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**THE BUILDING OF AN INTEGRATED PATENT SYSTEM  
EUROPE: HISTORY AND STAKES**

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# THE BUILDING OF AN INTEGRATED PATENT SYSTEM EUROPE: HISTORY AND STAKES<sup>1</sup>

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## ABSTRACT

In this paper Alfredo Ilardi and Blandine Laperche retrace the history and evolution of an integrated patent system in Europe and explain this development through the collective and global character of the innovation process in a knowledge based economy. As the Genesis of innovation depends on international –and regional- links between several actors, integrated protection systems are also needed. The authors also analyze the difficulties of the harmonization process. Notably, in the case of the Community patent, technical difficulties and the political character of the protection of inventions are explained. To obtain better results in terms of innovation, it is necessary, according to the authors to link the reflection upon patent law harmonization with innovation policies and to transform innovation into a real European political priority.

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## Introduction

Patenting is an essential tool for the genesis of innovation, giving incentives to investments by enterprises and stimulating the creativity of a society. “The patent system added the fuel of interest to the fire of genius,” declared Abraham Lincoln.<sup>1</sup> Since its origin, it has been an entitlement to property that is spatially well delimited, but the creation of specific patent systems in each country was soon considered as a barrier to trade. By patent systems we mean, referring to Lévêque and Ménière (2006, p. 11), “the set of institutions allowing the application of patent laws in a given geographic area.” The harmonization of patent laws (and more globally of intellectual property rights) has thus been a recurrent question since the end of the 19<sup>th</sup> century (Ilardi 2005). In this chapter, we study the harmonization of patent laws in Europe, which includes the foreseen creation of an integrated patent: the ‘Community patent’.

How can this willingness to harmonize the rules dealing with the filing and grants of patents to create a unique patent in Europe be explained? What has been the institutional history of the emergence of a unified patent law in Europe? We will argue that this history has been and is still paved with difficulties and is the subject of hard negotiations, which show not only the economic but also the political character of the property resulting from inventions. Finally, we defend the idea that the reforms of the patent system in Europe should be integrated into scientific and technological policies and that these, except in political declarations, do not seem to have sufficient priority within European economic policy to lead to positive results in terms of innovation.

### 1. How can the emergence of an integrated patent system in Europe be explained?

#### *1.1. Roles and characteristics of patents*

It is nowadays widely acceptable to consider the invention patent as a major incentive tool for innovation and for the disclosure of scientific and technical information. The patent gives incentives to innovators because the exclusive right granted allows the patent holder to recoup his/her investment. It favours the dissemination of scientific and technical information, thus ensuring the cumulative character of the innovation process. On the one hand, the exclusive right is temporary and at its end the invention passes into the public domain and may be then used by everyone. On the other hand, the patent holder has to publish a description of his/her invention. The issued description must be sufficiently accurate so that a specialist would be able to reproduce it (Lévêque and Ménière 2003; Scotchmer 2004).

However, to understand the emergence and the stakes linked to the development of an integrated patent system in a regional area, and as far as we are concerned here in Europe, it seems important to stress two fundamental and linked characteristics of patents: first, since its origin, the patent has been a title of property conferred by the states. Second, its legal evolution and the economic strategies which are associated with it show that patents symbolise the well-known adage according to which “knowledge is power” (*Scientia potentia est*, Sir Francis Bacon). The first privileges that share some characteristics with today’s patents (exclusive right of use, disclosure of information) appear with the building of European states. The latter were first of all cities, as was the case of Venice, which promulgated in 1474 the first law protecting industrial property. The first privileges conferred on inventors aimed to attract the most improved techniques. Scientific and technical knowledge and its materialisation in invention were considered as tools of economic and

political power. The English *Statute of monopolies*, dated 1624, gave the possibility to protect an imported technique. In France, the royal privileges of the 17<sup>th</sup> century were integrated into state policy for development, influenced by mercantilist ideas, which notably in France, remained faithful to Colbert's ideas of attracting the best technicians. The French revolution put an end to privileges but the Republic placed Property on the first rank of human rights. The French Patent Law of the 7 January 1791 protected national inventions and imported patents on national territory. The economic and political competition between states largely explains this fact as France, lagging behind Great Britain which was beginning its industrial revolution, was trying to catch up (Beltran, Chauveau and Galvez-Behar 2001; Hilaire Perez 2000; Laperche 2001).

Subsequently patents were limited to real inventions and no longer for imported techniques (the 'importation patent' was for example suppressed in France by the revision of 1844), yet the link between appropriation of inventions and economic power is still very important. For example, despite its limits, patents are still the key indicator to compare the capacity to invent of firms and countries (OECD 2002). Moreover, the recent evolutions of intellectual property rights, with the widening of patentability to new fields at the frontier of scientific discovery and invention (notably in the field of biotechnology) (Gallini 2002), show that appropriation (and thus patenting) is one of the elements of the strategic arsenal of enterprises. They use it as a defensive means of protection against imitations but also as an offensive tool, to create new markets, to define and impose standards and also to lure competitors (Laperche 1998). Patent applications for biological 'inventions', ensuing from traditional knowledge transmitted from generation to generation, show that the notion of novelty is sometimes understood in a restrictive way (within a geographic area, or according to a mode of expression, e.g. written versus oral, Mgbeoji 2005), according to the interest of states and their national champions (see the debates on this question at <http://www.wto.org>).

To summarize, since its original conception, patenting has been a territorial right, which means that a patent delivered in a country is in force only in that country. This territorial right, which has evolved to take on contemporary characteristics, has been used and is still used to affirm the industrial power of a country and of its firms compared to their competitors. However, efforts at harmonization started at the end of the 19<sup>th</sup> century and have continued during the 20<sup>th</sup> century and beyond.

## ***1.2. Harmonization and globalization***

Several reasons may explain the attempts to harmonize national laws on industrial property and to create integrated patent systems at the regional and international level: the globalization of economies and the affirmation of regional poles in the global economic area are among the major reasons. It is possible to distinguish three main steps in the harmonization of industrial property rights at the international and regional scales (we focus here on Europe), which correspond to important phases in the globalization of economies.

The first step took place in the 19<sup>th</sup> century when the first international conventions began, like the Paris Convention (1883) for the protection of industrial property and the Berne Convention (1886) for the protection of literary and artistic works. The national particularities of industrial property laws were considered as barriers to trade, and this approach gained ground at the end of the 19<sup>th</sup> century, notably thanks to the development of means of communication (railways, telegraphy). In this period, the numerous Universal Exhibitions aroused the apprehensions of exhibitors about the possibility of copying the exhibited

techniques and stimulated international negotiations. It is to be noted that whereas the term 'globalization' is a concept used to characterize today's economy, it is however an old notion. The first phase of globalization was based on commercial trade, and was rooted in the constitution of nation-states and the discovery of new territories at the end of the 15<sup>th</sup> century. At the end of the 19<sup>th</sup> century a second step was taken to globalization, where not only trade but also production developed on an international scale (it was at that time that the first multinational enterprises were born). The end of the 19<sup>th</sup> century was also characterized by an important liberalisation of markets and of financial flows between countries, which were then be partitioned off, even more strongly after the First World War (Bairoch 1993).

The second period in the harmonization process of intellectual property rights began after the Second World War to the end of the 1970s. During this period the international system of patenting (the Patent Cooperation Treaty, PCT)<sup>2</sup> was created as an answer to the growing number of patent applications coming from abroad, and also the World Intellectual Property Organization (WIPO, established in 1967), today a specialised agency of the United Nations dedicated to the promotion of intellectual property throughout the world and to the administration of intellectual property treaties. It was also during this period that the European patent system (European Patent Convention)<sup>3</sup> was established, whose history is detailed in the second part of this chapter. The Bretton Woods institutions (the World Bank and the International Monetary Fund) were created in the aftermath of the Second World War with the aim of reducing the barriers to trade. The role of the General Agreement on Tariffs and Trade (GATT), signed in 1947, was to reduce tariff barriers between countries. The trauma of the Second World War led to the creation of common interests in Europe, to avoid conflicts. The European Coal and Steel Community in 1951, and the Treaty Establishing the European Economic Community (Treaty of Rome) signed in 1957 built up a European economic area with the aim of promoting economic and political integration among member states: the creation of a free trade area would justify the reduction of non-tariff barriers to trade, as is the case of intellectual property.

The third period began in the 1980s and is characterized by the globalization of intellectual property rights, which culminated with the conclusion in 1994 of the Agreement on Trade Related Aspects of Intellectual Property rights (TRIPS agreement). This unprecedented harmonization of intellectual property rights in all the member states of the World Trade Organization (WTO, which replaced GATT in 1995) corresponds to the third step in the globalization process, in which trade, production and finance are simultaneously integrated. In fact, the deregulation of financial markets in the 1980s has created a large interconnected market, and finance thus has become the leading point of globalization (Chesnais 1996). Global firms are networked firms: their conception, production and commercial processes are directly organized on a global scale (Castells 2001; Andreff 2003; Chesnais 1996; Laperche, Galbraith and Uzunidis 2006). In this context, the globalization of intellectual property rights has become a necessity to secure their investments and their technology transfers (Maskus and Reichman 2004).

The current stage of globalization, in which all three spheres of the economy are involved (trade, production, finance) is an important explanation of the need to harmonize the rules governing industrial property. The regional character of globalization adds an explanation of the importance of integrated patent systems, notably in Europe. The Triadic character of globalization, according to Ohmae's work (1985), implies that economic activities (trade, material, immaterial and financial investments) are largely concentrated in three zones: the United States of America, Europe and Japan, although these are currently broadening.

Concerning merchandise trade, in 2005, 73.2% of European total merchandise exports (in dollars) were intra-regional and 31.5% of world merchandise trade flows were concentrated in the European zone (WTO 2006). The significant role played by the Triad in the economic activities – and within the Triad, of Europe – can be seen in foreign direct investments (FDI) statistics. Over the past decades, the share of the Triad in total world inward FDI flows and stocks has fluctuated at around 60-70%. The share of European Union in FDI inflows into the Triad was 75% in 2003-2005, compared to 62% in 1978-1990. In 2005, the European Union (including the eight economies formerly classified under Central and Eastern Europe), accounted for almost half of global inward and outward flows and stocks (UNCTAD 2006). The intensity of economic relations gives incentives for the creation of common institutions, notably in the field of intellectual property. In this line of thought, the resumed discussions on the Community patent in the 1990s go hand-in-hand with economic integration: “One market, one currency, one patent”, declared R. Goebbels, Minister of the Economy for the Grand Duchy of Luxembourg, at the opening of the hearing on the Green Paper on patents in Europe, Luxembourg, 25 November 1997 (Schmiemann 1998).

### *1.3. Harmonization, globalization and innovation*

Since the end of the 1970s and the questioning of the Fordist mode of production, innovation – defined by J.A. Schumpeter (Schumpeter 1911 and 1942) as the introduction of new combinations of productive resources (new product, new process of production, new organisation of production, new market, use of a new source of raw material) – has become a major element in economic competition (Porter, 1998) and of the economic growth of nations (as in theories of endogenous growth, see Aghion and Howitt 1998). In contemporary economics, it is acknowledged that innovation needs a certain degree of monopoly, hence it needs patent protection (Schumpeter 1942; Laperche 2004), notably because of the particular characteristics of knowledge (partly tacit, non-rival, non-excludable and cumulative) which reduce the private return on its investment (Arrow 1962; Nelson 1959). Patenting is a key device to increase the private return on investment in knowledge, despite its limitations, even if it is not the only element useful for the promotion of knowledge-based economies (public investment in basic research, development of internal learning to create routines and to limit externalities of knowledge are some important devices to enhance the innovation capacities of firms and the appropriation by the firm of the knowledge it has developed).

Establishing the role of innovation in economic growth (and thus the limits of Solow’s model of growth (1957) where technical progress is exogenous) has led in economic analysis to the development of studies aiming at a better understanding of the ‘black box’ of technology (Rosenberg 1982) and of the institutional forms involved in the genesis and the dissemination of innovation. The economists specialized in the field of technical change have worked since the 1980s on the nature and the role of institutions that, within the national framework, can promote innovation (Freeman 1987; Lundvall 1992; Edquist 1997). However, in the context of globalization, is the national level still pertinent to study the genesis and the dissemination of innovation? On the one hand, the answer is affirmative because the diversity of institutional arrangements in the field of innovation provides an answer to the relative strength of nations and enterprises which compete at the global level (Amable et al., 1997). On the other hand, with the harmonization/unification of some regional areas, as is the case in Europe, views have developed on the emergence of a European system of innovation, made up of ‘post-national’ institutions dedicated to innovation (Caracostas and Soete 1997).

However, one of the major elements of the functioning of an innovation system is the legal framework of accumulation, that is the set of rules and laws framing the economic activities, including innovation (Uzunidis 2003). The legal framework of accumulation is built by state intervention. Three main policy orientations were proposed, firstly in the US, to obtain improved results in the field of innovation (Branscomb and Keller 1998): 1) financing activities individually or collectively generating appropriable resources; 2) creating devices allowing the re-appropriation of the private return on R&D investments; 3) setting up cooperation procedures between public and private entities in order to ensure the profitability of private investments with strong positive external effects. These policy orientations reflected a move from mission-oriented programmes to distributed science and diffusion-oriented programmes. These aims have also been diffused throughout the world, notably in Europe (von Tunzelmann and Nassehi 2004). Concerning European intervention in the field of innovation, the first aspect has been achieved mainly through the framework programmes, together with other financing programmes. The third policy orientation has also received great attention through the policy of network building (clusters, commercialisation of public research, innovation collaboration). However the second aspect (creation of devices allowing the re-appropriation of the private return on investment in R&D) even if present as a major objective, has still to be improved. In fact, the measures pointed to by European policy to increase patenting activity for European enterprises are the encouragement of SMEs to apply for patents, the setting up of programmes to disseminate patent information, and policies to encourage public sector research institutions to apply for patents (Arundel and Hollanders, 2005). The fragmented character of the European system of patents is not mentioned. This aspect was however particularly stressed by the White Paper on Innovation, dated 1995, which noted the existence of common institutions dedicated to the stimulation of innovation in Europe and also noted their fragmentation. One of the recommendations of this report was thus to promote harmonization, especially in the field of intellectual property. We can link this recommendation with the revival of the Community patent in the 1990s (see second part).

Knowledge-based economies are characterized by the necessity for firms to constantly renew their supply to meet a changing demand and also to contribute to the creation of new markets. This 'permanent innovation' (Foray 2004) means that the cost of innovation is on the increase, as can be observed in the growing business expenses dedicated to R&D: among OECD countries, they grew by about 50% between the early 1990s and early 2000s, while at the same time GDP increased about 25% (OECD 2004). As a consequence, the management of innovation has been largely transformed. The innovation strategies of large enterprises do not only rely on the gathering of internal resources (human, scientific and technical, financial) but also on collaborations (the signing of contracts, including licensing) with other (small or large) enterprises and other institutions (universities, research centres) (Tidd, Bessant and Pavitt 2005; Antonelli 2005). The result is a "socialization of the formation of the enterprises' knowledge capital" (Laperche 2007), which means that the firm's knowledge capital (the set of resources gathered, analysed and used in the production process with the aim to innovate) is not built by a single enterprise but through a network of enterprises and institutions in close cooperation. These collaborations may be achieved at a global level but a large number of studies show that an important part of R&D investments of European multinational corporations take place in the European area (Cantwell and Iammarino 2003). This is the same for R&D partnerships that usually have a regional basis. Hagedoorn (2002) showed that during the four last decades of the 20<sup>th</sup> century, about 99% of R&D partnerships between companies took place within the Triad. However, his study also showed that intra-North American R&D partnerships were more numerous than intra-European ones and that the trend for intra-European partnerships was gradually eroding. The reasons may be found in the



leadership of North America in science and technology and the attractiveness of this market. But it may also be explained, as far as Europe is concerned, by the fragmented institutional framework. However, this geographically designed socialization of the innovation process is another justification for the harmonization of intellectual property rights and the creation of an integrated system of patents in Europe.

## **2. History of the Construction of an Integrated Patent System in Europe**

### ***2.1. Early Attempts of International Harmonization of certain Aspects of Patent Laws***

The first three years of the 1970s were decisive in determining the present scenario of the international legal protection of inventions in general and in particular for the establishment of a European patent system. On 9 June 1970 the *Patent Cooperation Treaty* (PCT) was signed in Washington and three years later, on 5 October 1973, the Diplomatic Conference for the adoption of the *Convention for the Grant of European Patents (European Patent Convention)* (EPC) concluded its deliberations in Munich with the signing of the Convention. Both of these international instruments, even if different as to their respective legal nature and territorial scope, had their roots in the various attempts to internationalize different aspects of the industrial property system which took place at the end of the 19th century and successfully continued into the 20<sup>th</sup> century.

The field of trademarks was the first in which international harmonization efforts yielded positive results. On 14 April 1891 the conclusion of the *Madrid Agreement Concerning the International Registration of Marks* set up an international trademark registration system which is still in force today. In the field of patents several factors delayed the achievement of a similar result until after the conclusion of the Second World War, even if the debate was gaining ground. At the turn of the 19th century, there was a general reluctance among countries that were members of the *Paris Convention for the Protection of Industrial Property* to depart from their well-established individual legal rules for the protection of inventions and enter into multilateral negotiations for the harmonization of their national patent systems. This attitude was enhanced by the economic crisis between the two World Wars and by its consequences for industrial development, which encouraged competent authorities, supported by interested circles, to maintain the 'status quo' as regards national patent laws.

After the end of the Second World War, following the general restarting of industrial and commercial activities during the 'reconstruction' period, the attitude of national patent offices and of industry started to change. On the one hand, national administrations faced a substantial increase in the burden of administering their patent systems due to the growth in the number of patent applications filed; on the other hand, the users of the system experienced difficulties in finding adequate responses to their needs in the existing patent legislations.

This change of attitude manifested itself mainly in Europe, thus opening the way to the first attempt at setting up a European system for the protection of inventions. On 6 June 1945 the Agreement for the establishment at The Hague of the *International Patent Institute*, with the task of carrying out novelty searches in the field of patents, was signed among a number of European countries. This Agreement was followed, under the auspices of the Council of Europe, on 11 December 1953 by the *Convention Relating to the Formalities Required for Patent Applications* and on 27 November 1973 by the *Convention for the Unification of Certain Points of Substantive Law on Patents for Inventions*.

### 2.1.1. The 1962 Draft Convention on the Establishment of a Community Patent System

However, it was only in the early 1960s that the first concrete European attempt in this direction took place in the framework of the 1957 *Treaty Establishing the European Economic Community* (EEC). The EEC Treaty does not contain common provisions on the protection of industrial property. It leaves member states free to adopt their own legislation in this field. In 1962, with a view to fostering the free movement of goods within the internal market, thus ensuring that competition is not distorted, a draft Convention for the establishment of a patent system providing for the grant of uniform protection to inventions throughout the Community was prepared. But in the early sixties, the European integration process was just taking its first steps and the achievement of such an ambitious legislative harmonization project soon appeared unrealistic. In 1965, the preparatory work for the preparation of the Convention was interrupted due to political differences among the negotiating states.

### 2.1.2. The 1969 Initiative of the EEC Council on the EPC and CPC

A decade later, as a consequence of new developments in the commercial relations among European countries and of the increase in the number of patent applications filed in those countries, the debate on the need for setting up a European patent system was resumed. In 1969, the Council of the European Communities endorsed the main guidelines which ought to govern the building of such a system. Two international instruments were foreseen: one with a broader territorial scope that would have been applicable to a larger number of European states; the other would have covered only the Community member states. The first of the two instruments became the *European Patent Convention* (EPC), the second the *Convention for the European Patent for the Common Market (Community Patent Convention)* (CPC), which was adopted at Luxembourg on 15 December 1975 and was amended on 15 December 1989 by the *Agreement Relating to Community Patents*.

The EPC entered into force on 7 October 1977, while the CPC never entered into force due to the lack of necessary ratifications. The EPC created a European ‘regional’ system for the protection of inventions. It applies in January 2008 to 34 European states, including the member states of the European Community, which gradually joined the Convention.<sup>4</sup> It is administered by the European Patent Organization, with its headquarters in Munich. The Convention provides for a single procedure for the grant of the ‘European patent’, which is valid for a period of 20 years and has the same effect as a national patent in each of the member states of the EPC. The processing of applications for the European patent, which includes an examination and an opposition procedure, is the task of the European Patent Office (EPO). Together with the Administrative Council, the EPO is one of the two constituent bodies of the European Patent Organization. The EPC provides a link with the PCT, so that applicants for a European patent may also obtain protection for their inventions in the member states of the PCT, *via* the PCT procedure.

The CPC<sup>5</sup> was intended to transform the different national patent procedures of the member states of the European Community into one common procedure through which a single patent (the ‘Community patent’) would be granted. The CPC was implanted in the EPC and through the procedure provided in the EPC opened the way, upon designation of one or more member states of the European Community, to the grant of a supranational title for the protection of inventions, having effect in the whole territory of the Community. To this end, the CPC established within the EPO a number of special departments responsible for the acts of the

EPO in respect of the procedure for the grant of the Community patent: the Patent Administration Division, the Revocation Division and the Revocation Board. Furthermore, with the CPC directly linked to obtaining the objectives of the EEC Treaty, the jurisdiction over the interpretation of the Convention was conferred on the Court of Justice of the European Community.<sup>6</sup>

The non-entry into force of the CPC, mainly due to the high cost of the Community patent, in particular that of translation, and the highly complex judicial system foreseen, meant that the other Convention – the European Patent Convention (EPC) – designed with the CPC to set up a European patent system, was left alone to regulate the protection of inventions at European level. Indeed, since the date of its entry into force in 1977, the EPC has centralized – and continues to centralize – the procedure for the grant of patents for its member states and has proved to be a major factor in harmonizing the European national patent laws and in fostering the European economic integration process.

## ***2.2. New attempts in the 1990s to set up a Community Patent System***

However, notwithstanding the prominent role played by the EPC in forging European patent law, the idea of establishing an autonomous patent system common to the member states of the EEC was never completely abandoned. From the beginning of the 1990s, the debate on this project was kept alive among competent national administrations and ‘interested circles’, especially by the Commission of the EEC. But it was only towards the end of the decade, in 1997, with the Commission’s *Green Paper on the Community Patent and the European Patent System*<sup>7</sup> that the initiative of setting up a Community patent was concretely launched. The Green Paper was followed in 1998 by a series of consultations which involved different bodies<sup>8</sup> of the Community and culminated on 5 February 1999 with the adoption by the Commission of a Communication<sup>9</sup> on the Green Paper. In essence, the Communication contained the main elements of the structure of a future Community patent system. On 24 March 2000, the European Council meeting in Lisbon officially endorsed the creation of the Community patent system.

### **2.2.1. The Commission’s Proposal for a Council Regulation on the Community Patent (2000)**

The decision taken by the European Council at the Lisbon meeting was followed on 1 August 2000 by a *Proposal for a Council Regulation on the Community Patent*,<sup>10</sup> presented by the Commission. This proposal, as amended by successive modifications, still constitutes today the platform on which the negotiations for the establishment of the Community patent system are based. The declared aim of the Council Regulation is the creation of a supranational patent right applicable within the territory of the Community. The unitary character of this right is however conceived to coexist, on the one hand with national patent rights, and on the other with the European patent right as it stems from the EPC. This means that with the entry into force of the Community patent, patentees would have the choice between three alternatives when seeking protection for their inventions: the national patent, the European patent under the EPC and the Community patent.

Together with the existing Council Regulations on trademarks<sup>11</sup> and on industrial designs,<sup>12</sup> the Regulation on the Community Patent is intended to complete the building of the Community industrial property system with a view to further enhancing the free movement of goods within the Community.

The Proposal for a Council Regulation is composed of a Preamble and six Chapters:

- Chapter I – General Provisions;
- Chapter II – Patent Law;
- Chapter III – Renewal, Lapse and Invalidity of the Community Patent;
- Chapter IV – Jurisdiction and Procedure in Legal Actions relating to the Community Patent;
- Chapter V – Impact of National Law;
- Chapter VI – Final Provisions.

The Preamble deals with the relationship between the future Community patent system and the European patent system under the EPC. This is a focal point in the creation of the Community patent system. The relationship has a particular significance in view of the interconnections between the two systems which imply, once the Regulation on the Community patent were to be adopted, *ad hoc* revisions of the EPC in order to render the two instruments ‘compatible’. In essence, the main points covered by the Preamble are: the performance by the European Patent Office of the function of granting and administering the Community patent; the accession of the Community to the EPC and the creation of a ‘Community Intellectual Property Court’, which should have jurisdiction on matters relating to the infringement and validity of the Community patent, while Commission’s decisions should be subject of appeal before the Court of Justice of the European Community.

Chapter I (General Provisions) establishes the Community patent law and sets the principle that it applies to the patents granted as Community patents by the European Patent Office. Furthermore, it specifies that the Community patent has a unitary character in the sense that it shall be valid throughout the territory of the Community, and shall have an autonomous character in the sense that it shall be subject to the provisions of the Regulation.

Chapter II (Patent Law) contains a set of substantive law provisions dealing with the rules governing the acquisition of the right to the Community patent, including the relationship between the employee and the employer, the scope of the rights conferred by the Community patent and patent application, and the situations involving the Community patent as an object of property, such as transfer, contractual licences, licences of rights and compulsory licences. It is to be noted that most of these provisions incorporate the content of the corresponding applicable provisions of the CPC, in the EPC and in the *Agreement on the Trade Related Aspects of Intellectual Property Rights* (TRIPS Agreement 1994).

Chapter III (Renewal, Lapse and Invalidity of the Community Patent) deals on the one hand with the procedures governing the renewal, surrender and lapse of the Community patent and, on the other, with the grounds and effects of invalidity of the patent.

Chapter IV (Jurisdiction and Procedure in Legal Actions Relating to the Community Patent) covers three procedural aspects when the Community patent is subject to actions. The first relates to actions concerning the validity, infringement and use of the Community patent. The Community Intellectual Property Court has jurisdiction in these actions and appeals may be lodged against decisions of the Court to its Chamber of Appeals. The second concerns actions which do not fall within the jurisdiction of the Community Intellectual Property Court, such as proceedings relating to the right to the patent between employer and employee. In such cases, national courts of member states have jurisdiction. The third covers arbitration proceedings involving the Community patent, with the restriction however that they cannot invalidate a Community patent.

Chapter V (Impact of National Law) sets out the prohibition of dual patent protection for the same invention by a national patent of a member state and the Community patent. The same applies to utility models and utility certificates, where such title is provided for by the national law of a member state.

Chapter VI (Final Provisions) contains provisions relating to the establishment of the Register of Community Patents, the publication the Community Patent Bulletin and the adoption of the implementing Regulations.

### 2.2.2. The Common Political Approach (2003)

Since its presentation in August 2000, the Proposal for a Council Regulation on the Community Patent has been the subject of intense negotiations, resulting in a large number of working documents<sup>13</sup> containing comments and amendments to the original proposal. It was soon evident that the main subjects requiring a compromise solution were those which had a direct bearing on the activities of the national administrations of the member states interested in the enforcement of the Regulation. They concerned the structure of the jurisdictional system of the Community Patent, the language regime applicable to the Community patent applications and patents, the costs for the maintenance of the Community Patent, the role of national patent offices in the administration of the Community Patent system and the distribution of fees among national patent offices of the EEC member states.

A major step towards the conclusion of an agreement on those issues was made with the adoption of the *Common Political Approach Concerning the Community Patent*<sup>14</sup> by the Council of the European Union at its meeting on 20-21 March 2003. On each issue the Common Approach lays down the compromise solution achieved.

- The jurisdictional system would consist of a Court of Justice having exclusive jurisdiction in actions of invalidity or infringement of the Community patent rights. The Court should be established by 2010.
- The language regime provided for in the EPC would apply to the Community Patent, that is to say that applications for the Community Patent should be filed in one of the three official languages of the EPO.
- As regards the cost for the maintenance of the Community Patent, it should not exceed that for an average European Patent.
- The Community Patent system would be administered by the EPO in direct cooperation with the national patent offices of the member states. The relationship between the EPO and national patent offices would be regulated by partnership agreements which would set comparable standard of performance. Applications for Community Patents should be filed with national patent offices or directly with EPO.
- Renewal fees would be shared between the EPO and national patent offices. 50% would be kept by the EPO to cover its costs; the remaining 50% would be distributed among national patent offices of the member states according to a distribution scheme established by the Council.

### 2.2.3. The Commission's Proposals for Council Decisions on the Community Patent Jurisdiction (2003)

The Common Political Approach was followed few months later, on 23 December 2003, by two Commission proposals, one for a *Council Decision Establishing the Community Patent Court and concerning Appeals Before the Court of First Instance*,<sup>15</sup> the other for a *Council*

*Decision Conferring Jurisdiction on the Court of Justice in Disputes Relating to the Community Patent*,<sup>16</sup> which further developed the issue of the Community Patent Jurisdiction, outlined in the Common Political Approach. This issue is one of the most sensitive in the framework of building the Community Patent system, because of its wide territorial scope and direct impact on the national jurisdictional systems of the member states. The proposals presented by the Commission set, on the one hand, the legal basis for the establishment of the jurisdiction and, on the other, for its conferral by the Council.

The legal basis for the jurisdiction of the Community Patent Court is Articles 225a and 245 of the EEC Treaty, as amended by the Treaty of Nice (2003), while the conferral of the jurisdiction by the Council is based on Article 229a of the said Treaty. The Commission document proposes the setting up of the *Community Patent Court* under Article 225a, consisting of seven judges exercising first instance jurisdiction in disputes involving the Community Patent. Within the Court, a Patent Appeal Chamber is established under Article 225(2) to hear appeals against decisions of the Community Patent Court.

### **2.3. Recent Developments**

Since 2003, in spite of the Commission's efforts, few substantial developments have occurred in the project for creating a Community Patent system. The main result of these efforts was the preparation of a revised text<sup>17</sup> of the 2000 Commission proposal for a Council Regulation on the Community Patent. This text includes, on the one hand, the solutions proposed in the *Common Political Approach* and, on the other, those in the Commission's proposal for a Council decision on the *Community Patent jurisdiction*.<sup>18</sup> However, no agreement has been reached so far on the revised text. One issue, in particular, seems to create serious obstacles to the rapid conclusions of the negotiations for establishing the Community Patent: the question of the cost of novelty searching and translating the Community patent into the languages of the EU member states.

Notwithstanding the limited results achieved, the Commission continued to hold the view that "an affordable Community Patent would offer the greatest advantages for business", and in this context launched on 16 January 2006 a consultation<sup>19</sup> open to all interested persons and entities, seeking views on the system of protection of inventions in Europe and asking to indicate what changes would be required to "improve innovation and competitiveness, growth and employment" in the Community member states. The consultation closed on 12 April 2006. A considerable number of replies (2515 in total) were received. On 12 July 2006, the Commission convened a Public Hearing in Brussels, during which the responses received to the Questionnaire were discussed.

On the question of the 'Basic principles of the patent system', the majority pointed out that the system should be improved and that a coherent European industrial property policy should be developed. The EPO should remain as the centre of the system, supported by national patent offices. On the question of 'Harmonization and mutual recognition', the importance of substantive patent law harmonization already achieved by the EPC and the *Agreement on the Related Aspects of Intellectual Property Rights* (TRIPS) (1994) was unanimously stressed, while the idea of 'mutual recognition' was generally rejected, due to the still 'unequal value' of national patents. On the question of a 'Community Patent', the majority favoured the establishing of a Community Patent which should improve the present situation and should be a "unitary, high quality patent". The features of the 2003 Common Political Approach were generally rejected due to the proposed language regime and the jurisdictional system. On the

question of 'Jurisdiction', the majority supported the Community's participation in the *European Patent Litigation Agreement* (EPLA) in view of its "practical and programmatic" approach and its clear procedural rules and low cost.

In his speech in Berlin on 29 March 2007, the European Commissioner for Internal Market and Services, Charlie McCreevy, speaking at a conference on 'A Europe of Innovation – Fit for the Future?', referring to the results of the 2006 consultation, stated: "There was strong support for a cost-effective Community patent including sound litigation arrangements, while at the same time improving the current patent system in Europe. In October 2006, the European Parliament supported this line and urged us to explore all possible ways of improving the patent granting and litigation systems in the European Union. This calls for a combined effort by member states and the Community institutions".

In response to this invitation and in line with the opinion expressed by the majority of the replies received to the questionnaire, the Commission adopted on 29 March 2007 a Communication to the European Parliament and the Council entitled, *Enhancing the patent system in Europe*.

After having noted that the present European patent system is more expensive than that of the United States and Japan, and that the existing litigation system is "unnecessarily costly" and is the cause of "legal uncertainty", the Communication focuses on two main issues: the Community Patent and the Jurisdiction system, in an effort to propose compromise solutions. On the *Community Patent* issue, the Commission's Communication underlines that the challenges Europe is confronted with in the innovation field need a patent approach that should be both "affordable" and "legally secure". This means that the criticisms expressed by the majority of stakeholders on the 2003 Council's Common Political Approach, mainly because the proposed jurisdiction system and language regime were considered "inadequate and unsatisfactory", should be seriously taken into account.

As to the translation costs, the Commission is of the opinion that it would be possible to reduce such costs, in particular to the benefit of SMEs, for example with "fee reductions for SME or schemes allowing flexibility in the translation requirements".

Concerning the 'Jurisdictional System', the Communication notes that opinions were expressed, on the one hand, in favour of adopting the principles of the *European Patent Litigation Agreement* (EPLA) in the context of the EPC and, on the other hand, supporting the establishment of a specific Community jurisdiction for European and Community patents, based on the EC Treaty jurisdictional arrangements. On this delicate issue, the Commission's Communication proposes a possible compromise solution inspired by the EPLA model and integrated by the principles of Community jurisdiction.

In its conclusion, the Communication states that its purpose is "to revitalise the debate on the patent system in Europe, in a way to encourage member states to work towards consensus and real progress on this issue". It is in this perspective that negotiations on the establishment of a Community patent should continue.

### **3. Stakes and obstacles**

Whereas there are many reasons to explain the attempts at harmonizing the patent laws in Europe, difficulties continue to characterize the history of these harmonization efforts. They may be presented as the result of technical obstacles, or of tensions stemming from contradictory interests, but also of inadequacies between innovation policies and the whole European economic policy.

#### ***3.1. Costs and technical difficulties***

The claimed objective of the creation of a European patent was to reduce the cost induced by the filing of a patent in every chosen country. The centralised examination procedure at the European level would suppress the multiple examination procedures at the national level. The cost borne by the applicant is thus reduced. The filing and examination costs are paid at the EPO and only the grant and renewal fees are to be paid to the national offices. The examination criteria are centralised, which warrants the quality of the European patent. The latter can be demonstrated by the growing number of patent applications filed under the EPC. The number of patent applications filed with the EPO grew by 10% a year on average over the period 1995-2000 and, after a downturn at the beginning of the 2000s, the growth picked up again (OECD 2006). According to the EPO, the number of total filings rose from 181,000 in 2004 to roughly 208,000 in 2006. This number of applications however seems quite low, compared with the number of applications filed with the United States Patent and Trademark Office (USPTO) and the Japan Patent Office (JPO), each of which registered more than 400,000 applications in 2006.<sup>20</sup> The reasons for the difference are to be found in the market attractiveness, but also in differing standards and proceedings (for example in the United States, patents are more easily granted, notably in the field of biotechnology, software and business methods; in Japan, one invention can receive several patents). Some of the reasons are also related to the shortcomings of the European patent system.

In fact, the rules governing the grant of the European patent present a number of problems. The first lies in the importance of the translation costs. European patents filed at the EPO have to be written in one of the three official languages of the European Union (German, English and French), but if the patent is accepted, the claims have to be translated into the other official languages. To validate the patent in the selected countries, the patent must be completely translated into the language of each selected country. As a consequence, according to the European Commission, the cost of an average European patent (six countries, 18 pages, 10-year term) reaches 32,000 Euros, including 7,000 Euros of translation and related costs, which represents 22% of the total cost (EPO 2006a). Of course, the higher the number of selected states, the more the translation costs would increase. This means for the applicant that the cost of a European patent is much higher than an American or Japanese one. According to the consultancy company R. Berger,<sup>21</sup> a patentee from an EPC member state will pay an average of 24,100 Euros to have a Euro-direct patent granted, while a US company will pay 10,250 Euros to have a patent granted by the USPTO, and a Japanese company will pay 5,460 Euros to have a patent granted by JPO (EPO 2006a, p. 139).

The usefulness of this translation is subject to criticism by different sources, including the EPO itself (EPO 2006b), because while its rationale is to promote the disclosure of scientific and technical information, the waiting period for the translation is very long (on average three or four years after filing). The benefits of the disclosure are thus reduced, notably in sectors where technical developments are rapid. Moreover, because of the translation costs, patents are more easily filed by big enterprises, richer in financial resources, and conversely hinder



the innovation capacity of SMEs, which account for 99.8% of the total number of European enterprises. Finally, the importance of translation costs induces the applicants to reduce the number of countries selected for a European patent. According to the EPO (2006a), European patents are generally valid in (only) six countries; most frequently Germany, the UK, France, Italy, Spain and Switzerland.

Another important problem in connection with the granting of European patents lies in the need to defend the patent in each country in case of counterfeiting, which increases the cost of protection under the European patent system, as well as the uncertainty stemming from decisions that may differ according to the rules in force in the different states (also due to protectionist attitudes of any state tempted to favour national enterprises).

### ***3.2. Divergent interests***

The Agreement on the Application of Article 65 of the EPC (London Agreement) of 17 October 2000 (London Agreement) aiming at reducing the translation cost of the European patent, the draft of the European Patent Litigation Agreement (EPLA) and the Community Patent, should reduce to a large extent the difficulties existing in the framework of the European patent system. The London Agreement has been ratified by France and the relevant instrument has been deposited on 29 January, 2008 which means that the Agreement will enter into force on May 1, 2008.

According to Lévêque and Menière (2006, p. 19), a major point to put forward in the difficult harmonization process of industrial property rights in Europe is the role played by groups opposed to the reforms: “The most concerned interest group is the applicants, mainly composed of enterprises, for which the reforms aiming at the reduction of translation costs are positive. Other interest groups are negatively hit by the reforms. This is the case of the national patent offices and of consultants in intellectual property in charge of the designation of the European patent in the different countries. Some national applicants may be added to this category, benefiting from a protectionist judicial system.” According to these authors, the enterprises’ group, fragmented, large and heterogeneous, does not actively take part in the reforms, whereas the opposed groups, smaller and more homogeneous, do influence the reforms more effectively. For the Community Patent, the preservation of the national offices’ revenue is an answer to the influence of this interest group, while limiting its reach.

The coexistence of national, European and Community patents may create overlap in the procedures to seek patent protection in Europe and thus increase the costs borne by applicants (due to the necessity to compare the cost and profit of each system). It may also give rise to a competition between national offices and the EPO, to preserve their interests and revenues, to the detriment of innovation incentives. The complementarity between the EPO and national offices, foreseen in the Community patent, could reduce this risk.

Finally, another argument advanced by Lévêque and Menière (2006) refers to the creation of a specialised Court which may have an impact on the level of patent protection. The authors take the example of the United States patent system, where the creation of the Court of Appeal of the Federal Circuit has led to judgements favourable to patent holders, and thus to a stronger appropriation of invention as a consequence of widening patentability conditions (see also Gallini 2002).

### **3.3. European Policy**

A third argument may be added to explain the current difficulties incurred by the harmonization of patent laws in Europe: that is the contrast existing between on the one hand, a restrictive monetary policy and the constraints of the budgetary policy (i.e. the Maastricht criteria and the Stability and Growth Pact) and the important element of irreducible expenses (e.g. expenses due to people ageing), and on the other hand, the ambitious aims in terms of innovation (von Tunzelmann 2004). We can recall that in 2000, the Lisbon European Council placed R&D at the centre of innovation-based policies to meet the goal of Europe becoming the “most competitive and dynamic knowledge-based economy in the world”. To reach that aim, the Barcelona European council set a target for European R&D intensity of 3% by 2010, with two-thirds of the R&D to be contributed by the business sector, which at mid-term of the deadline seemed highly unrealistic,<sup>22</sup> notably because of the previously mentioned macro-economic constraints.

Moreover, it is now well known that the increase in R&D expenditures does not systematically mean better results in terms of innovation. It is the whole innovation system (its strength, clarity and organisation of institutions) which has to be involved to obtain better results. However, in this beginning of the 21<sup>st</sup> century, the debates dealing with the construction of an innovation system at the European level are not at the forefront of the public agenda, as it was the case at the end of the 1990s, because of the successive enlargements of the EU, of the ways that European decisions are taken (unanimity), but also of the central place that monetary and budgetary policies have taken in the framework of the European political approach. Scientific and technological policies, which focus more on the creation of networks (interactions with local environment, users’ needs) than on voluntary policies, are an illustration of this insufficient attention (in terms of budget support) given to innovation. Weak results in European scientific production and in industrial performance are the result of this contradiction (Dosi *et al.* 2006).

We can consider that the slowness of the harmonization of European intellectual property rules also results from the contradiction and the fragmentation of European policies. For example, in a recent book, Guellec and Van Pottelsberghe de la Potterie (2007, p. 3) argue that the reforms of the European patent system should not be only an issue dealt with by legal scholars and that the Economic dimension should be reinforced: “The patent system will not change before legal scholars, who shape it, have acknowledged the economic dimension of their activity, and before economists have adapted their reasoning to the specific institutional and legal context of patents.” The legal approach focuses in fact on “issues of fairness and balance of rights, of consistency of patent law with other bodies of laws” (*ibid.*), but does not take enough account of the “utilitarian role of patents”, which refers to their benefits for society (encouragement and diffusion of innovation) and to their costs (monopoly, restriction on use of inventions). Also, the difficult setting up of a European innovation system, in which the legal framework (including IPRs) play a central role, can also be considered, and crucially so, as the result of the weak integration of economic and technological policies and of the insufficiently voluntary character of European scientific and technological policy.

## **4. Elements of a conclusion**

Despite the numerous and pertinent reasons that justify the harmonization of European intellectual property rules and the creation of an integrated patent system in Europe, various

difficulties hinder this process. The latter are related to technical obstacles, to interest conflicts that in the last analysis show up the national character of this property title, conceived since its origin to promote national interests. In a context of liberalisation of markets, ‘neomercantilist’ practices, aimed to protect and support national industries, did not disappear (Uzunidis and Laperche 2004). The difficult emergence of an integrated patent system in Europe supports this argument: making concessions in this field is considered as abandoning national sovereignty. Moreover, the orientation of European policy, built on macroeconomic equilibrium, induces the rationalisation (if not the reduction) of expenditures. This leads to a focus on short-term results, seemingly a priority in the orientation of scientific and technological policies: through networks, the scientific production will quickly be transformed into marketable artefacts. But it is also the case for constructing an integrated patent system. The efficiency of patents relies on a fair balance between protection and diffusion of scientific and technological information. If the relations of power are favourable to the enlargement of patentability and to the reinforcement of the protection granted to applicants, the quality of the European intellectual property system will be reduced. A perverse effect for the promotion of innovation could ensue from this scenario, as has been stressed for the case of the United States (Gallini 2002). The harmonization of intellectual property laws and the creation of an integrated patent system in Europe are intrinsically linked to the European scientific and technological policies. To achieve positive results in this field, the latter should become a European political priority.

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#### NOTES

<sup>1</sup> Quoted by USPTO, <http://www.uspto.gov>. Abraham Lincoln is the only US President who was granted a patent (Patent N°6469 for “a device for buoying Vessels over Shoals”).

<sup>2</sup> The PCT is an international treaty conceived to simplify the procedure for the grant of patents when protection is sought in several countries at the same time.

<sup>3</sup> The EPC is a regional treaty setting up a European patent system, providing for substantive rules for the grant of a European industrial property title – the *European Patent* – valid in all members States of the Convention.

<sup>4</sup> Austria, Belgium, Bulgaria, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Liechtenstein, Latvia, Lithuania, Luxembourg, Malta, Monaco, the Netherlands, Norway, Poland, Portugal, Romania, Slovak Republic, Slovenia, Spain, Sweden, Switzerland, Turkey, the UK.

<sup>5</sup> The CPC was signed in Luxembourg on 15 December 1975 by the following states: Belgium, Denmark, France, Germany (Federal Republic of), Ireland, Italy, Luxembourg, the Netherlands, the UK; it was amended on 15 December 1989 by the *Agreement Relating to the Community Patent*.

<sup>6</sup> The 1989 Agreement amending the CPC included a Protocol on the settlement of litigations concerning the infringement and validity of the Community patent.

<sup>7</sup> Green Paper on the Community Patent and the European Patent System (COM (97) 314 final, 24 June 1997).

<sup>8</sup> The Economic and Social Council (OJ C 129, 27.4.1998, p.8) and the European Parliament (OJ C 379, 7.12.1998, p. 268).

<sup>9</sup> Communication on the follow-up to the Green Paper on the Community Patent and the Patent System in Europe (COM (99) 42 final, 5 February 1999)..

<sup>10</sup> Proposal for a Council Regulation on the Community Patent (COM (2000) 412 final, 1 August 2000).

<sup>11</sup> Council Regulation No 40/90EEC of 20 December 1993 on the Community Trade Mark, OJ L 11, 14.1.1994, p.1

<sup>12</sup> Amended Proposal for a Council Regulation on Community Design of 21 June 1999 (COM (1999) 310 final)

<sup>13</sup> See, in particular: Opinion of the Economic and Social Council on the ‘Proposal for a Council Regulation on the Community Patent’ (CES/2001/411); Commission Staff Working Paper: ‘A Community policy for the realization of the Community Patent in the context of a revision of the European Patent Convention’ (SEC/2001/744 final); Commission Working document on the planned Community Patent jurisdiction (COM(2002) 480 final. See also the following revised texts of the ‘Proposal for a Council Regulation on the Community Patent’: the Presidency – document 8539/03; the Presidency – document 10404/03 (PI 53); the Secretariat of the Council – document 10728/03; the Secretariat of the Council – document 14233/03; the Secretariat of the Council – document 15086/03.

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<sup>14</sup> Common Political Approach Concerning the Community Patent (EU Council document 7159/03, 7 March 2003).

<sup>15</sup> Proposal for a Council Decision Conferring Jurisdiction on the Court of Justice in Disputes relating to the Community Patent (COM (2003) 227 final, 23 December 2003).

<sup>16</sup> Proposal for a Council Decision Establishing the Community Patent Court and Concerning Appeals Before the Court of First Instance (COM (2003) 228 final, 23 December 2003).

<sup>17</sup> Proposal for a Council Regulation on the Community Patent (Revised Text) (Presidency of the EU Council, 7119/04, 8 March 2004).

<sup>18</sup> See above Notes 13, 14 and 15, respectively.

<sup>19</sup> EU Commission, *Questionnaire on the Patent System in Europe*, 9 January 2006.

<sup>20</sup> <http://www.epo.org/focus/patent-system/patents-around-the-world.html>, last updated: 5.4.2007.

<sup>21</sup> In 2004, the EPO decided to update and complement former cost estimates. For that purpose, it commissioned a survey of applicants and attorneys which was carried out by a consultancy company: Roland Berger Market Research, see EPO (2006a).

<sup>22</sup> The study conducted by Arundel and Hollander for the European Union – based on the 13 countries of European Union that account for 95.4% of total business expenditures for research and development (BERD) among the EU25 countries in 2002 and 93% of GDP – showed that “the EU could only achieve a BERD intensity of 2% by 2015 *if the R&D intensity of all sectors in all countries grew at the highest growth rate observed in each sector (...)* We conclude that the 2% BERD intensity goal is unrealistic and unachievable by 2015. It would require massive and economically painful changes in the structural distribution of sectors within Europe” (Arundel and Hollander 2005, p. 31).