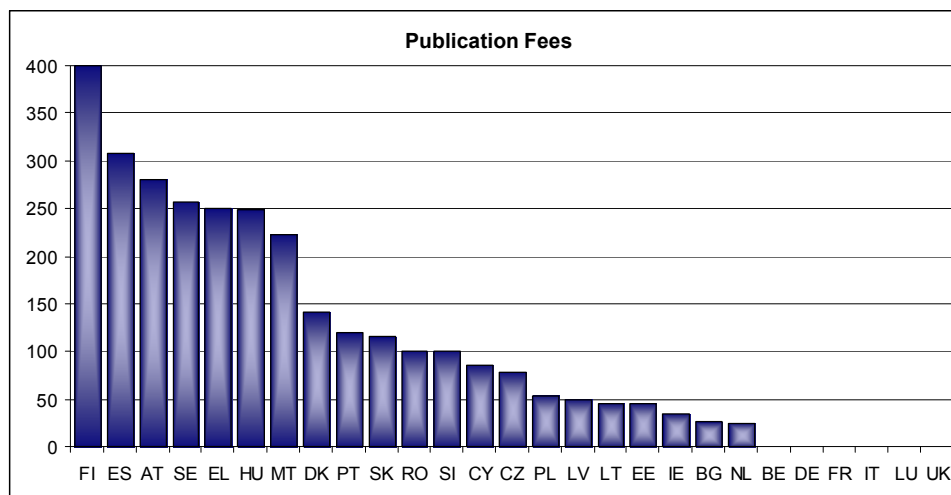
<sup>62</sup> In some Member States, national law appears to still require that such formalities be carried out by a local patent agent.

<sup>63</sup> An exhaustive list of these requirements can be found in "National law relating to the EPC", 14<sup>th</sup> edition, June 2009, pages 99-135.

<sup>64</sup> Interviews with patent agents and Roland Berger Study.

- Official fees charged by national patent offices for the publication of the translations: The figure below shows the publication fee (also known as "printing fee" in countries where the publication still consists in printing the patent on paper) for a European patent of typical length (20 pages)<sup>65</sup>.

*Figure 3 – Publication fee in the Member States for a typical European patent (in EUR)*



Source: *National Law relating to the EPC, 14<sup>th</sup> Edition, 2009.*

In order to reduce the costs induced by the validation requirements, the Agreement on the application of Article 65 EPC (London Agreement) was adopted in October 2000<sup>66</sup>. The London Agreement is an optional scheme, allowing for collective action to reduce patenting costs by dispensing with some or all translation requirements. It entered into force on 1 May 2008. Today sixteen Member States are not parties to the London Agreement and thus require a translation of the entire patent into their official language (Austria, Belgium, Bulgaria, Cyprus, Czech Republic, Estonia, Finland, Greece, Ireland, Italy, Malta, Poland, Portugal, Romania, Slovakia and Spain)<sup>67</sup>, mainly for political reasons. Table 1 summarises the translation requirements in the Member States. See Annex IV for more details on the London Agreement.

<sup>65</sup> See "National law relating to the EPC", 14<sup>th</sup> edition. Further complexity is added by national provisions on (i) additional page fees for longer patents and (ii) special fee schedules where the patent proprietor files an electronic version of the patent.

<sup>66</sup> OJ EPO 2001, 550.

<sup>67</sup> It is to note that currently Ireland and Malta do not require a translation of a European patent into Irish and Maltese. For validation it suffices that the European patent is available in English.



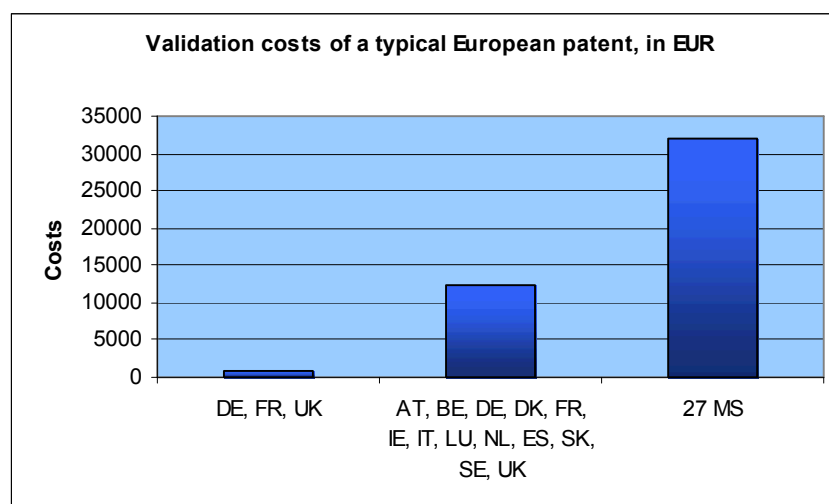
*Table 1 – Summary of the translation requirements in the Member States (2011)*

Requirement	Member State
No translation requirement for the description or claims	Germany, France, Luxembourg, UK
Translation of claims to official language of the MS but no translation requirement for the description	Latvia, Lithuania, Slovenia
Translation of claims to the official language and the description to English	Denmark, Netherlands, Sweden, Hungary
Translation of the claims and the description to the official language(s) of the MS	Austria, Belgium, Bulgaria, Cyprus, Czech Republic, Estonia, Finland, Greece, Spain, Ireland, Italy, Malta, Poland, Portugal, Romania, Slovakia

The chart below illustrates the total validation costs (including direct translation costs and estimated related costs such as patent agent fees and publication fees) for a European patent of typical length (granted by the EPO in German), in respectively three, 13 and 27 EU Member States:

- if the patent proprietor wishes protection in only three Member States – Germany, France and UK (which are parties to the London Agreement) – that overall validation costs equal the translation costs of the claims to French and English<sup>68</sup>, i.e. EUR 680;
- validation costs are approximately EUR 12 500 when protection is sought in thirteen Member States (the ones in which most validations take place), and
- finally, validation costs are over EUR 32 000 if a patent is validated in the whole EU.

*Figure 4 – Example of total validation costs (in EUR) of a European patent of typical length in a selection of EU Member States*



Source: European Commission

<sup>68</sup> There are no additional validation requirements or costs.

It is important to note that only around 1 000 patents out of approx. 50 000 annually validated patents (2%) are validated in all 27 Member States. Around 4 000 patents (8%) are validated in 13 Member States and 20 000 patents per year are validated in the largest 5 EU markets (40%). Approximately half of these patents are only validated in 3 Member States – an estimated 25 000 patents per year (50%). According to these figures, the estimated validation costs are around EUR 193 million per year.

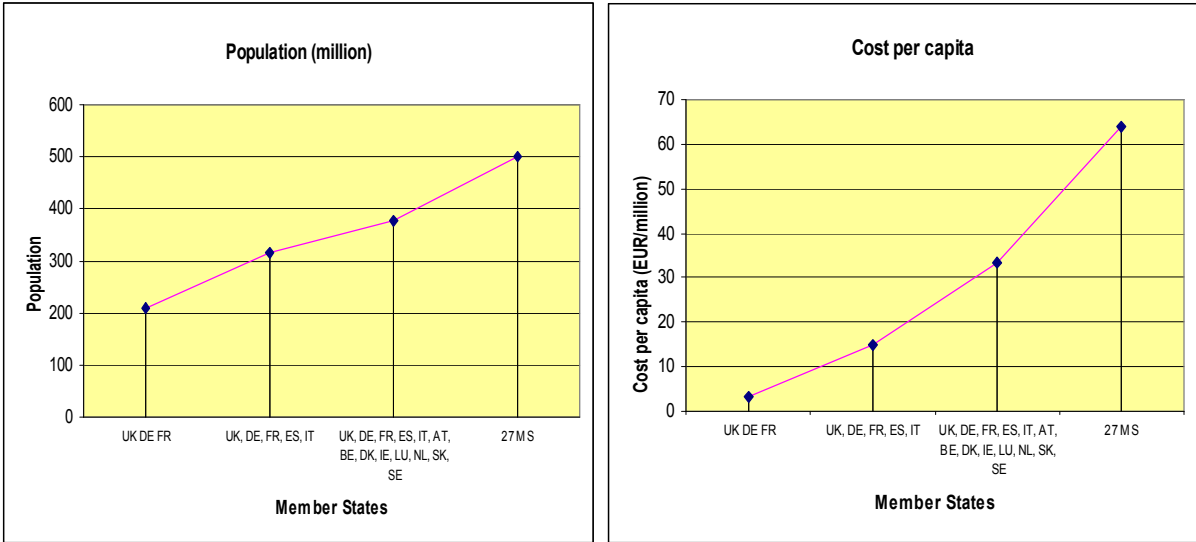
Table 2 – The annual validation costs in the EU (in EUR)

Scope	Patents per year	Cost per patent (in EUR)	Total costs (in EUR)	Cost per capita (EUR/million)
27 Member States	1000	32 112	32 million	64.1
13 Member States	4000	12 507	50 million	33.3
5 MS (DE, UK, FR, IT, ES)	20000	4718	94 million	15
3 MS (DE, UK, FR)	25000	680	17 million	3.2
<b>Total</b>			<b>193 million</b>	

Source: European Commission

The charts below show that the per capita cost of obtaining patent protection in the EU shows a much steeper increase than the increase in the actual size of the market covered by patent protection.

Figure 5 – Illustration of increase in market size and cost par patent per capita



Source: European Commission

A further shortcoming of the current translation arrangements for European patents is the practical difficulties in accessing the translations at some national patent offices. While some offices do make the translations available electronically<sup>69</sup>, others only provide access to paper

<sup>69</sup> CDs and DVDs are still used for storing and copying information but their use will in future be limited to static data collections. The introduction of online publication servers constitutes the major shift

copies that can be consulted in the public reading rooms of the national patent offices, or copied at the expense of interested third parties. The number of translations consulted in Member States where translations are only available in printed form is extremely low – less than 2% according to estimates<sup>70</sup>.

Finally, the publication of the translations takes place very late in the "life cycle" of the patent – only months after grant and after the publication of the patent specifications by the EPO and hence often not before five years after the date of filing of the patent application. Yet innovative businesses must keep abreast of the latest technological developments in their field by monitoring new patent applications filed by their competitors – which are published already 18 months after the date of filing (in the language of proceedings before the EPO) – not by reading the translations supplied several years later. In practice, third parties make little use of the translations filed at the national patent offices after the patent has been granted.

#### **4.2. Problem 2: Differences in the maintenance of patents in the Member States<sup>71</sup>**

Articles 86 and 141 of the EPC lay down that renewal fees for the European patent application has to be paid to the EPO as of the third year from the date of filing the application. The fee has to be paid each subsequent year, until the European patent is published in the European Patent Bulletin. The national law of the countries where the patent is then validated may only impose renewal fees for the period after the publication.

After grant, renewal fees have to be paid by the patent proprietor each year in each country where the patent is validated. If the patent holder does not pay the fees, the patent lapses and becomes part of the public domain. Renewal fees usually increase as time progresses and thus patentees only maintain patents if they generate (or are expected to generate) higher income than the costs of maintaining it. 50% of EPO patents lapse in the first 10 years after filing and about 8% are renewed until statutory term (20 years)<sup>72</sup>.

The level of renewal fees shows great diversity in the Member States. For example, the cumulated renewal fees until the 10<sup>th</sup> year of protection are between EUR 476 (Slovenia) and HUF 871 000 (approx. EUR 3 161) in Hungary. The cumulated renewal fees until the 20<sup>th</sup> year of the protection is between EUR 2 411 (Malta) and EUR 13 170 (Germany) in Europe<sup>73</sup>.

While the divergent fee structures may be explained on the basis of policy considerations, there are many auxiliary provisions in the national laws that make the maintenance of patents in several Member States unnecessarily difficult. The due date of the payment is usually defined as the "anniversary date of the filing" (e.g. Czech Republic, Hungary) or "the last day of the month in which the date of filing occurred" (e.g. Austria, Finland, France), but the time period during which the payment needs to be made shows great variety. In some Member States, the payment can already be made at most 12 months before the due date (e.g. Czech Republic, Germany, Luxembourg or Slovenia), in others payments cannot be made more than

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which will shape patent information policy in the 21<sup>st</sup> century, radically reducing the interval between publication and distribution of information.

<sup>70</sup> Response to Written Question no 88618 of 14.3.2006 (JO Question écrites, Assemblée nationale, 25, 20.06.2006, p.6598). See also Rapport de la Mission de Concertation sur le Brevet Européen "Les enjeux de l'Accord de Londres" (Rapport Vianès).

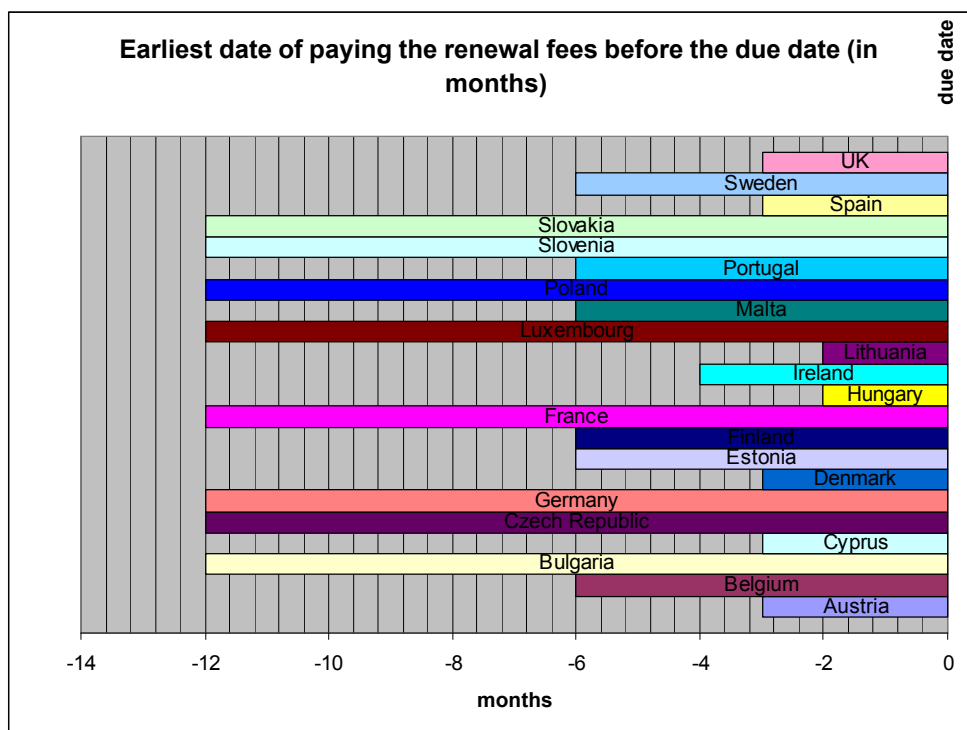
<sup>71</sup> Source of the data used in this section: National law relating to the EPC, EPO, June 2009.

<sup>72</sup> Dominique Guellec, Bruno van Pottelsbergh: The Economics of the European Patent System, Oxford University Press, 2007, p.148.

<sup>73</sup> See details on renewal fees in Annex V.

6 months before the due date (e.g. Malta, Portugal, Sweden). There are countries where the earliest possible date of payment is four (Ireland), three (e.g. Spain, UK), or two months (e.g. Lithuania, Hungary) before the due date.

*Figure 6 – Earliest date of paying the renewal fees before the due date (2009)<sup>74</sup>*



Source: National law relating to the EPC, 14th edition, 2009.

In all Member States there is a period of grace for the payment of the renewal fees during which the patent holders can still pay the renewal fees (with a surcharge) and thus not lose their rights on the patent. This grace period is 6 months in all Member States, however, the surcharge due during this period shows once again great variety. In a few countries the surcharge is a fixed amount (EUR 50 in Germany, EUR 100 in Italy, EUR 14 in Luxembourg) while in most states it is a percentage of the renewal fee (between 10% and 100%).

Payments can be made in cash, by bank transfer, postal money order or cheque, depending on the Member State. In some countries bank transfer is still not possible. In Italy payments have to be made at an Italian post office and the payment voucher has to be presented to the Italian Patent and Trademark Office. In Luxembourg, there is only possibility for cash payment, postal money order or post office transfer or payment.

The above examples illustrate that there is a high number of requirements that inventors and businesses need to observe in order to maintain the patent protection in more than one Member State. While only Malta, Poland, Latvia, Cyprus, Romania and Greece requires the appointment of a national professional representative<sup>75</sup> for the payment of renewal fees, the complexity of legal and administrative requirements and the need to communicate with the

<sup>74</sup> In Greece, Italy, the Netherlands and Romania there are no relevant provisions.

<sup>75</sup> In Romania if the patent holder resides outside Romania; in Greece if the patent holder does not have a residence or principal place of business in Greece.

patent offices in the official language of the Member State can make it difficult or impossible for foreign patentees to manage their patent without local representation. If companies providing technical assistance charge EUR 30-40 per patent per country for carrying out the payment of renewal fees<sup>76</sup>, renewing a European patent in five countries could cost EUR 150-200 each year in addition to the renewal fees. Where patent holders are required to appoint patent attorneys, the fees are likely to be much higher. Using the same assumption on the number of patents as in Table 2, the accumulated costs for a European patent that is renewed for 10 years is shown in Table 3 below (calculated from the third year).

*Table 3 – Accumulated cost of technical assistance and renewal fees*

	<b>Costs of technical assistance for payment (10 years – in EUR)</b>	<b>Patents per year</b>	<b>Total cost of technical assistance for 10 years (in EUR)</b>	<b>Total cost of renewal fees for 10 years (in EUR)</b>
<b>3 MS</b> (DE, UK, FR)	720-960	25000	18 million – 24 million	73 million
<b>5MS</b> (DE,UK, FR, IT, ES)	1200-1600	20000	24 million – 32 million	91 million
<b>13 MS</b>	3120-4160	4000	12,5 million – 16.6 million	56.8 million
<b>27 MS</b>	6480-8640	1000	6.5 million – 8.6 million	30.3 million
<b>Total</b>			<b>61 million – 81.2 million</b>	<b>251.1 million</b>

*Source: European Commission*

#### **4.3. Problem 3: Administrative complexity of registering transfers, licences and other rights<sup>77</sup>**

Patents can facilitate transactions in the markets for technology: they can be bought and sold as property titles or, more frequently, be subject to licensing agreements. Up till the grant of European patents, transfers, licences and other rights are registered centrally in the European Patent Register by the EPO. After grant, however, a transfer is registered in the European Patent Register only during the opposition period or during opposition proceedings<sup>78</sup>. Following this period, all registrations take place in the national patent registers of those countries in which the patent has been validated.

National patent registers must register any transfer of rights by transaction (e.g. sale, merger, transfer of title) or by operation of law (e.g. succession, insolvency, compulsory execution). They also register licence agreements, pledges, etc. When patents are validated in more than one country, any changes related to the rights on the patents must be registered in each country in which the transaction or other change need to have legal effect.

Registering transfers, licences or other rights require mandating a professional representative in more than half of the Member States<sup>79</sup>. According to an example given by professional representatives, attorney fees for transferring a patent can be as low as EUR 50, but the

<sup>76</sup> Example given by professional representatives.

<sup>77</sup> Source of data used in this section: National law relating to the EPC, EPO, June 2009

<sup>78</sup> Opposition procedures allow for challenging the validity of patents by anyone on the grounds prescribed by Article 100 of the EPC.

<sup>79</sup> Exceptions are Denmark, France, Greece, Ireland, Italy, Netherlands, Portugal, Spain, Sweden, UK and partially Hungary and Luxembourg.

associated communications with the owner can push this up to EUR 200. For rights held in other Member States than that of the owner, where an owner would have to cover the cost of an attorney able to act in the local language and may have associated translation costs, a transfer can cost EUR 500 per Member State. So, registering the transfer of a patent valid in five Member States can cost EUR 2000-2500. In addition, there are different procedural fees in the different Member States. For example, the registration of a transfer costs EUR 7 per patent in Luxembourg and EUR 136 in Greece. Some Member States (e.g. UK) do not apply procedural fees in these cases.

Moreover, there are different requirements in the Member States as regards the types of documents to be submitted to the patent register. Some require the submission of the original document or a certified copy (e.g. Austria, Finland), some others accept simple copies e.g. Czech Republic, Bulgaria, France) or forms to be filled (e.g. UK). In some countries a special written request needs to be submitted (e.g. Slovakia, Poland, Latvia) and/or a proof of the fee payments (e.g. Belgium, Bulgaria). The diversity of administrative requirements does not only make the management of patents in several Member States very difficult for patent proprietors but the lack of Europe-wide transparency also makes it costly for third parties to keep track of the status of the patent and the rights attached. Due to lack of data on the number of patent transfers, licensing agreements, etc. the EU aggregated cost cannot be provided.

#### **4.4. Consequence: EU-wide patent protection is expensive**

As a consequence of the problems explained above, access to comprehensive patent protection in Europe is so costly and complex that it is inaccessible to many inventors and companies. There is some evidence that the costs associated with patent protection are so high that SMEs often prefer informal protection of their innovations (i.e. secrecy). For bigger firms, this size effect disappears. With the existing patent system in Europe, a critical size appears to be necessary to become an active user of patents<sup>80</sup>. The cost of often several patent attorneys to manage patents in the European system, as well as the fees for patent applications, validations and renewals are particularly strong motives for SMEs for not patenting innovations. In a recent study<sup>81</sup> 55.6% of micro enterprises, 32% of small and 26% of medium-sized enterprises mentioned the fact that they needed to pay patent attorney fees in several member States. As regards the applicable fees, respectively 39%, 60% and 47.4% of enterprises raised similar concerns.

But even when European patents are solicited and granted, they are usually validated only in a few countries selected by the patent holder. Currently, a European patent is, on average, validated in only five EU Member States<sup>82</sup>. The number of validations has even decreased over the last 15 years, although the number of EPC Contracting States has increased from 17 (in 1995) to 37 today<sup>83</sup>. There is no straightforward explanation for this slight decline since a number of factors affect the patenting strategy for a company and decisions are taken on a

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<sup>80</sup> A. Garcia – D. Foray: What is small? Small and medium enterprises facing patenting activities, November 2010, IPTS Working Paper [http://iri.jrc.ec.europa.eu/papers/2010\\_JRC61689\\_WP9.pdf](http://iri.jrc.ec.europa.eu/papers/2010_JRC61689_WP9.pdf)

<sup>81</sup> Study on the quality of the patent system in Europe, 2011. [http://ec.europa.eu/internal\\_market/indprop/patent/index\\_en.htm#studies](http://ec.europa.eu/internal_market/indprop/patent/index_en.htm#studies)

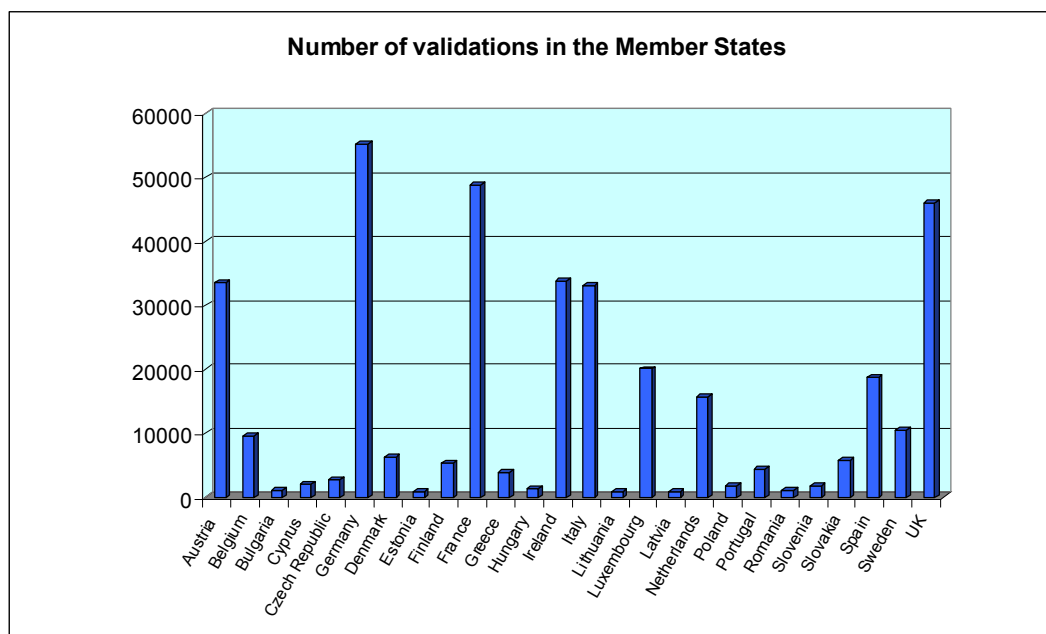
<sup>82</sup> See, for example, "Study on the Cost of Patenting" carried out by Roland Berger Market Research, August 2004.

<sup>83</sup> See "Economic cost-benefit analysis of the Community patent" – by van Pottelsberghe, Danguy, on the basis of data provided by the EPO. [http://ec.europa.eu/internal\\_market/indprop/docs/patent/studies/compact-cost%20-benefit-study-final\\_en.pdf](http://ec.europa.eu/internal_market/indprop/docs/patent/studies/compact-cost%20-benefit-study-final_en.pdf)

case-by-case basis. Possible explanations include a general rise in number of applications and granted patents (e.g. about 78 000 applications were received at the EPO in 1995 compared to more than 146 000 in 2008) resulting in larger company patent portfolios and therefore fewer validations in order not to increase the overall costs of their patent portfolio.

Figure 7 below shows the approximate number of European patents that were validated in the Member States according to the latest available data. Most validations were made in Germany, France and the UK, followed by Ireland, Austria and Italy.

Figure 7 – European patents validated in the Member States<sup>84</sup>



Source: European Commission

The decision of a patent proprietor to validate a European patent in a particular country depends on several factors: high costs (arising from direct translation costs, publication fees, annual renewal fees) have a strong negative impact<sup>85</sup>, but other factors such as a country's GDP, size and state of development of its market, number of years of EPC membership, and distance to other countries also impact on the validation decision<sup>86</sup>. In practice, the European patent thus provides patent protection in only a few EU Member States.

As explained above, the London Agreement lowers the costs relating to translations for patent proprietors, but it does not overcome the fragmentation caused by the national patent right borders created by the European patent after grant. I.e. the Agreement cuts validation costs entirely in four Member States (DE, FR, LU and the UK), reduces costs in seven Member States where translations of the claims still have to be supplied (DK, HU, LT, LV, NL, SE, SI) and leaves validation requirements untouched in sixteen Member States.

As regards to the maintenance of patents and the registration of rights and licences, the administrative burden and complexity seem to generate unnecessary costs for inventors and

<sup>84</sup> Malta is not included due to lack of information.

<sup>85</sup> See Annex VI for international comparison of overall patenting costs.

<sup>86</sup> These latter factors are constant over time and cannot serve as leverage for policy options.

businesses. For example, renewing a patent for 10 years in the five most validated Member States is estimated to cost up to EUR 7 500. This amount could exceed EUR 43 000 in 20 years<sup>87</sup>.

Finally, the fragmentation of patent protection also renders the enforcement of patent rights more difficult. When goods enter the EU through a Member State where a patent is not in force, the patent holder may not rely on the EU Customs Code to withhold the goods suspected to be in breach of a patent<sup>88</sup>. The goods have to be released by the customs authorities and thus allowed to circulate freely within the internal market, possibly also including the Member States where the patent is in force. The identification of the goods in breach of a patent is thus very difficult.

#### **4.5. Overall impacts**

The situation described above has major undesirable effects on the functioning of the internal market. In addition to maintaining the fragmentation of the market, it also has a negative impact on innovation, growth and the competitiveness of European business.

##### *4.5.1. Fragmentation of the Single Market*

The lack of access to comprehensive patent protection in Europe means that patent protection stops at the national borders. In order to reduce legal complexity and costs, European patents are validated in only a few Member States. Therefore, business opportunities are lost as patent proprietors tend to focus on some national markets in their patent protection and the production, licensing and marketing of their products. Business opportunities in other markets – whether smaller or more distant – are less likely to be pursued; this fails to fulfil a true internal market and this may also undermine the cohesion within the Union.

##### *4.5.2. Hindrance to innovation*

Among other factors in commercial decisions, the characteristics of a market in terms of patent protection can lead to more or less investments in R&D and technology transfers. European inventors cannot enjoy the full benefits of the Single Market when they need to seek patent protection country-by-country. This situation compares negatively with other major economies such as the United States, Japan or China. Seeking patent protection in economies with large consumer markets and unitary protection systems, such as the United States may prove to be more attractive for inventors. This situation has negative impact on the competitiveness of the Union as innovation-related activities generate human capital that tends to be more mobile than in other areas. The current less advantageous framework conditions for innovation makes the Union a less attractive place to create and innovate, for both European and non-European inventors.

Finally, the decision of companies (in particular SMEs) not to patent certain inventions but keep them in secret have a negative impact on the dissemination of knowledge.

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<sup>87</sup> Estimated on the basis of renewal fees in DE, FR, UK, IE and AT.

<sup>88</sup> Council Regulation (EC) No 1383/2003 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. *OJL 196, 2.8.2003, p. 7–14.*



### 4.5.3. *Hindrance to growth and competitiveness*

Innovative companies are at a disadvantage as third parties producing and selling patented products in Member States where patent protection has not been secured, have a competitive advantage over patent proprietors who need to recoup R&D investments; the problem affects especially innovative SMEs who have refrained from securing patent protection throughout the Union due to the high costs associated with obtaining such protection.

Obtaining a patent in 13 Member States today costs 10 times as much as obtaining a patent in the US (EUR 18 536 as opposed to EUR 1850)<sup>89</sup>. As it was presented in section 3.1, forming start-ups on the basis of patents is uncommon in Europe. This reduced the potential for job creation and thus growth.

Patents may create more value when they can be licensed out or sold for a bigger market and they can disseminate knowledge by transferring technology more effectively. The current fragmentation makes it more difficult to trade and can even deter the incentives to trade at all, due to a complexity of the assessment of individual national rights.

Finally, the value of patents is weakened as patent proprietors cannot rely on the EU Customs Border Regulation (Regulation No. 1383/2003) to prevent infringing goods and products from third countries from entering the internal market through Member States in which there is no patent protection.

To conclude, the high costs of obtaining EU-wide patent protection have the following effects: the costs deter SMEs from patenting inventions, patents are validated only in a few EU countries and the knowledge dissemination remains limited. Consequently, the Single Market continues to be fragmented in terms of patent protection and access to certain products and services; finally both innovation and growth of European companies are hindered.

## **5. SUBSIDIARITY**

The creation of European intellectual property rights to provide uniform protection throughout the EU and associated language arrangements is provided for by Article 118 TFEU.

The problems outlined above can only be addressed at EU level by a solution that drastically reduces translation and administrative requirements compared to the current regime. EU action is necessary, as without an EU legal instrument Member States would not sufficiently be able to establish legal effects attached to patents that are uniform in several Member States.

Proportionality is taken into account in the analysis of the options in chapters 7 and 8.

## **6. OBJECTIVES**

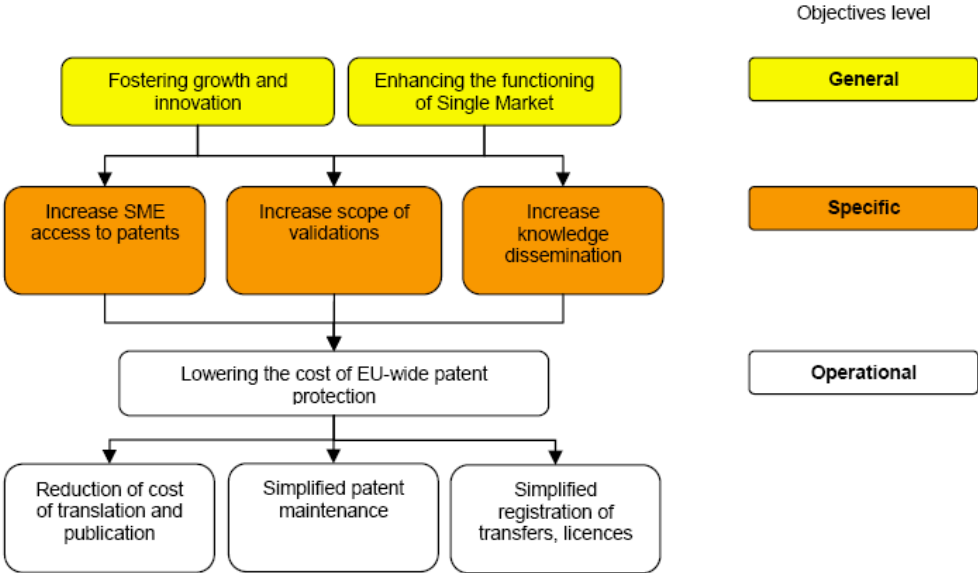
Following from the problem definition, the general objectives of this proposal are to enhance the functioning of the Single Market and foster growth and innovation. These objectives could be achieved by increasing SMEs' access to patent protection, increasing the scope of patent validations and knowledge dissemination (specific objectives).

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<sup>89</sup> Calculation includes the procedural fees at the EPO and the validation costs.

The above objectives can only be reached by lowering the overall costs of patent protection in Europe, in particular by reducing the translation and publication costs, simplifying the maintenance of patents (renewal) and simplifying the registration of transfers, licensing agreements and other rights. These are the operational objectives of this exercise.

*Figure 8 - Objectives*



Source: European Commission

**7. POLICY OPTIONS AND ANALYSIS**

This chapter examines different policy options that could be chosen in order to solve the problems presented in chapter 4 without prejudice to their legal feasibility. However, as explained in the Introduction and chapter 2, 25 Member States requested the Commission to propose enhanced cooperation in the area of unitary patent protection and indicated the scope and objectives of such cooperation. These preconditions need to be taken into account when considering the options.

The policy options are discussed and measured against the following pre-defined criteria:

*Effectiveness:* The extent to which the measure fulfils the objectives.

*Cost reduction:* The estimated cost reduction for the users of the patent system, in particular, the level of potential cost savings per patent application and, more generally, for the whole patent system.

*Simplification:* The extent of foreseeable simplification of the legal and administrative complexity the current patent system.

*Political feasibility:* The possibility to reach an agreement on each of the options must be assessed. Numerous attempts to address the problems identified above have already taken place in the past. The assessment of the past failures and in particular the reasons for these failures therefore require evaluating the political feasibility of each option.

The IA report does not present and analyse options with respect to the level of annual renewal fees for the patents as those fees should not be determined by European legislation. The annual renewal fees should cover the costs generated at the EPO in the course of the grant and management of the relevant patents and thus the EPO has to be involved in the decision-making process so that the solution fits in its existing procedures and fee scheme. Moreover, the level of the renewal fee depends on a number of factors (costs, number of participating countries, etc.) and should be progressive throughout the life of the patent. Should the fee level be determined by law, the change of these conditions would entail the need to amend European legislation that may prove to be time-consuming and burdensome. As a consequence, while the options analyse those cost components where the savings can be foreseen, meaningful aggregate figures including all costs elements cannot be presented.

**7.1. Option 1 (Base-line scenario) – the Commission takes no action**

*Description:* Under this scenario, the current patent system in Europe would remain intact. The only improvement that could be envisaged would be that more EU Member States accede to the London Agreement. Accession is, however, not only optional but also a lengthy and complex process as parliamentary approval procedures must take place in each country. Accession by all remaining 16 Member States is unlikely to happen, even in the long run as there are several Member States that have not yet expressed any intention to join. It is to note that the majority of the Member States which are not parties to the London Agreement have an official language that is not in common with any official language of the EPO. Therefore, even after accession, they may require a translation of the claims into their national language.

*Analysis:* Under this option, the shortcomings of the current European patent system would not be addressed and the costs and the complexity of the current system would stay unchanged. It would also have a negative impact on the functioning of the internal market due to continuous fragmentation resulting from patent proprietors' validation practices. Therefore, this solution is not effective.

In terms of cost reduction and simplification, even if all Member States acceded to the London Agreement, the eventual language arrangement for the European patent would remain complex and costly. In addition, the London Agreement fails to address the other shortcomings of the current European patent system, in particular the validation requirements in the Member States would remain. Also, it would have no impact on the cost and complexity of the renewal of patents (problem 2) and the registration of rights (problem 3). Therefore, this option would provide no additional benefit to users of the patent system and the costs would remain as they were described in the problem definition (chapter 4).

Finally, this option is also not in line with the political engagement of the Commission and the Council to address the problems in the current patent system: The Conclusions and General Approach adopted by the Council on 4 December 2009, the Commission's Europe 2020 Strategy and the Single Market Act.

*Table 4 – Expected impact of option 1*

Policy Option	Effectiveness	Cost reduction	Simplification	Political feasibility
Option 1	0	0	0	Low

"0": no change    "+" : positive impact    "-" : negative impact

## 7.2. Option 2 – the Commission continues to work with the other institutions towards an EU patent covering 27 Member States

*Description:* Under this option, the Commission – together with the Council and the European Parliament – would continue to work towards an EU patent which covers all Member States. In practice, this solution requires the continuation of the discussions in the Council on the basis of the Commission's proposal for a Regulation on the Community patent of 2000<sup>90</sup> and the proposal for a Council regulation on the translation arrangements applicable to EU patent of 2010<sup>91</sup>.

Under this option, the EU patent would be granted by the EPO on the basis of the EPC. The EU patent would be of autonomous nature and provide uniform protection throughout the EU. The procedure up to the grant of the patent would be the same as the procedure for granting European patents under the EPC. An EU patent would be granted in English, French or German by the EPO. At the time when the EU patent is granted, the patent proprietor would supply to the EPO a translation of the claims into the two other official languages of the EPO. After the grant of the EU patent, its legal effects would extend to all Member States. There would be no additional validation requirements. Moreover, the renewal fees would be paid at the EPO and the patent would be registered in a single European register of EU patents.

*Analysis:* Under this option, the objective of a simpler and more cost-effective European patent system would be fully achieved. An EU patent covering all Member States would be the most effective solution.

Doing away with all translations after grant and associated validation requirements would result in very significant cost reductions and simplification for all users of the patent system. The translation costs under this option would amount to approximately EUR 680 per patent<sup>92</sup>. This corresponds to the current average cost of the translation of the claims into the two official languages of the EPO other than the language of proceedings and would equal the cost of validation in Germany, France and the UK under the London Agreement.

Under this option, the translation costs amounting to EUR 680 would therefore replace all other translation and validation costs (excluding attorney fees). Namely, instead of more than EUR 32 000 in validation costs for the coverage of the whole EU or EUR 4700 for the five largest Member States, the costs for the EU patent would be reduced to EUR 680, i.e. 2% of the current validation cost for the EU-27. This option would also ensure that the EU 27 patent is competitive even to the most limited European patents. The per capita cost would be very low: EUR 1.36/million habitants. Since studies have shown that the price elasticity is -0.4; i.e. a cost reduction of 10% would lead to an increase of about 4% in patent filings, the cost reduction under this option can be expected to lead to greater demand for patenting<sup>93</sup>.

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<sup>90</sup> COM(2000)412 final

<sup>91</sup> COM(2010)350 final

<sup>92</sup> 4 pages of claims x 85 EUR/page x 2 languages = EUR 680, calculated on the basis of the Commission's 2010 proposal on the translation arrangements for the EU patent, COM(2010)350 final.

<sup>93</sup> Patent fees for a sustainable EU (Community) patent system by Bruno Van Pottelsberghe and Jérôme Danguy, see [http://ec.europa.eu/internal\\_market/indprop/patent/index\\_en.htm](http://ec.europa.eu/internal_market/indprop/patent/index_en.htm)

As explained in section 4.1, the annual validation costs in the EU are estimated to reach EUR 193 million per year<sup>94</sup>. If the validation cost for the EU patent is presumed at the minimum EUR 680, one may assume that: (i) those patents that are currently validated in more than 3 Member States with much higher costs would all become EU patents which cover the territory of the EU; (ii) from the 25 000 patents per year that currently are validated in only 3 Member States (for identical costs, i.e. EUR 680), the majority would also become EU patents (except for specific marketing decisions or different coverage desired, for example, covering only Germany and Switzerland). Consequently, the total costs for the users would be equal whether all European patents would become EU patents or part of them would remain European patents limited to three Member States.

*Table 5 – Estimated costs of the EU 27 patent*

Scope	Patents per year	Cost per patent (in EUR)	Total costs (in EUR)
EU 27 patent 100%	50000	680	34 million

or

EU 27 patent 75%	37 500	680	25.5 million
European patent 25%	12 500	680	8.5 million
Total			34 million

*Source: European Commission*

The cost savings for the users of the patent system (patentees) would thus be EUR 159 million per annum.

In order to ensure sufficient flexibility, annual renewal fees for an EU 27 patent would not be determined by EU legislation but would be subject to further negotiations in the implementation phase. Thus the potential costs savings in the renewal fees compared to the present system cannot be calculated in this respect. The same applies to the cost savings deriving from the single centralised procedure with respect to professional representation for the registration of transfers or licensing agreements. As there is no information available on the number or scope of the registration of rights in the national patent registers, there is no possibility to calculate the overall costs and savings.

As section 4.2 explains, the technical assistance provided by companies for the payment of fees cost EUR 30-40 per patent per country. If renewal fees were to be paid to the EPO, these the cost of technical assistance would be EUR 240-320, if any, for the patent that is renewed for 10 years (calculated from the third year). This means a potential saving of EUR 6450-8600 per patent over a 10-year period. Based on the assumptions used in Table 3, the overall amount of these fees would be EUR 12 million-16 million in 10 years. This could mean an overall saving of EUR 49-65.2 million in a 10-year period compared to the present system.

As the payment and management of the renewal of the patents, as well as the registration of the patents and the related rights and licences would be managed centrally, this option would achieve the greatest simplification. While today the administration of patents needs to be

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<sup>94</sup> In order to calculate the potential cost savings for the users of the patent system, it was necessary to make certain assumptions and due to the complexity of the current system, some approximations of the data used.

carried out country-by-country, under this option, a single central procedure at the EPO would replace all.

As regards the political feasibility of this option, the translation arrangements (which require unanimity in the Council - Article 118(2) TFEU) pose the biggest obstacle. The Council had tried and failed on several occasions to reach a unanimous agreement. As explained in chapter 2, the Competitiveness Council confirmed on 10 November 2010 that no unanimous agreement could be reached on the translation arrangements and on 10 December 2010 that insurmountable difficulties existed, making a decision requiring unanimity impossible now and in the foreseeable future. Therefore, despite all the benefits of this option, it is not achievable politically and thus the problems of the EU patent system could not be addressed through this option.

*Table 6 – Expected impact of option 2*

Policy Option	Effectiveness	Cost reduction	Simplification	Political feasibility
Option 2	+++	+++	+++	Not possible

"0": no change    "+": positive impact    "-": negative impact

### **7.3. Option 3 - the Commission presents proposals for regulation implementing enhanced cooperation**

*Description:* Under this option, the Commission would present the proposals necessary for the implementation of enhanced cooperation in the area of unitary patent protection. The area of unitary patent protection would include the territories of the Member States that wish too cooperate in this framework. So far the Commission has received requests from 25 Member States wishing to participate in enhanced cooperation and adopted a proposal for a Council decision authorising enhanced cooperation in the area of unitary patent protection in December 2010, in response to these requests (see details in chapter 2).

In this framework, the unitary patent protection would be optional to the users of the patent system and would co-exist with current system. The unitary patent protection would provide European patents granted by the EPO with unitary effect for the territories of the Member States participating in the enhanced cooperation.

Consequently, until grant, applicants would have the choice between (i) a European patent valid in the territories of the participating Member States for which this patent would have unitary character, (ii) a European patent valid in the territories of the participating Member States for which this patent would have unitary character but also designating selected other Contracting States of the EPC (especially the Member States not participating in the enhanced cooperation), or (iii) a European patent designating only selected Contracting States to the EPC (no matter whether they take part in the enhanced cooperation or not). The unitary protection for European patents granted by the EPO would come into effect in the territories of the participating Member States without any validation with the national patent offices. Moreover, the renewal fees would be paid at the EPO and the patent would be registered in a single European register with regard to the territories of the participating Member States.

The options as regards the applicable translation arrangements are described under sub-options 3.1 and 3.2<sup>95</sup>. Both sub-options have the following common elements:

A) Any translation to be filed at the time of grant shall be filed centrally at the EPO, which shall be in charge of the electronic publication of the patent. Article 14 of the EPC applies with respect to the languages of filing.

B) The development of automatic machine translation (AMT) programs for patent documents is essential in order to improve the dissemination of technological information for researchers throughout the EU. A project in this field is underway at the EPO. The availability of a fully-fledged AMT system promises significant improvements for users monitoring the content of new patent applications in foreign languages.

C) In the case of a dispute relating to a European patent with unitary effect, the patentee will provide, at his/her expense and at the request of an alleged infringer, a full translation of the patent into an official language of the participating Member State in which the alleged infringement took place or in which the alleged infringer is domiciled.

D) An application for a European patent may be filed in any language<sup>96</sup>. Where the language of filing is not an official EPO language, a translation of the application must be provided, within a prescribed time period, so that the application can be processed by the EPO. If a natural or legal person having his/her residence or principal place of business within a participating Member State that does not have as an official language among the language of proceedings before the EPO files an application for a patent in the official language of their Member State, the cost of translation shall be borne by the system, should he/she chose to obtain unitary effect to their European patent.

*Analysis:* This option would allow for the creation of unitary patent protection limited to the territories of the Member States that participate in enhanced cooperation. Enhanced cooperation remains open to all Member States which may join any time, provided that they meet the conditions of the established cooperation. The Member States that expressed a wish to participate in enhanced cooperation make up 79% of the total EU population. In terms of patenting activity in the EU, applicants from the participating Member States have filed approximately 92% of applications from the EU with the EPO in 2009. All Member States with the highest per capita number of applications would take part in the enhanced cooperation<sup>97</sup>. Accordingly, the proposed enhanced cooperation would cover a market with a substantial size in which patent holders would get protection without any validation with national patent offices and without the transactional costs. While this solution would not be as effective as option 2, it can be assumed that such a substantial market under a unitary patent protection system would be more attractive to the users than the current regime, including the area covered by the London Agreement.

Unitary patent protection would cover a market that is much larger than any market of a single Member State, resulting in reduced costs of protection relative to the size of the economy (see Tables 2 and 8). Enhanced cooperation of 25 Member States, in particular, would cover 79% of the EU's population (394.7 million people) that is close to the double of

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<sup>95</sup> These translation arrangements do not affect the language regime applicable in the patent litigation system. The latter will be determined by the legal instrument regulating the patent litigation system.

<sup>96</sup> This is prescribed by Article 5 of the Patent law Treaty 2000. See also Article 14(2) EPC.

<sup>97</sup> See the detailed figures in Annex VII.

the population of the three most validated Member States (UK, DE, FR – 208.5 million people). But even when comparing the figures to the population in the five largest Member States (DE, FR, UK, IT, ES – 314.8 million people), the population of 25 Member States participating in enhanced cooperation is 80 million higher.

The effect of relative patenting costs on the demand for patent protection was investigated in a recent study performed for the Commission<sup>98</sup>. When comparing patent costs, taking into account the market size and the number of claims in an average patent for a given territory, the study showed that very high costs in Europe induce a much smaller demand for patent applications filed at the EPO. The study also shows that the London Agreement has a substantial impact on reducing costs, but a European patent remains several times more expensive than a US patent.

By providing for unitary patent protection covering a sizeable area of the Union, the cost per claim per capita for patent protection would decrease. Studies have shown the price elasticity to be -0.4; a cost reduction of 10% would lead to an increase in patent filing of about 4%. By reducing the cost of patent protection per capita, an enlarged territory for patent protection should therefore lead to greater demand for patenting<sup>99</sup>.

Option 3 would create an area where the costs and the complexity of patent protection would be significantly reduced. The level of such cost reduction and simplification would largely depend on the number of Member States that participate in enhanced cooperation. It is important to highlight, that all patent holders would equally enjoy the benefits of this option, no matter whether they are residents in countries inside or outside the enhanced cooperation.

The costs of translation in the area of enhanced cooperation would be constant and they would not change with respect to the number of Member States that participate. The larger area is covered by enhanced cooperation, the more significant the cost savings are. Two scenarios are analysed under sub-options 3.1 and 3.2 to demonstrate the potential cost savings.

The payment and management of the renewal of the patents, as well as the registration of the patents and the related rights and licences would be managed centrally by the EPO with respect to the territory of the participating Member States. In addition to the single central procedure at the EPO, all registrations and the payment of renewal fees would need to be carried out country-by-country with respect to those Member States that do not participate in the enhanced cooperation.

Following the same logic as in option 2 and assuming that all European patents with unitary effect will be renewed for 10 years in the area of enhanced cooperation, the cost savings from the fees of technical assistance for payments could reach EUR 3600-4800 per patent, if 16 Member States took part in the enhanced cooperation and EUR 5040-6720 per patent, if 22 Member States participated. In the case of participation by 25 Member States, a saving of EUR 5760-7680 can be foreseen. In the non-participating countries the fees would need to be paid respectively and thus maintaining patent protection in all Member States would have additional costs.

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<sup>98</sup> Economic Cost-Benefit Analysis of the Community Patent by Bruno van Pottelsberghe and Jérôme Danguy, see [http://ec.europa.eu/internal\\_market/indprop/patent/index\\_en.htm](http://ec.europa.eu/internal_market/indprop/patent/index_en.htm)

<sup>99</sup> Patent fees for a sustainable EU (Community) patent system by Bruno Van Pottelsberghe and Jérôme Danguy, see [http://ec.europa.eu/internal\\_market/indprop/patent/index\\_en.htm](http://ec.europa.eu/internal_market/indprop/patent/index_en.htm)



As regards the costs deriving from attorney fees paid by patent holders when they register transfers or licensing agreements, there would be clear costs savings deriving from the single centralised procedure with respect to the territories of the Member States participating in enhanced cooperation. But just as in option 2, as there is no information available either on the number or scope of the registration of rights in the national patent registers, there is no possibility to calculate the overall costs and savings.

Although this option would not bring the full benefits of option 2, it would still have a positive impact on users of the patent system in Europe.

### **7.3.1. *Sub-option 3.1 - the Commission proposes translation arrangements applicable in the area of unitary patent protection that correspond to its proposal of 30 June 2010***

*Description:* Under this sub-option, the Commission would propose translation arrangements applicable in the area of unitary patent protection that are identical to its proposal for the translation regime for the EU patent<sup>100</sup>. The patentee of the European patent granted by the EPO will supply to the EPO a translation of the claims into the two other official languages of the EPO. No additional translations would be required for the unitary patent protection that would take effect automatically in the territories of the Member States participating in enhanced cooperation.

The only exception to these limited translation requirements would be the case of a dispute concerning the patent (see in section 7.3). It is estimated that less than 1% of all patents become subject to litigation during their term<sup>101</sup>.

*Analysis:* The IA carried out by the Commission on the translation arrangements for the EU patent is to a large extent applicable under sub-option 3.1. The main difference is that a unitary patent under enhanced cooperation would not cover all 27 Member States. This sub-option implies very limited translation costs and no additional validation costs. The average cost of patents for the area of enhanced cooperation would be EUR 680.

In this option, the potential savings would depend on the number of Member States participating in enhanced cooperation. The table below shows comparison under this sub-option, for 16, 22 and 25 Member States.

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<sup>100</sup> COM(2010)350 final

<sup>101</sup> Prof. D. Harhoff, Ph.D.: Economic Cost-Benefit Analysis of a Unified and Integrated European Patent Litigation System, final report 2009, p. 14.  
[http://ec.europa.eu/internal\\_market/indprop/docs/patent/studies/litigation\\_system\\_en.pdf](http://ec.europa.eu/internal_market/indprop/docs/patent/studies/litigation_system_en.pdf)

*Table 7 – Comparison of patenting costs under sub-option 3.1*

	European patent 27 MS	European patent 5 MS (DE, FR, UK, IT, ES)	Enhanced cooperation 16 MS + 11 other MS	Enhanced cooperation 22 MS + 5 other MS	Enhanced cooperation 25 MS + 2 other MS
<b>Translation</b>	23 375	3 910	12 665	8 755	3 910
<b>Publication</b>	2987	308	1485	588	308
<b>Representation</b>	5750	500	2750	1250	500
<b>Total</b>	<b>32 112</b>	<b>4 718</b>	<b>16 900</b>	<b>10 593</b>	<b>4 718</b>

*Source: European Commission*

Therefore, under this sub-option, obtaining patent protection for the entire territory of the EU, if only the 16 Member States joined the enhanced cooperation, would cost 53% of the current cost. Presuming that 22 Member States take part in the enhanced cooperation, patent protection would cost only 33% of what it costs today and only 15% of today's cost if 25 Member States participate. Taking into account the current validation pattern for the 27 Member States (see Table 3), the annual savings at EU level could reach EUR 38.5 million in the case of 16 Member States, EUR 45 million in the case of 22 Member States and EUR 58.5 million in the case of 25 participating countries<sup>102</sup>.

*Table 8 – Per capita cost of patent protection under sub-option 3.1 (EUR/million habitants)*

	16 participating MS	22 participating MS	25 participating MS
<b>Territories of participating MS</b>	2.1	1.79	1.72
<b>Territories of 27 MS</b>	33.7	21.1	9.4

This sub-option would be cost-effective and result in relevant simplification for the users of the patent system. However, while the Commission's proposal was welcomed by a large majority of the Member States, it did not find unanimous support. Several Member States have indicated the need for additional elements. The Member States requesting the launch of enhanced cooperation have requested to include in the implementing regulations of the enhanced cooperation some of the elements proposed by the Belgian Presidency in relation to the translation arrangements, moreover the proposal of the Commission on the draft Council decision authorising the enhanced cooperation contains already a number of substantive elements in this regard (see sub-option 3.2). The conditions set by the requests of the Member States that they addressed to the Commission to launch enhanced cooperation exclude the possibility of choosing this sub-option.

*Table 9 – Expected impact of option 3.1*

Policy Option	Effectiveness	Cost reduction	Simplification	Political feasibility
<b>Option 3.1</b>	++	++	++	Not possible

"0": no change    "+": positive impact    "-": negative impact

<sup>102</sup> A change in the validation pattern can result in a change in the aggregate savings.

### **7.3.2. *Sub-option 3.2 – the Commission proposes translation arrangements applicable in the area of unitary patent protection based on its proposal of 30 June 2010 and incorporating elements of a compromise proposal discussed by the Council***

*Description:* Under this sub-option, the translation arrangements under sub-option 3.1 would be complemented by certain elements of a compromise proposed by the Belgian Presidency and discussed by the Council in October-November 2010. These arrangements gained support from 25 Member States in the Council and were reflected in their request to the Commission to provide for a proposal to launch enhanced cooperation. The main set of linguistic requirements would be the language regime applicable under the EPC to all European patents. In addition, supplementary translation requirements without legal value would be applicable to the unitary patent protection for a transitional period:

(i) a full translation of a European patent that was granted in French or German and for which unitary protection is sought to English (language customary in the field of international research); and

(ii) a full translation of a European patent that was granted in English and for which unitary protection is sought to an official language of the Member States participating in enhanced cooperation, at the choice of the patent holder.

However, the transitional period would be set to a limited period of time which would be based on the time which is likely to be necessary to develop high-quality machine translations. It is foreseen that the machine translation project of the EPO would be further developed to include all languages of the Contracting States to the EPC. The EPO launched a specialised machine translation programme for patent documents in 2004, currently ensuring the availability of customised translations of patent specifications in a limited number of languages. In October 2010, the EPO extended its machine translation programme with a view to making available machine translations for the languages of all the Contracting States to the EPC, which include all official EU languages, from and to English, by 2014. The EPO's Administrative Council agreed to dedicate EUR 10 million to the programme over this period of 4 years. Once high-quality machine translations would be available, and subject to evaluation, additional manual translations would not be necessary anymore. The maximum period for these arrangements is 12 years but the status of the machine translation project will be assessed periodically and the Commission will propose to end the transitional arrangements before, if the conditions are fulfilled.

*Analysis:* Under this sub-option, additional translation requirements during a transitional period would result in additional costs to the users of the patent system. Whereas under sub-option 3.1 the translation costs would be limited to EUR 680 per patent, additional manual translations during a transitional period would add an estimated cost between EUR 300 and EUR 1700, depending on the language in which the patent was granted and the other languages chosen for the translation. For example, if a patent is granted in French or German, the translation requirement would include: (i) translation of patent claims into two other official languages of the EPO, and (ii) during a transitional period, additional translation of the patent description into English. The estimated costs under these translation requirements would therefore amount to EUR 2040 (EUR 680 of claims in two languages + EUR 1360 for description in English).

But if a patent is granted in English, the following scenarios during a transitional period are possible depending on the choice of the patent holder: (i) If the patent were already be

available in English with the claims in French and German, the patent holder could choose to translate only the patent description in French or German. The additional costs would thus be EUR 1360 for translating the description only. (ii) If the patent holder chooses to fully translate the patent in any official language of the Member States participating in enhanced cooperation which is not French or German, in addition to the cost of translating the claims into French and German, the additional costs would be the maximum of a full translation which is estimated at EUR 1700. However, in practice, this cost would often be much lower as 45% of all patent applications at the EPO are first filed in a national patent office. In these cases the initial patent applications are already available in national languages. Therefore, once a patent is granted by the EPO, this initial application may be transformed into a full translation of a patent upon its grant. The costs, therefore, would be much lower, around EUR 300 per patent (i.e. the cost of necessary adaptation, if any).

Therefore, the total costs of translation during a transitional period may vary from approximately EUR 980 to EUR 2380 per patent in the area of enhanced cooperation. After the expiry of this transitional period, when high-quality machine translations become available, the total costs of translation would be again reduced to EUR 680 as under sub-option 3.1. During the transitional period, the costs under sub-option 3.2 would therefore be higher than under sub-option 3.1.

*Table 9 – Comparison of patenting costs under sub-option 3.2<sup>103</sup>*

	European patent 27 MS	European patent 5 MS (DE, FR, UK, IT, ES)	Enhanced cooperation 16 MS + 11 other MS	Enhanced cooperation 22 MS + 5 other MS	Enhanced cooperation 25 MS + 2 other MS
<b>Translation</b>	23 375	3 910	14 365	10 455	5 610
<b>Publication</b>	2 987	308	1485	588	308
<b>Representation</b>	5 750	500	2750	1 250	500
<b>Total</b>	<b>32 112</b>	<b>4 718</b>	<b>18 600</b>	<b>12 293</b>	<b>6 418</b>

*Source: European Commission*

Under this sub-option, obtaining patent protection for the entire territory of the EU, if only 16 Member States joined the enhanced cooperation, would cost 58% of the price patentees have to pay today. Presuming that 22 Member States take part in the enhanced cooperation, obtaining patent protection would cost 38% of what it costs today and only 20% of today's cost if 25 Member States participate. Taking into account the current validation pattern for the 27 Member States (see Table 3), the annual savings at EU level could reach EUR 30 million in the case of 16 Member States and EUR 36 million in the case of 22 Member States taking part in enhanced cooperation. In the case of 25 participating countries, this amount would reach EUR 50 million<sup>104</sup>.

The table below shows the per capita cost of obtaining unitary patent protection in the territory of the participating Member States and the cost of obtaining patent protection in the entire EU under sub-option 3.2.

<sup>103</sup> Calculation with EUR 2380 translation cost in the participating Member States (during the transitional period)

<sup>104</sup> A change in the validation pattern can result in a change in the aggregate savings.

*Table 10 – Per capita cost of patent protection under sub-option 3.2 (EUR/million habitants)*

	16 participating MS	22 participating MS	25 participating MS
<b>Territories of participating MS</b>	7.3	6.3	6
<b>Territories of 27 MS</b>	37.1	24.5	12.8

This sub-option would thus be less cost-effective than sub-option 3.1 during the transitional period but in the long run it could bring about the same savings. The same applies for simplification. However, as more Member States are likely to join the enhanced cooperation than under sub-option 3.1, the actual savings can be higher in the end.

As regards the political feasibility, the principles of the transitional period were proposed by the Belgian Presidency and welcomed by a large majority of Member States. Consequently this sub-option can be expected to gain more political support.

*Table 11 – Expected impact of sub-option 3.2*

Policy Option	Effectiveness	Cost reduction	Simplification	Political feasibility
<b>Option 3.2</b>	++	+ (transitional period) ++ (long term)	+ (transitional period) ++ (long term)	High

"0": no change    "+" : positive impact    "-" : negative impact

## 8. COMPARING THE OPTIONS AND THEIR IMPACTS

### 8.1. Impacts on patent holders

The table below provides a summary of expected impacts of the options on the main users of the patent system.

*Table 12 – Comparing the impacts of the options*

Policy Option	Effectiveness	Cost reduction	Simplification
<b>Option 1</b>	0	0	0
<b>Option 2</b>	+++	+++	+++
<b>Option 3.1</b>	++	++	++
<b>Option 3.2</b>	++	+ (transitional period) ++ (long term)	+ (transitional period) ++ (long term)

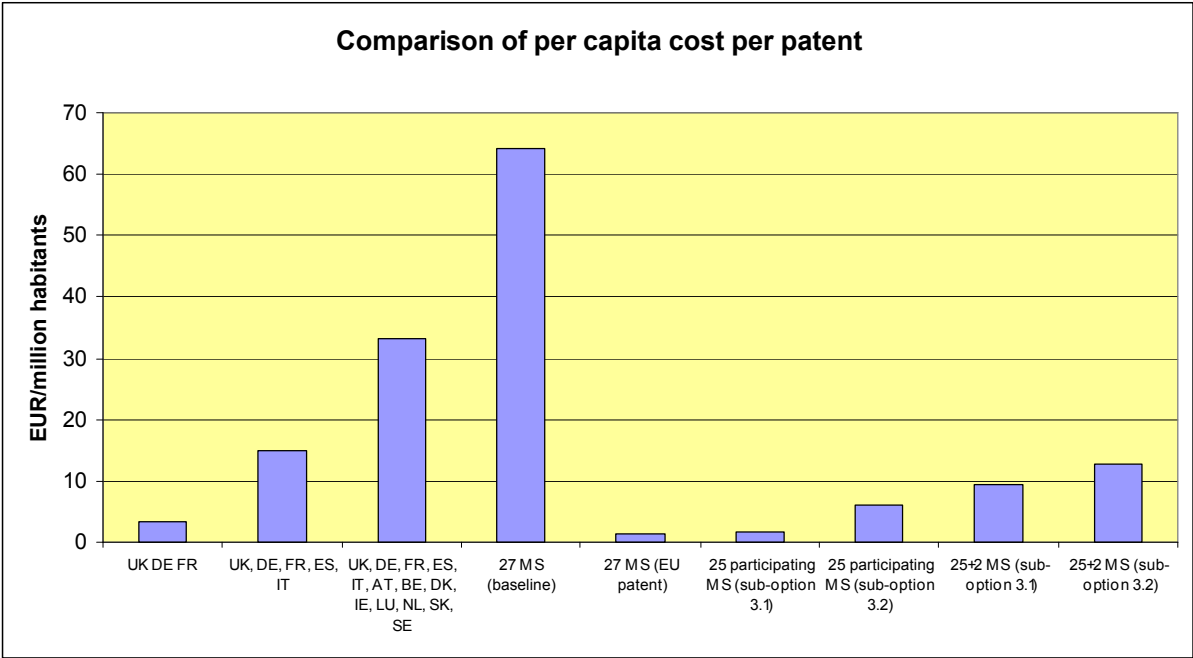
"0": no change    "+" : positive impact    "-" : negative impact

In terms of effectiveness, options 2, 3.1 and 3.2 would be suitable to improve the conditions of patent protection in Europe compared to the current situation. All three options would bring about significant positive changes with respect to the reduction of translation costs, the simplification of patent maintenance and the registration of transfers and licensing agreements. The most effective solution would be the creation of an EU 27 patent that would

diminish the need for any additional procedure in the EU. Sub-options 3.1 and 3.2 are equally effective means to achieve the objectives of the initiative. Option 1 is not effective; it hampers the competitiveness of the EU.

As regards cost reduction, once again option 2 would bring about the most important savings as EU patent protection would potentially be available for only EUR 680 (excluding attorney fees). However, sections 7.3.1 and 7.3.2 show that enhanced cooperation could also result in significant savings. The amount of these savings would depend on the number of Member States taking part in the enhanced cooperation. The following chart compares the per capita cost of the patent protection under several scenarios. The first four columns indicate the cost of obtaining patent protection in 3, 5, 13 and 27 Member States under the baseline scenario (see Table 2 for exact figures). The fifth column shows that the lowest per capita cost of patent protection would be ensured by option 1, i.e. the EU patent. The last four columns show the cost of patent protection under enhanced cooperation between 25 Member States. The sixth and seventh columns represent the per capita cost of patent protection in 25 countries while the last columns indicate the per capita cost of patent protection in 25+2 Member States (see Tables 8 and 10 for exact figures). As explained in section 7.3.1, due to the significant increase in the size of the market, and the major reduction in the costs of patenting compared to the baseline scenario (option 1), it can be expected that patentees will seek Europe-wide patent protection also under option 3. Figure 9 also shows that, even during the transitional period (sub-option 3.2) the cost of Europe-wide patent protection will be much closer to the EU-patent scenario than to the baseline scenario. Finally, it is important to underline that even if unitary patent protection during the transitional period will be somewhat more costly than patent protection today in 3 Member States (UK, DE and FR), there are a number of advantages that can be expected to lead to a major shift towards the new instrument. In particular, the fact that size of the market covered by the protection will be doubled (see details in section 7.3), combined with a reduction in administrative burden and an increase in the transparency and accessibility of patent information can make the new instrument very attractive to business.

Figure 9 – Comparing the per capita cost of the options



Source: European Commission

As regards simplification, an EU 27 patent could ensure that a single centralised procedure applies to the registration of patents, the payment of renewal fees and the registration of transfers and other rights. Enhanced cooperation is the second best option. The level of simplification compared to the baseline scenario depends on the number of the Member States joining the enhanced cooperation.

While option 2 would create a level-playing field across the EU also in a legal sense, in the case of enhanced cooperation too, the users of the patent system would equally benefit from unitary patent protection, no matter whether they reside in a country that does not take part in the enhanced cooperation. Inventors could seek unitary patent protection under the same conditions regardless of their country of residence. Therefore, all inventors will benefit from the cost reduction and the simplification brought about by the enhanced cooperation. This measure can be expected to have a major positive impact on the patenting activity of SMEs and an overall increase in the number of patents throughout Europe.

It is to note that inventors from third countries would benefit for unitary patent protection the same way as European patentees. Approximately half of the European patent applications come from outside the EU (see Annex II). These applicants would also benefit from the simplification and cost reduction under options 2 and 3.

## **8.2. Impact on the internal market and on stakeholders (other than patentees)**

Option 2, the creation of an EU patent would have the most positive impact on the internal market, on the users of patent information and on consumers, as it would integrate the entirety of the internal market in terms of patent protection. But enhanced cooperation in the area of the unitary patent protection (option 3) would also increase the level of integration not only between the participating Member States but also between participating and non-participating countries, compared to the baseline scenario. Due to the costs and complexity inherent in the current system, European patents are validated in only a few Member States today (see chapter 4). By implementing enhanced cooperation, the overall costs and complexity of obtaining patent protection throughout the EU will be significantly reduced. Thus, more inventors can be expected to seek patent protection by means of a European patent also in the Member States that do not participate in the enhanced cooperation. This is even more likely as such EU-wide coverage would facilitate the protection of inventions against products from third countries that infringe their patents when entering the internal market. Therefore, an increase in patenting activity can be expected also in those Member States that do not take part in the enhanced cooperation.

This improved integration will have a positive impact on consumers' access to goods and services. A better integrated market will ensure better cross-border trade and will facilitate fight against e.g. counterfeited goods that, *inter alia*, pose a threat to the health and safety of consumers.

The simplified management of European patents with unitary effect will entail the reduction of the tasks of the national patent offices with respect to the validation and renewal of European patents. The role of the national patent offices with respect to the national patents will remain unchanged.

As regards the users of patent information, the centralised registration and publication of European patents having a unitary effect by the EPO would facilitate and make cheaper the

access to the published patents. Therefore, the dissemination of knowledge would improve that should have a positive impact on innovation in Europe<sup>105</sup>. Users of patent information from third countries would equally benefit from the centralisation of patent information.

Unitary patent protection will have a positive impact on the competitiveness of the Union and will make it a more attractive place to create and innovate, for both European and non-European inventors. Europe will compare better with other major economies such as the United States, Japan or China. Seeking patent protection in economies with large consumer markets and unitary protection systems is more attractive for inventors. While the geographical distance from these markets will keep them hard to access for European SMEs, the creation of unitary patent protection in Europe will provide these companies with an opportunity to develop and market their inventions on a sizeable market and thereby increase the international competitiveness of European economy.

### **8.3. Social and environmental impacts**

As explained in section 3.1, patents can be used to create start-ups, although this is currently not common in Europe. Easier and cheaper access to patents is likely to result in an increased number of innovative SMEs. SMEs have a major role in job creation; they ensure two thirds of private sector jobs in Europe<sup>106</sup>. The increase in the number of new business, therefore, can be expected to have a positive impact on job creation both in participating and non-participating Member States.

Nonetheless, these positive impacts on European economy come at a price. The reduced translation requirements will have an unfavourable impact on translators working on European patents in those participating countries where the official language(s) is not common with the EPO's official languages. However, it is important to note that this change has already taken place in the countries that joined the London Agreement and to a limited extent in those the translation of claims is still required<sup>107</sup>. Another important element of the cost savings for inventors derives from the reduced costs of professional representation. These fees charged by patent attorneys should be lower than today due to the single centralised procedure replacing country-by-country representation.

In terms of impact on the environment, the options are neutral.

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<sup>105</sup> The positive impact would further increase when high-quality machine translations become available.

<sup>106</sup> [http://ec.europa.eu/enterprise/policies/sme/facts-figures-analysis/index\\_en.htm](http://ec.europa.eu/enterprise/policies/sme/facts-figures-analysis/index_en.htm)

<sup>107</sup> The development of high-quality machine translations will also affect this group.



*Table 13 – Summary of the impacts on stakeholders*

Policy Option	Impact on					
	Patentees (large companies)*	Patentees (SMEs)*	Patent information users	Consumers	Employment	Translators, patent attorneys
Option 1	0	0	0	0	0	0
Option 2	+++	+++	+++	+++	++	---
Option 3.1	++	++	++	++	+	--
Option 3.2	++	+ (transitional period) ++ (long term)	++	++	+	- (transitional period) -- (long term)

"0": no change    "+" : positive impact    "-" : negative impact

\* Impacts are the same for patentees residing in participating and non-participating Member States.

#### 8.4. Political feasibility

As regards political feasibility, while it is clear that in economic terms an EU 27 patent would be the most effective, it would bring about the highest benefits in terms of the cost reduction and simplification, this option is not feasible. This option has been a preferred solution for more than 10 years and has not become a reality. The latest failure of the Council to agree on the translation arrangements applicable to EU patents showed that reaching a unanimous agreement remains politically unfeasible. At present, option 1 (base-line scenario) also has low political feasibility as it would also run contrary to the political engagement of the Commission and the Council to address the problems of the patent system in Europe.

*Table 14 – Comparing the political feasibility of the options*

Policy Option	Political feasibility
Option 1	Low
Option 2	Not possible
Option 3.1	Not possible
Option 3.2	High

The analysis of option 3 shows that although it is not the best option in economic terms, its benefits would still be very important. The sub-options analysed provided insight to the possible translation arrangements in the framework of enhanced cooperation. Although the translation regime under sub-option 3.1 would be the most cost-effective, it is not politically feasible in the short term, for the reasons explained in section 7.3.1. Sub-option 3.2 is likely to have the widest support among the Member States participating in enhanced cooperation. Finally, after the transitional period, the comparative value of this sub-option will increase significantly. Therefore, option 3 with sub-option 3.2 is the preferred option.

The options have no impact on the EU budget.

## **9. MONITORING AND EVALUATION**

Five years after the start of application, the Commission will review the application of the legislation, with particular attention to the transitional translation arrangements. The legislation on the translation arrangements should provide for a regular review of the necessity of the transitional measures.

The creation of unitary patent protection aims to improve the conditions for innovation in Europe. Innovation activity is measured by INNO-Metrics, comprising the European Innovation Scoreboard and Eurobarometer. The relevant indexes need to be monitored on an annual basis.

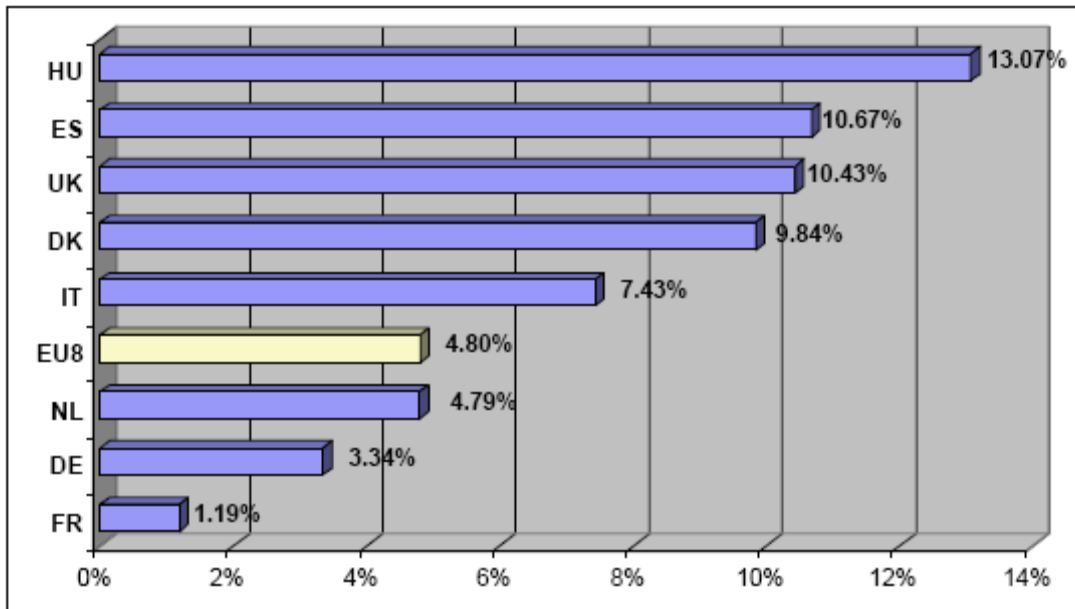
A European patent with unitary effect would coexist with national patents. The relative patenting levels between these types of rights should be monitored to ensure that they provide adequate solutions for innovators. This can be achieved by analysing patenting statistics published by patent offices in Europe in their annual reports.

## 10. ANNEX

### Annex I

#### The proportion of patents used to create start-ups in eight Member States

Figure 10. Share of new firms by country, 1993-1997



Source: Study on evaluating the knowledge economy – what are patents actually worth? The value of patents for today's economy and society, 2006.

## Annex II

### Number of patent applications to the EPO in 2009

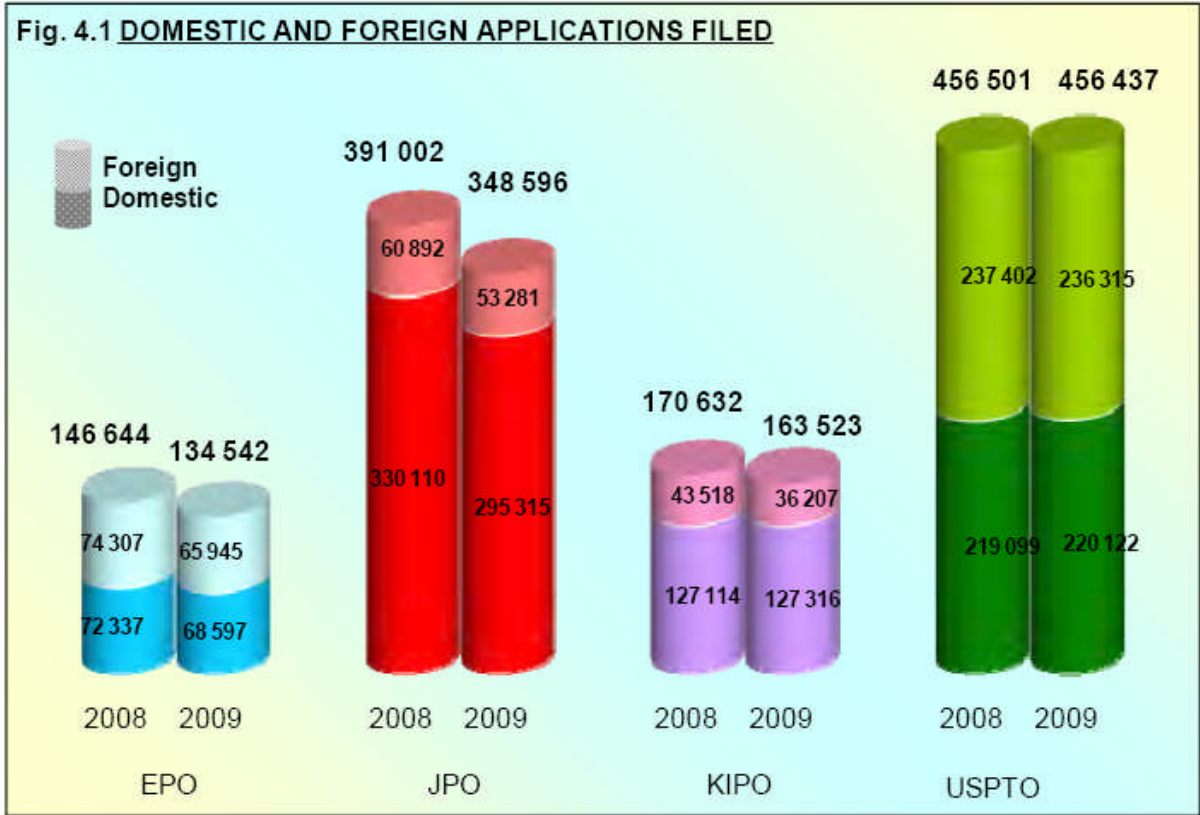
Residence of applicants	Number of applications	Residence of applicants	Number of applications
Austria	1504	Monaco	10
Belgium	1630	FYROM	0
Bulgaria	17	Malta	62
Switzerland	5864	Netherlands	6738
Cyprus	46	Norway	489
Czech Republic	136	Poland	173
Germany	25107	Portugal	107
Denmark	1488	Romania	13
Estonia	34	Sweden	3147
Spain	1258	Slovenia	119
Finland	1447	Slovakia	25
France	8929	San Marino	9
UK	4821	Turkey	191
Greece	103	Australia	845
Croatia	21	Canada	2044
Hungary	114	China	1631
Ireland	490	Israel	1095
Iceland	47	Japan	19933
Italy	3881	Korea	4193
Lichtenstein	222	Taiwan	1006
Lithuania	13	US	32966
Luxembourg	293	Other	2232
Latvia	49	<b>Total</b>	<b>134.542</b>

Source: EPO

EU Member States

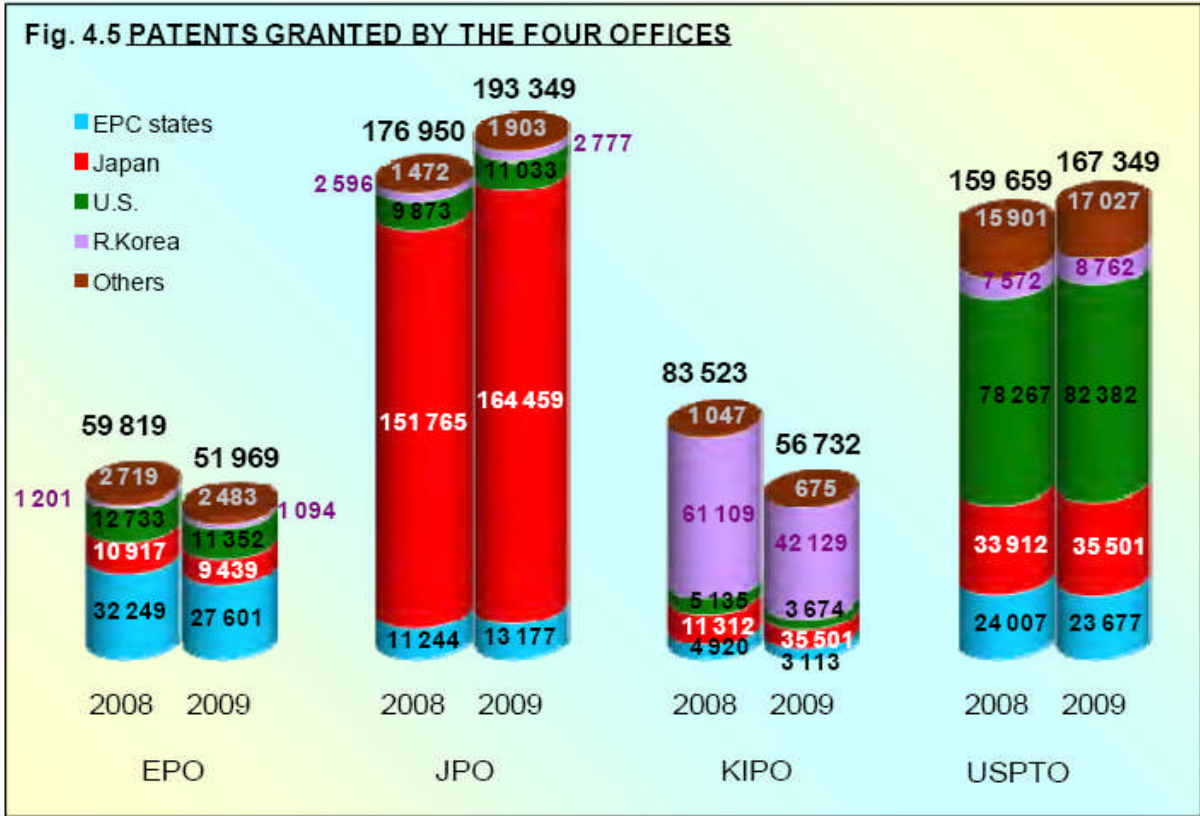
Annex III

Domestic and foreign application filed to the European Patent Office (EPO), Japanese Patent Office (JPO), Korean Intellectual Property Office (KIPO) and US Patent and Trademark Office (USPTO) in 2008/2009



Source: Four Office Statistics Report – 2009 edition

Patents granted by the EPO, JPO, KIPO and USPTO in 2008/2009



Source: Four Office Statistics Report – 2009 edition

## Annex IV

### The London Agreement

In October 2000 an Intergovernmental Conference of the EPC Contracting States adopted the Agreement on the application of Article 65 EPC (London Agreement) in order to reduce the costs induced by the validation requirements<sup>108</sup>. The London Agreement is an optional scheme, allowing for collective action to reduce patenting costs by dispensing with some or all translation requirements. It entered into force on 1 May 2008<sup>109</sup>. Currently the following Member States take part in the agreement: Germany, Denmark, France, Hungary, Luxembourg, Latvia, Lithuania, the Netherlands, Sweden, Slovenia and the UK.

Contracting States with an official language in common with one of the EPO official languages who are party to the London Agreement are required to dispense entirely with translation requirements (Article 1(1)). Within the EU, this applies to France, Germany, Luxembourg and the United Kingdom.

Contracting States not having an official language in common with one of the EPO official languages may require a translation of the claims into their official language and nominate one of the official languages of the EPO into which the description should be translated if this is not the language of proceedings at the EPO (Article 1(2) and (3)). Within the EU, Denmark, Latvia, Lithuania, the Netherlands, Slovenia and Sweden require translation of the claims into their official language. Of these countries, Denmark, the Netherlands, Sweden and Hungary have nominated English for translations of the description, therefore requiring this translation if the patent has been granted in French or German.

Today sixteen Member States are not parties to the London Agreement and thus require a translation of the entire patent into their official language(s) (Austria, Belgium, Bulgaria, Cyprus, Czech Republic, Estonia, Finland, Greece, Ireland, Italy, Malta, Poland, Portugal, Romania, Slovakia and Spain)<sup>110</sup>, mainly for political reasons.

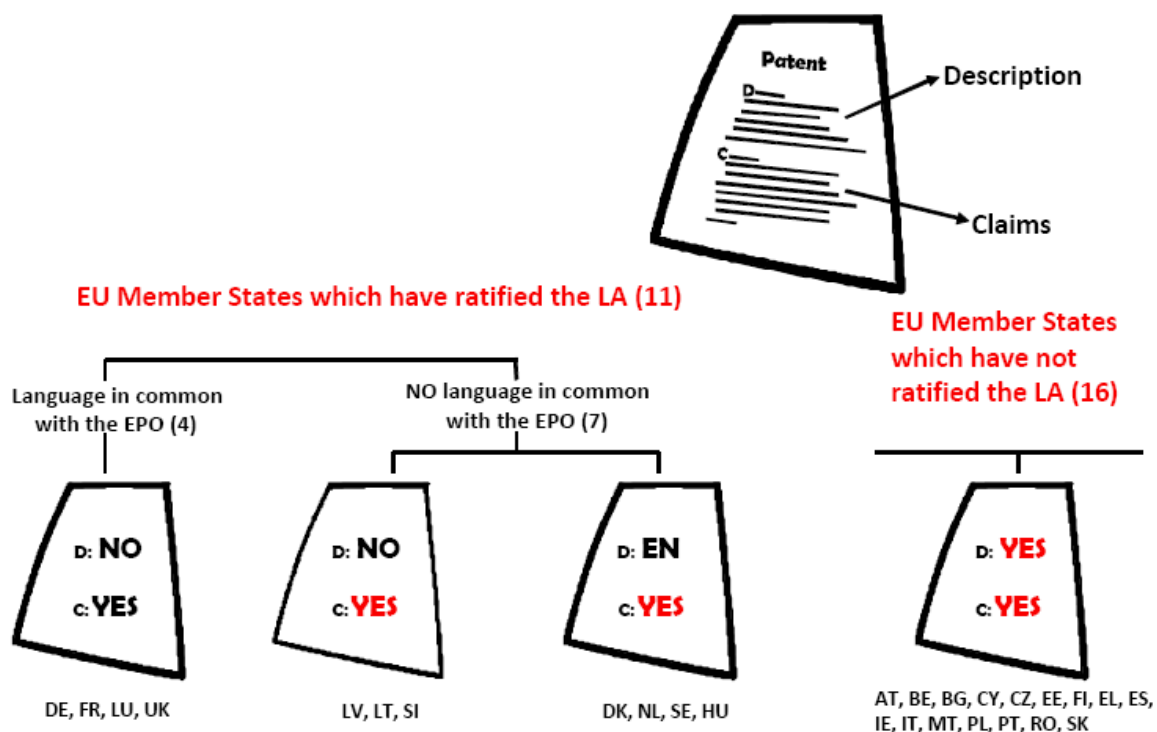
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<sup>108</sup> OJ EPO 2001, 550.

<sup>109</sup> Other States parties to the Agreement are Switzerland/Lichtenstein, Croatia, Iceland and FYROM.

<sup>110</sup> It is to note that currently Ireland and Malta do not require a translation of a European patent into Irish and Maltese, it suffices that the European patent is available in English.

Figure 10 – Translation requirements under the London Agreement in the Member States<sup>111</sup>



Source: *Economic incongruities in the European patent systems: B van Pottelsberghe de la Potterie and M Mejer (2008) – updated with changes with respect to Hungary*

<sup>111</sup> Source: van Pottelsberghe / Meijer, 2008, The London Agreement and the cost of patenting in Europe, Bruegel Working Paper, 2008/05 and reproduced in "Economic Cost-Benefit Analysis of the Community Patent" by van Pottelsberghe / Danguy, study on behalf of the European Commission; updated on the basis of [www.epo.org/patents/law/legal-texts/london-agreement/status.html](http://www.epo.org/patents/law/legal-texts/london-agreement/status.html)



## Annex V

### Cumulated renewal fees in the Member States in EUR\*

Member State	TOTAL 6 years	TOTAL 10 years	TOTAL 20 years
Austria	520	1830	12380
Belgium	235	775	4340
Bulgaria	230	971	6493
Cyprus	247,75	760,33	4262,96
Czech Republic	247	699	5862
Germany	360	1420	13170
Denmark	329	1611	6684
Estonia	352	1023	5312
Finland	645	1765	8005
France	180	782	5572
Greece	140	655	5915
Hungary	839	3161	8328
Ireland	398	1138	4628
Italy	150	870	6620
Lithuania	431	1124	4404
Luxembourg	172	557	2537
Latvia	507	1470	5215
Malta	209,64	605,62	2410,89
Netherlands	300	1540	11040
Poland	360	893	3793
Portugal	100	825	5475
Romania	690	1690	5920
Slovenia	156	476	5172
Slovakia	364	1010	5156,5
Spain	184,71	760,39	4902,97
Sweden	345	1186	5036
UK	144	720	3964
<b>TOTAL</b>	<b>8836,1</b>	<b>30317,34</b>	<b>162598,32</b>

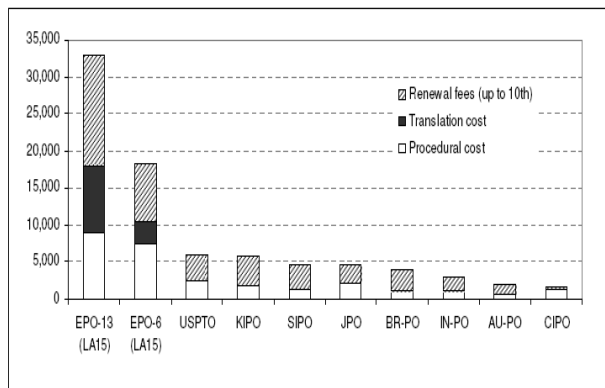
\* Figures are approximate for Member States with national currency other than the euro

Source: National Law relating to the EPC, 14<sup>th</sup> Edition, 2009

## Annex VI

### International comparison of patenting costs

FIG. 4. INTERNATIONAL COMPARISON OF PATENTING COSTS (US PPP)



Note: Cost structure including prosecuting fees (filing fees, search fees, examination fees), translation costs, and renewal fees for up to ten years of protection. Source: van Pottelsberghe and Mejer (2008)

Source: *Study on evaluating the knowledge economy – what are patents actually worth? The value of patents for today's economy and society, 2006.*

## Annex VII

### The proportion of European patent applications compared to the population of the Member States

Member State	Application/ Population (million)
Austria	180
Belgium	151
Bulgaria	2
Cyprus	57
Czech R.	13
Denmark	269
Estonia	25
Finland	270
France	138
Germany	306
Greece	9
Hungary	11
Ireland	110
Italy	64
Latvia	22
Lithuania	4
Luxembourg	584
Malta	150
Netherlands	407
Poland	4
Portugal	10
Romania	1
Slovakia	5
Slovenia	58
Spain	27
Sweden	337
UK	78

Source: European Commission – calculated on the basis of EPO data (2009)

**Most applications/population**