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The Harmonisation of the Patent Law System – What Alternations May Be Expected in the Foreseeable Future?

Harmonizacja prawa patentowego – jakich zmian można się spodziewać w najbliższej przyszłości?

Abstract: The harmonisation of the patent law system was initiated in 1883 when the Paris Convention was adopted. Another considerable step in the process was to conclude the Agreement on Trade-Related Aspects of Intellectual Property Rights (TRIPS Agreement) in 1994. It may be claimed that the process has gradually accelerated recently, which is visible at the global, regional and European levels. The Group B+ at WIPO makes an attempt to prepare certain assumptions on the substantive patent law harmonisation. Specific countries form economic coalitions to boost the importance of intellectual property rights. The European Commission has prepared a patent package and a pharmaceutical package so as to unify patent law at the EU level. New technologies, especially artificial intelligence systems, seem to impact the process of harmonisation, as well, creating various legal doubts. Although a considerable number of actions have begun, they lack a structured and centralised nature, which may impede the process, or, at least, make it more convoluted.

Keywords: harmonisation, patent law, intellectual property law, grace period, patent package, artificial intelligence systems

Abstrakt: Harmonizacja systemu prawa patentowego została zapoczątkowana w 1883 r., kiedy to przyjęto Konwencję Paryską. Kolejnym znaczącym krokiem w tym procesie było zawarcie

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w 1994 r. Porozumienia w sprawie handlowych aspektów praw własności intelektualnej (Porozumienie TRIPS). Można stwierdzić, że w ostatnim czasie proces ten stopniowo przyspieszał, co jest widoczne na poziomie globalnym, regionalnym i europejskim. Grupa B+ przy WIPO podejmuje próbę przygotowania określonych założeń w zakresie harmonizacji materialnego prawa patentowego. Jednocześnie poszczególne kraje tworzą koalicje gospodarcze w celu zwiększenia znaczenia praw własności intelektualnej. Z kolei Komisja Europejska przygotowała pakiet aż sześciu projektów rozporządzeń odnoszących się do prawa patentowego oraz pakiet farmaceutyczny w celu ujednolicenia prawa patentowego na poziomie unijnym. Nowe technologie, w szczególności systemy sztucznej inteligencji, wydają się również wpływać na proces harmonizacji, tworząc nowe wyzwania prawne. Choć zapoczątkowano już szereg działań, brakuje im ustrukturyzowanego i scentralizowanego charakteru, co może całościowo utrudnić proces harmonizacji, a przynajmniej uczynić go bardziej zawiłym.

Słowa kluczowe: harmonizacja, prawo patentowe, prawo własności intelektualnej, systemy sztucznej inteligencji, ulga w nowości

Introduction

The history of the patent law harmonisation dates back to the adoption of the Paris Convention in 1883. The emanation of the growing need for changes in the patent law system, being, *inter alia*, the consequence of a rapid development of technological inventions, became the Agreement on Trade-Related Aspects of Intellectual Property Rights (TRIPS Agreement) concluded in 1994, which, in addition to applying the principle of equal treatment of entities of all TRIPS members in the field of intellectual property, pursues to promote and disseminate technological innovation. Currently, it is possible to observe numerous activities taken at the global and regional levels, including actions of the European Union and signing free trade agreements (FTAs), which are planned to face legal challenges and extend the flexibility of provisions so as to make them fit for purpose and future-proof as well as which are intended to contribute to the patent system harmonisation. Currently, numerous activities can be observed at both global and regional levels — including actions by the European Union and the signing of free trade agreements (FTAs) — aimed at addressing legal challenges, enhancing the flexibility of provisions to ensure they are fit for purpose and future-proof, and contributing to the harmonisation of the patent system.

The main objective of the patent law harmonisation is to make legal procedures easier and faster at the international level. Moreover, the intention entails reducing costs and strengthening the principle of legal certainty while

participating in legal proceedings globally, ensuring at the same time a proper level of an adequate enforcement of intellectual property protection.

In terms of the patent law harmonisation, it seems to be advisable to mention the notion of the principle of territoriality, which in the case of patent law is strictly applied. The principle of territoriality is perceived as one of the foundational principles of intellectual property law, expecially as regards patent law and copyright law.[1] In accordance with the principle of territoriality, intellectual property rights are limited to the territory of the country where they have been granted.[2] The means and scope of protection of a patent are dependent on the law of the country whose authorities granted the patent.[3] As a consequence, a patent granted and protected in one country has no effect beyond the territory of that country. The principle allows particular countries to tailor their national intellectual property laws to adjust to their level of technological and economic advancement.

In this regard, a question may be raised of how the principle of territoriality corresponds to the process of the patent law harmonisation. On the one hand, the principle of territoriality limits the protection of rights granted only to a territory of a specific country with its own laws. On the other hand, the patent law harmonisation, apart from creating certain standards, may involve the territorial broadening of the scope of protection, as well. As a result, they may be perceived as conflicting issues. Nevertheless, they do not conflict with each other. The principle of territoriality functions as a mechanism of minimum standards. In turn, the harmonisation of patent law may play a role of widening minimum standards, especially regarding the territorial scope of protection. It is the purpose of voluntary international agreements to indicate appropriate legal frameworks to be harmonised and define their scope.

It is worth mentioning that, contrary to trademark law or design law as well as some particular aspects of copyright law, patent law has not been successfully harmonised even at a regional level. This may contribute to some considerations why this process has occurred to be ineffective so far.

1 Hanns Ullrich, "TRIPS: Adequate Protection, Inadequate Trade, Adequate Competition Policy," *Pacific Rim Law & Policy Journal*, vol. 4, no. 1 (1995): 157.

2 Lars Lundstedt, *Territoriality in Intellectual Property Law* (Stockholm: Stockholm University, 2016), 91.

3 Maksymilian Pazdan, *Prawo Prywatne Międzynarodowe* (Warszawa: Wolters Kluwer Polska, 2012), 231.

The aim of the article is to present possible changes to the patent law which are being planned to be implemented in the nearest future and to assess whether these alterations will foster the harmonisation of the current patent law system. Additionally, a question will be raised of who and how creates the patent law.

In order to make a proper assessment, the functioning of Group B+, which constitutes an internal WIPO's working group, in terms of substantive patent law harmonisation, will be presented. Moreover, FTAs, the wording of which also encompasses intellectual property assumptions, will be scrutinised. What is more, a careful analysis of legislative initiatives of the European Commission, aiming at the unification of the patent law system at the EU level, will be conducted. Furthermore, major doubts referring to patent law in terms of the improvement of artificial intelligence systems, which may be perceived as possible directions of future harmonisation, will be considered. As a final step, present initiatives will be juxtaposed so as to check whether they are familiar or, to the contrary, completely divergent.

The Creation and Functioning of Group B+

Group B+ was initiated in 2005 when it occurred that it was impossible to find a compromise as regards the scope and exact wording of the Substantive Patent Law Treaty (SPLT) having been under negotiation at the global level. Initially, the Group was established to promote and facilitate progress on key issues under consideration at WIPO, especially to move forward on substantive patent law harmonisation.[4] Currently, the Group consists of all members of WIPO's Group B, EU member states, the European Commission, member states of the European Patent Organisation, the EPO, and South Korea. WIPO and Singapore play the role of observers.

In 2011, as a result of lack of evident progress in the Group's work, the Tegernsee Group was created to engage in strict fact-finding on key harmonisation issues. The Tegernsee Group consisted of representatives of patent offices of the United States, Japan, the United Kingdom, Denmark, Germany, France, and the EPO. As the most important matters, the Tegernsee Group indicated:

4 EPO, Group B+, https://www.epo.org/en/law-practice/harmonisation/group-b-plus, accessed 3 September 2024.

- the first-to-file system;
- grace period;
- prior art;
- the definition of novelty;
- the definition of inventive step;
- 18-month publication.[5]

From the beginning, the Tegernsee Group agreed that the first-to-file system should have become a global norm. This system protects the first person who files a patent application and contradicts the then American system. At that time, the American patent system was based on the idea of first-to-invent, which meant that the patent was granted to the first person who created the inventions, regardless of the fact who filed the patent application at the earliest. In 2013, amendments were introduced to the America Invents Act and, as a consequence, nowadays a first-inventor-to-file system is in force. Therefore, a patent is granted to an inventor who files a patent application at the earliest.

In 2014, the works were continued in Group B+ and business representatives were invited to assist. Simultaneously, Subgroup B+ was created, the main responsibility of which was to support the Chair of Group B+. Today, the Subgroup consists of representatives of Australia, Canada, Denmark, Germany, Hungary, Japan, South Korea, Sweden, Spain, the United Kingdom, the United States, and the EPO. Since no considerable results were visible and there was lack of consensus as regards potential legal changes, the works were transmitted to a business group called Industry Trilateral (IT3), which consisted of American Intellectual Property Law Association (AIPLA); Intellectual Property Owners Association (IPO); BusinessEurope; and Japan Intellectual Property Association (JIPA).

The IT3 presented an initial draft on substantive patent law harmonisation in September 2020. The members of Group B+ decided that the draft should have been analysed under public consultations, as previously only a limited number of stakeholders had been involved in the process. It was agreed that the positions of the International Federation of Intellectual Property Attorneys (FICPI) and the International Association for the Protection of Intellectual Property (AIPPI) should have been added to the consultation package. AIPPI prepared a few

5 EPO, Tegernsee process, https://www.epo.org/en/law-practice/harmonisation/tegernsee-process, accessed 3 September 2024.

resolutions instead of one final position. The issues of prior art and 18-month publication were found uncontroversial. However, a grace period and prior user rights were perceived as phenomena which needed a further discussion.[6]

Twenty countries participated in public consultations and 107 answers were gathered. As presented, the majority of respondents agreed that the substantive patent law harmonisation was needed and the matter was treated as important and very important.[7]

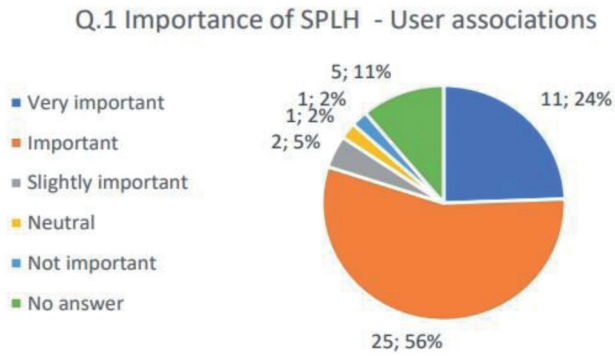

Fig. 1. Answers to the first question: the importance of the substantive patent law harmonisation – user associations (42 answers)[8]

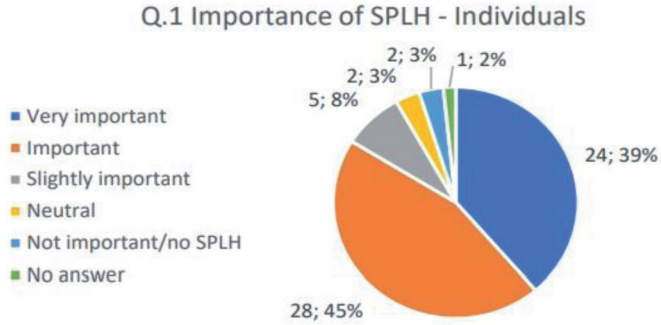

Fig. 2. Answers to the first question: the importance of the substantive patent law harmonisation – individuals (62 answers)[9]

6 Group B+ Plenary 2023 Summary of Discussions: https://link.epo.org/web/law-practice/harmonisation/group_b_plus_plenary_2023_summary_of_discussions, accessed 3 September 2024.

7 European Common Consultation on SPLH 2022 Part I Consolidated Report, p. 11, https://link.epo.org/web/european_common_consultation_on_SPLH_2022_part_I_consolidated_report.pdf, accessed 3 September 2024.

8 Ibidem.

9 Ibidem.

The issue considered as the most controversial, even before official public consultations, was a grace period. At the European level, a grace period is accepted only in two cases. According to Art. 55 of the European Patent Convention, a disclosure of the invention shall not be taken into consideration if it occurred no earlier than six months preceding the filing of the European patent application and if it was due to, or in consequence of an evident abuse in relation to the applicant or his legal predecessor; or the fact that the applicant or his legal predecessor has displayed the invention at an official, or officially recognised, international exhibition falling within the terms of the Convention on international exhibitions signed in Paris on 22 November 1928 and last revised on 30 November 1972.

Additionally, in the case of paragraph 1(b), paragraph 1 shall apply only if the applicant states, when filing the European patent application, that the invention has been so displayed and files a supporting certificate within the time limit and under the conditions laid down in the Implementing Regulations.[10]

Therefore, it is possible to grant a patent if a disclosure was made no earlier than six months before filling the patent application and was caused by an evident abuse in relation to the applicant or his legal predecessor as well as the fact that the invention was displayed at an official or officially recognised, international exhibition. As a result, a grace period is not accepted in any more circumstances. The assumptions of the initial legal changes were not so restrictive. Moreover, a majority of Group B+ members as well as participants of public consultations declared that they would accept a 12-month grace period in the same way as it had been regulated in most of highly innovative countries, such as the United States, Canada, South Korea, and Australia.

Tab. 1. Grace period in highly innovative countries

grace period	Europe	Australia	Canada	Japan	South Korea	the United States
duration	6 months	12 months	12 months	12 months	12 months	12 months

As presented below, the participants of the public consultations believed that a harmonised grace period in a form of safety net was the most appropriate

10 Art. 55 of the European Patent Convention: Non-prejudicial disclosures.

option. The safety net is a balanced solution, without restrictive limits, which can ensure a proper protection not only of the applicants, but also of third parties.[11]

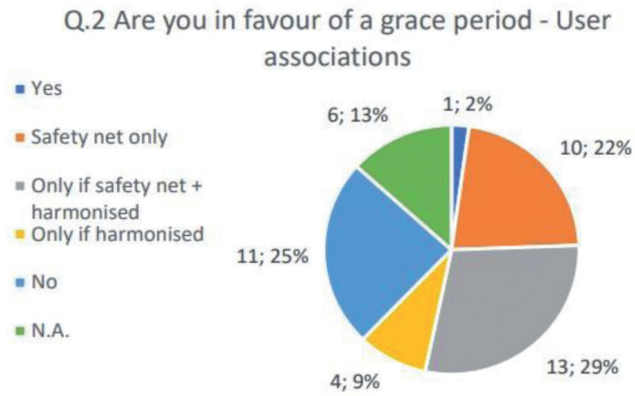

Fig. 3. Answers to the second question: Are you in favour of grace period? – user associations[12]

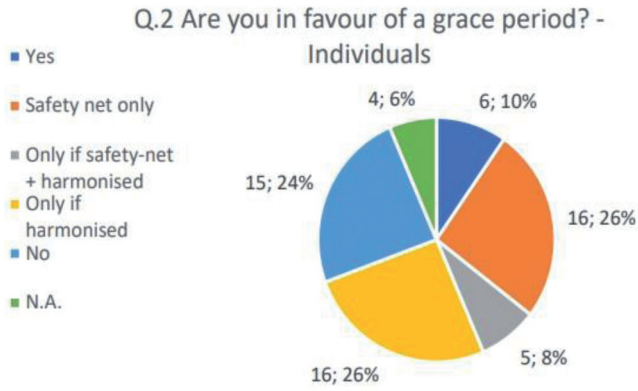

Fig. 4. Answers to the second question: Are you in favour of grace period? – individuals[13]

Public consultations did not give clear answers to all the questions and revealed that finding a consensus in the case of a grace period may be problematic. It occurred, however, to be an impulse to other actions. In 2023, members of Group B+ thoroughly analysed the outcome of the consultations, making an

11 European Common Consultation on SPLH 2022 Part I Consolidated Report, pp. 13–14, https://link.epo.org/web/european_common_consultation_on_SPLH_2022_part_I_consolidated_report.pdf, accessed 3 September 2024.

12 Ibidem.

13 Ibidem.

attempt to find similarities in the ways of perceiving this notion. Although, initially, there was a considerable protest against changing the assumptions of a grace period, currently stakeholders seem to accept the inevitability of alterations in this regard. The works on a final proposal are still under discussion.

Unfortunately, Group B+ is not involved considerably in works of challenges which new technologies may impose on the patent law system. A subgroup focused on standard essential patents (SEPs) is about to be created. Nevertheless, it has not presented any concrete results of its works yet.

Free Trade Agreements (FTAs)

A free trade agreement is, according to international law, an agreement between two or more countries whereby the countries agree on certain obligations that affect trade in goods and services as well as protect investors. Two types of trade agreements can be distinguished: bilateral and multilateral. Bilateral trade agreements refer to the situation when two countries decide to expand business possibilities by loosening trade restrictions. Multilateral trade agreements, in turn, are agreements concluded among three and more entities. Due to a number of parties, they are perceived as more complex and difficult to negotiate.

A crucial component of the majority of free trade agreements refers to provisions regulating intellectual property. Sometimes the provisions are highly detailed. Another time, they are only generally mentioned. Each time, however, their meaning has a direct and significant impact on innovation policy, trade, investment, and competition policies. The table below depicts the most important free trade agreements and economic alliances. It gives a clear hint on the largest economic blocs which support each other in terms of innovation, the development of technology or commercialisation of intellectual property rights. It also shows what kinds of decisions may be made in the foreseeable future as regards the most controversial issues referring to the substantive patent law harmonisation.

The most important free trade agreements which have certain provisions referring to intellectual property rights are RCEP, TTP, TTIP, CPTPP and UMSCA. It is also advisable to refer to the most influential economic bloc, namely BRICS. The table below presents the concise information as regards the FTAs and the economic bloc mentioned.

Tab. 2. Free Trade Agreements and economic blocs

FTA/economic bloc	The year of signing	Member states	Remarks
RCEP (Regional Comprehensive Economic Partnership)[a)]	2021	Australia, Brunei, Cambodia, China, Indonesia, Japan, Laos, Malaysia, Mjanma, New Zealand, Philippines, Singapore, South Korea, Thailand, Vietnam	
BRICS (economic bloc)[b)]	2009	Brazil, Russia, India, China, South Africa, Saudi Arabia, United Arab Emirates, Iran	
TTP (Trans-Pacific Partnership)[c)]	2015	Australia, Brunei, Canada, Chile, Japan, Malaysia, Mexico, New Zealand, Peru, Singapore, the United States, Vietnam	intellectual property recognised as controversial; USA till 2017
TTIP (Transatlantic Trade and Investment Partnership)[d)]	negotiations initiated in 2013r. – currently suspended	free trade area between the United States and the EU	intellectual property recognised as controversial
CPTPP (Comprehensive and Progressive Agreement for Trans-Pacific Partnership)[e)]	2018	a new form of TTP (after the withdrawal of the United States)	the United Kingdom till 2023
USMCA (United States-Mexico-Canada Agreement)[f)]	2020	the United States, Mexico, Canada	a new form of NAFTA (North American Free Trade Agreement)

a) PISM, Signing of the world's largest free trade agreement, https://pism.pl/publikacje/Podpisanie_RCEP___najwiekszej_na_swiecie_umowy_o_wolnym_handlu, accessed 3 September 2024.

b) Wikipedia, BRICS, https://en.wikipedia.org/wiki/BRICS, accessed 3 September 2024.

c) Office of the United States Trade Representative, Overview of TPP, https://ustr.gov/tpp/overview-of-the-TPP, accessed 3 September 2024.

d) EU-US Transatlantic Trade and Investment Partnership, Detailed appraisal of the European Commission's Impact Assessment, https://www.europarl.europa.eu/RegData/etudes/etudes/join/2014/528798/IPOL-JOIN_ET%282014%29528798_EN.pdf, accessed 3 September 2024.

e) Australian Department of Foreign Affairs and Trade, Comprehensive and Progressive Agreement for Trans-Pacific Partnership (CPTPP), https://www.dfat.gov.au/trade/agreements/in-force/cptpp/comprehensive-and-progressive-agreement-for-trans-pacific-partnership, accessed 3 September 2024.

f) Office of the United States Trade Representative, United States-Mexico-Canada Agreement, https://ustr.gov/trade-agreements/free-trade-agreements/united-states-mexico-canada-agreement, accessed 3 September 2024.

In the Intellectual Property Chapter of RCEP intellectual property rights were depicted as a measure to reduce barriers in trade and investment.[14] This Chapter provides for the protection of intellectual property rights beyond the level of the WTO Agreement on Trade-Related Aspects of Intellectual Property Rights (TRIPS Agreement), including provisions related to technological protection measures and enforcement in the digital environment.[15] In order to support intellectual property right owners, the Chapter includes provisions to streamline and align procedures for the establishment of specific intellectual property rights in terms of electronic filing of applications and making relevant information available online.[16] The Chapter confirms as well the right to fully use the flexibilities as recognised in the Doha Declaration on the TRIPS Agreement and Public Health, and also includes legal provisions referring to Genetic Resources, Traditional Knowledge, and Folklore.

The Intellectual Property chapter of TTP defines a robust standard for patentability, consistent with international norms drawn from the WTO Agreement on Trade-Related Aspects of Intellectual Property Rights (TRIPS) as well as other international best practices, including relevant exclusions. The parties of TTP also agree to adopt the best practice of allowing a grace period in which certain public disclosures of the invention will not be used to deny a patent application.[17] This includes commitments to promote not only the development of innovative drugs and treatments, but also generic medicine markets. The Chapter incorporates the Doha Declaration on the TRIPS Agreement and Public Health. It also embraces commitments as regards protection of undisclosed tests and other data generated to obtain marketing approval of pharmaceuticals and agricultural chemicals.

TTIP recalled established practices on patent procedures and patentability criteria including secondary use or incremental innovation. It assumes the interference of regulatory entities and provisional protection applications

14 Summary of the RCEP Agreement, https://asean.org/wp-content/uploads/2020/11/Summary-of-the-RCEP-Agreement.pdf, accessed 11 December 2024.

15 China National Intellectual Property Administration, https://english.cnipa.gov.cn/art/2023/2/1/art_2975_181962.html, accessed 11 December 2024.

16 Intellectual Property as Regulations of The Regional Comprehensive Economic Partnership Agreement (RCEP) and Implementation Prospect for Vietnam, https://www.lexology.com/library/detail.aspx?g=3f9efa11-d26f-4402-b51b-99cfb2640afa, accessed 11 December 2024.

17 United States Trade Representative, TTP made in America, https://ustr.gov/sites/default/files/TPP-Chapter-Summary-Intellectual-Property.pdf, accessed 11 December 2024.

in terms of patents. It must be highlighted that the worries concerning the wording of the agreement do not derive only from the TTIP section on intellectual property strictly speaking, but from another chapter of the agreement – the one concerning investment protection. TTIP suggested a framework to protect investments, the enforcement of which refers to a dispute settlement mechanism between states and investors through international arbitration (the procedure called the "Investor-State Dispute Settlement," "ISDS").[18] The agreement was criticised for a lack of transparency in discussions as well as perceived by critics as having had a similar effect in terms of intellectual property and user privacy as the EU-rejected Anti-Counterfeiting Trade Agreement (ACTA).

The CPTPP's patent provisions referring to pharmaceutical products included a term of protection for biologics (such as certain vaccines and other products from living organisms – the United States pushed for twelve-year protection in the TPP but settled for eight). What is more, it assumes as well the protection for new uses, methods, or processes of making a product and the patentability of inventions derived from plants. The IP provisions also include the lengthened terms of protection in cases of unreasonable delays in granting patent or marketing approval. As regards the protection of undisclosed tests or other data, civil and criminal penalties are specified for violations.[19] CPTPP is about to maintain a system that enables pharmaceutical patent owners to be notified that a generic version of their product has been submitted for approval to enter a specific market, and ensures there is sufficient time and opportunity for a patent holder to seek preliminary injunctions to resolve patent disputes before a generic version of its patented medicine enters the market. As a consequence of the agreement, New Zealand has adopted a 12-month "grace period" for patent applicants.[20]

USMCA provisions referring to intellectual property define patentable subject matter as new products and processes. Patent protection for new uses,

18 Christophe Geiger, "The TTIP and Its Investment Protection: Will the EU Still Be Able to Regulate Intellectual Property?," *International Review of Intellectual Property and Competition Law (IIC)*, vol. 49, no. 6 (2018): 631–635. Center for International Intellectual Property Studies (CEIPI) Research Paper No. 2018-08.

19 Center for strategic and international studies: The CPTPP and Intellectual Property Rights Protection, https://www.csis.org/analysis/cptpp-and-intellectual-property-rights-protection, accessed 11 December 2024.

20 New Zealand Ministry of Foreign Affairs and Trade, Intellectual Property, https://www.mfat.govt.nz/en/trade/free-trade-agreements/free-trade-agreements-in-force/cptpp/understanding-cptpp/intellectual-property, accessed 11 December 2024.

methods, or processes of a known product were included in the USMCA, but were removed by the amendment. USMCA requires adjustments of patent terms for *unreasonable delays* in the patent examination or regulatory approval processes. *Unreasonable delays* involve a delay of more than five years from the date of filing or three years after a request for examination of an application, whichever is later. USMCA assumes a notification system and procedures (e.g., judicial or administrative proceedings) to assert patent rights or to challenge a patent's validity.[21]

Following the analysis of the data, a tendency to create legal provisions concerning intellectual property rights consistent with TRIPS is evident. However, it may be assumed that some legal frameworks go beyond the TRIPS Agreement. This may be treated as a sign confirming the statement that currently FTAs are a platform to form independent, more economic-oriented IP provisions which rest on territorial expectations and requirements of only a limited number of parties.

A position of China should be scrutinised, since the country has strengthened its identity globally, also as regards their perspective on intellectual property rights. China is not, however, involved in the works on the substantive patent law harmonisation, which should be perceived as a considerable drawback of the whole process. In China, similarly as in Europe, the duration of the grace period is six months. It can be also used in similar circumstances. However, contrary to the provisions of the European Patent Convention, non-prejudicial disclosures in China are acceptable in terms of public interest during the state of emergency or an extraordinary situation occurred in the country, as well. Another justified usage concerns scientific and technical conferences.[22]

The second remark relates to the agreements which were signed by the United States or were about to be signed on their own initiative. These agreements may be perceived as problematic in terms of intellectual property. It was impossible for all stakeholders to find a consensus which would reflect balanced and fully acceptable solutions. It is worth mentioning that the United States, similarly as China, have not been involved in the process of substantive patent

21 CRS Reports: USMCA: Intellectual Property Rights (IPR), https://crsreports.congress.gov/product/pdf/IF/IF11314/3, accessed 11 December 2024.

22 WIPO, Grace period, https://www.wipo.int/export/sites/www/scp/en/meetings/session_33/comments_received/china.pdf, accessed 12 December 2024.

law harmonisation. Taking into account discrepancies between American and European provisions in patent law, it may contribute to evident difficulties in accepting final legal frameworks for the harmonised patent law system.

Patent Law at the European Union Level

At present, it is possible to observe a number of legislative initiatives at the EU level, the aim of which is to unify the patent law system. In November 2020, the European Commission published the IP Action Plan – An intellectual property action plan to support the EU's recovery and resilience.[23] It assumed the improvement of the protection of intellectual property, boosting the uptake of IP by small and medium enterprises, fighting against counterfeiting, and promoting a global level playing field.[24] Additionally, the role of the IP Action Plan was to strengthen the importance of intangible assets in times of crisis caused by the coronavirus pandemic as well as to ease the transition into digital transformation and the European Green Deal.

It was claimed in the document that although there were visible considerable improvements in the IP policy, the intellectual property system of the European Union was fragmented and legal procedures seemed to be too complex, imprecise and expensive. It was added that clear and simple answers were needed to numerous questions referring to the ways in which inventions created by artificial intelligence systems or with their use should have been protected as well as of how to take advantage of the full potential of new technologies in the process of creating inventions in order to foster the enforcement of intellectual property rights.[25] The European Commission indicated five major objectives which should have been accomplished, namely:

23 Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions making the most of the EU's innovative potential. An intellectual property action plan to support the EU's recovery and resilience COM(2020)760.

24 EC Press release: Commission, adopts Action Plan on Intellectual Property to strengthen EU's economic resilience and recovery, https://ec.europa.eu/commission/presscorner/detail/en/ip_20_2187, accessed 3 September 2024.

25 Trends and developments in Artificial Intelligence – Challenges to the IPR framework – the research conducted by IVIR and JIPP, November 2020.

- to upgrade the system for IP protection;
- to incentivise the use and deployment of IP, notably by SMEs;
- to facilitate access to and sharing of intangible assets while guaranteeing a fair return on investment;
- to ensure better IP enforcement; and
- to improve fair play at global level.[26]

The IP Action Plan also indicated the bases of the upcoming legislative initiatives. The first one referred to the acceleration of the start of the functioning of the Unified Patent Court, since it was envisaged that the centralised litigation before the Court would improve legal certainty and help avoid parallel proceedings in multiple member states, considerably reducing litigation costs. Closely linked to patents was also the second initiative, which assumed the creation of a unified system of supplementary protection certificates (SPCs) in order to avoid suffering from fragmented implementation across member states and to make it more transparent and efficient and, as a consequence, to improve the situation of innovators and generic producers. The next one was associated with standard essential patents (SEPs). It was claimed that it was crucial to have stable, efficient and fair rules governing the licensing of SEPs, as some businesses found it difficult to agree on SEP licensing.[27] This frequently led to disputes, in which patent holders claimed that their SEP had been infringed, while the other party complained that the patent holder had imposed unfair conditions on a licensing agreement. The European Commission saw as well the need to ensure that effective systems for issuing compulsory licenses were available as a means of last resort and as a safety net when all other efforts to make IP accessible had failed.[28] It was also announced that the Commission would continue to seek ambitious intellectual property assumptions with high standards of protection, to ensure a level playing field for EU businesses and to boost economic growth.

26 IP Action Plan, 6.

27 Commission communication – Setting out the EU approach to Standard Essential Patents, COM(2017) 712 final, 29 November 2017.

28 Rudi Bekkers, Joachim Henkel, Enrique Mas Tur, Tim van der Vorst, Marcel Driesse, Byung-Cheol Kang, Arianna Martinelli, Wilma Maas, et al., *Pilot Study for Essentiality Assessment of Standard Essential Patents*, ed. Nils Thumm, EUR 30111 EN (Luxembourg: Publications Office of the European Union, 2020), 100–110.

The EU is the second largest market in the world for pharmaceuticals.[29] These products are strongly correlated with patent law. On 25 November 2020 the Pharmaceutical Strategy for Europe was adopted. It aimed at creating a future proof regulatory framework and supporting the industry in promoting research and technologies.[30] As a consequence of strategic guidelines of the document, on 26 April 2023 the European Commission adopted a proposal for a new directive and a new regulation the role of which is to revise and replace the existing pharmaceutical legislation at the EU level. Their scope embraces SPC and Bolar exemption.

The Unified Patent Court and Unitary Patent

In order to pursue a unification of the patent law system at the EU level, the establishment of the Unified Patent Court (UPC) as well as the introduction of the European patent with unitary effect were significant steps. The Unified Patent Court and the system of a unitary patent initiated the functioning on 1 June 2023 when the Agreement on a Unified Patent Court (UPCA)[31] entered into force. Under the UPCA, the UPC is a European court set up to decide on the infringement and validity of unitary patents and conventional European patents that have been validated in the countries where the Agreement will apply. The agreement is open for any member state to join. The UPCA applies to:

- European patents with unitary effect;
- supplementary protection certificates issued for products protected by a European patent;
- European patents without unitary effect;
- European patent applications that are pending on the date of application of this Agreement or that are filed after that date.[32]

29 Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions Pharmaceutical Strategy for Europe COM 2020 761 final, 3.

30 European Commission, A pharmaceutical strategy for Europe, https://health.ec.europa.eu/medicinal-products/pharmaceutical-strategy-europe_en, accessed 12 December 2024.

31 Agreement on a Unified Patent Court, OJ C 175, 20 June 2013.

32 European Commission, Unified Patent Court Agreement, https://eur-lex.europa.eu/EN/legal-content/summary/unified-patent-court-agreement.html, accessed 3 September 2024.

The UPC is a court common to currently 18 EU Member States in which the UPCA is legally binding. However, the exclusive jurisdiction regarding conventional European patents is subject to exceptions during a transitional period of seven years. This transitional period came into effect once the agreement had been applied. This may be extended for a further seven years by a decision made by the Administrative Committee. During this transitional period an action for infringement or for revocation of a European patent may still be brought before a national court or other competent national authority. This does not apply to a European patent with unitary effect. What is more, an action for infringement or for declaration of invalidity of a supplementary protection certificate, issued for a product protected by a European patent, may also be brought before a national court or other competent national authority. Additionally, the holder of, or applicant for, a European patent or the holder of a supplementary protection certificate may opt out from the exclusive powers of the UPC, by notifying their opt-out to the Registry at the latest one month before the end of the transitional period. During this period, actions concerning conventional European patents may still be brought before national courts or other competent national authorities. Furthermore, conventional European patents can be opted out entirely from the UPC's jurisdiction.[33]

The functioning of the Unified Patent Court and a European patent with a unitary effect is based on three main documents, namely:

- the Agreement on a Unified Patent Court (UPCA);
- Regulation (EU) No 1257/2012 of the European Parliament and of the Council of 17 December 2012 implementing enhanced cooperation in the area of the creation of unitary patent protection;[34]
- Council Regulation (EU) No 1260/2012 of 17 December 2012 implementing enhanced cooperation in the area of the creation of unitary patent protection with regard to the applicable translation arrangements.[35]

33 Unified Patent Court, Presentation, https://www.unified-patent-court.org/en/court/presentation, accessed 3 September 2024.

34 Regulation (EU) No 1257/2012 of the European Parliament and of the Council of 17 December 2012 implementing enhanced cooperation in the area of the creation of unitary patent protection, OJ L 361, 31 December 2012.

35 Council Regulation (EU) No 1260/2012 of 17 December 2012 implementing enhanced cooperation in the area of the creation of unitary patent protection with regard to the applicable translation arrangements, OJ L 361, 31 December 2012.

The Unified Patent Court consists of a Court of First Instance, a Court of Appeal and a Registry. The Court of First Instance has central, regional and local divisions. The central division is based in Paris with sections in Munich and Milan. The Court of Appeal is based in Luxembourg along with the Registry. The UPC has a dedicated Patent Mediation and Arbitration Centre, seated in Lisbon and Ljubljana. The Centre offers support in the settlement of disputes as regards conventional European patents and unitary patents.

The UPC will have exclusive powers over a number of issues in the participating member states, which include actions for:

- actual or threatened infringements of European patents and supplementary protection certificates and related defences, including counterclaims concerning licences;
- provisional and protective measures and injunctions;
- revocation of European patents; and
- declaration of invalidity of supplementary protection certificates.

The Court is composed of judges from the whole Europe. The panels consist of legally as well as technically qualified judges with expertise in patent litigation. They are appointed by the Administrative Committee. It is claimed that no judge may hold any other occupation regardless of the fact whether it is paid or unpaid. They may, however, hold judicial functions at the national level.

Under Article 83(3) of UPCA, applicants for and proprietors of a conventional European patent and holders of SPC issued for a product protected by a conventional European patent can opt out their application, patent or SPC from the exclusive competence of the Court. Consequently, the UPC will have no jurisdiction regarding any litigation related to the application, patent or SPC.[36]

Patents in Europe have either been granted nationally or by the EPO. If a European patent is to be effective in a member state, the patent holder must request validation in each designated country where patent protection is sought. These patents may be associated with high costs concerning translation and annual renewal fees. The process seems to be even more costly as validation requirements differ between countries. The costs can be considerable and

36 Unified Patent Court, Opt-out https://www.unified-patent-court.org/en/registry/opt-out, accessed 3 September 2024.

depend on the number of countries where the patent proprietor is willing to validate the European patent.[37]

European patents with unitary effect remove the need for complex and costly national validation procedures. The EPO, which is in charge of the process of granting these patents, allows a simple registration of a unitary patent.

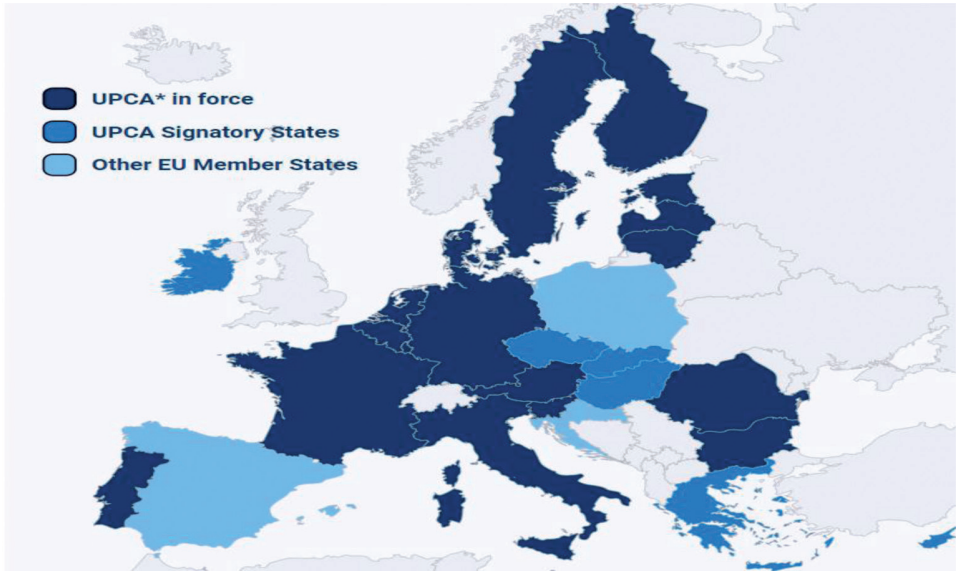

Fig. 5. UPC Member States[38]

As the above map clearly shows, Poland is not part of the unitary patent system, although this possibility was not completely excluded at the very beginning of the creation of the new system. Indeed, Poland signed the Regulation (EU) No 1257/2012 of the European Parliament and of the Council of 17 December 2012 implementing enhanced cooperation in the area of the creation of unitary patent protection, thus leaving itself an open door to join the system in the future, most likely when the attitude towards the system changes.[39] Despite Poland's failure

37 EPO, Unitary patent, https://www.epo.org/en/applying/european/unitary/unitary-patent, accessed 3 September 2024.

38 Unified Patent Court, UPC Member States, https://www.unified-patent-court.org/en/organisation/upc-member-states, accessed 3 September 2024.

39 Negative opinions towards the unitary patent system were voiced, *inter alia*, by prof. Aurelia Nowicka and prof. Ryszard Skubisz, https://www.rzecznikpatentowy.org.pl/nie_

to join the unitary system, applicants from Poland can take advantage of it, as it is also available to countries where the system is not in force.

Legislative Initiatives in Detail

As the continuation of the IP Action Plan, the European Commission released in April 2023 regulation proposals on supplementary protection certificates, compulsory licensing and standard essential patents, which are called a patent package. In sum, the European Commission prepared six draft regulations, four referring to SPCs, one embracing the provisions of compulsory licensing and one encompassing the issue of SEPs.

Supplementary protection certificates (SPCs) are intellectual property rights that serve as an extension to a patent right. SPCs apply to specific pharmaceutical and plant protection products that have been authorised by regulatory authorities. Supplementary Protection Certificate can extend a patent right for a maximum of five years. According to Regulation (EC) No 1901/2006, the extension of additional six months is available if the SPC concerns a medicinal product for children for which data has been submitted according to a Paediatric Investigation Plan (PIP). The extension is the compensation for additional clinical trials and testing that are required by PIPs. This reform will replace the existing SPC regulation by new ones – for medicinal products and plant protection products.[40] The current national procedure will be included. Additionally, a new centralised procedure for the granting of national SPCs will be introduced. It will be available where the basic patent is a European patent and products have market authorisation. Two other proposals relate to the creation of unitary SPCs for medicinal products and plant protection products.[41] It

dla_pat_jed/eps_2013_04_012.pdf, accessed 3 September 2024; https://prawo.gazetaprawna.pl/artykuly/751474,pakiet-patentowy-jest-niekorzystny-dla-polski.html, accessed 3 September 2024.

40 Proposal for a regulation of the European Parliament and of the Council on the supplementary protection certificate for medicinal products COM(2023)231; Proposal for a regulation of the European Parliament and of the Council on the supplementary protection certificate for plant protection products COM(2023)223.

41 Proposal for a regulation of the European Parliament and of the Council on the unitary supplementary certificate for medicinal products COM(2023)222; Proposal for a regulation of the European Parliament and of the Council on the unitary supplementary protection certificate for plant protection products COM(2023)221.

applies when a basic patent has a unitary effect and is granted on the basis of the same centralised procedure. What is more, filing a single "combined application," resulting in the granting of a unitary SPC and of national SPCs for additional member states will be possible.[42] Regarding the wording of proposals, the European Union Intellectual Property Office (EUIPO) will implement the new centralised procedure. National examiners, experienced in SPC matters, will be also engaged in the process. Both proposals, the one referring to medicines and the other concerning plant protection products, are under work in the inter-institutional negotiations of the EU bodies.

The introduction of compulsory licensing for crisis management is intended to create an effective EU-level framework capable of responding to crises across the Union. Compulsory licensing can help provide access to key products and technologies when voluntary agreements would not be available or adequate, for example since it would not allow timely delivery of products in need in times of crisis. Nowadays, a mosaic of 27 national compulsory licensing regimes exists. An efficient EU compulsory licensing regime will:

- serve as an alternative in crises when voluntary agreements do not work;
- ensure an appropriate territorial reach of compulsory licensing to cover cross-border supply chains;
- build on EU crisis mechanisms.[43]

This compulsory license regime will be closely associated with EU crisis instruments, such as the proposal for the establishment of a Single Market Emergency Instrument (SMEI), Regulation (EU) No 2022/2371 under which the Commission may recognise a public health emergency at Union level, and the framework of measures for ensuring the supply of crisis-relevant medical countermeasures under Regulation (EU) No 2022/2372. A compulsory licence is granted only in the event of an EU crisis instrument.[44]

42 European Commission, Supplementary protection certificates for pharmaceutical and plant protection products, https://single-market-economy.ec.europa.eu/industry/strategy/intellectual-property/patent-protection-eu/supplementary-protection-certificates-pharmaceutical-and-plant-protection-products_en, accessed 3 September 2024.

43 European Commission, Compulsory licensing, https://single-market-economy.ec.europa.eu/industry/strategy/intellectual-property/patent-protection-eu/compulsory-licensing_en, accessed 3 September 2024.

44 Proposal for a regulation of the European Parliament and of the Council on compulsory licensing for crisis management and amending Regulation (EC) 816/2006 COM(2023)224.

The Commission presented the proposal to the Council's Working Party on Intellectual Property on 31 May 2023. The Council adopted its negotiating mandate in June 2024. While comparing the Commission's proposal with the Council's suggestions, significant changes are visible. The Council proposed, inter alia, to narrow the scope of the Regulation by reducing the number of legal instruments that can trigger compulsory licensing from five to three, put emphasis on the priority of voluntary agreements and the last resort nature of compulsory licences, engage advisory and lower the maximum fines and penalties.[45] The Council and European Parliament reached a provisional agreement in May 2025.

A standard essential patent (SEP) is a patent that protects an invention essential to the implementation of a particular technology standard. These standards help to ensure safety, interoperability and compatibility of different products and services made available by numerous business entities. SEPs play a crucial role in the development of 5G and the Internet of Things (IoT). There are mainly various SEPs that correspond to a particular standard. Some products may count only on parts of a standard to carry out a certain function whereas others may rely on multiple standards at once. It mainly applies to information and communication technologies (ICT), where a great need for interoperability is visible. In the functioning of SEPs, standardisation organisations (SOs), which are also called SSOs (standard setting organisations) or SDOs (standard developing organisations) play a crucial role. They are responsible for developing and establishing technology standards. When patent owners contribute with their protected technical solutions to a standard, they can license their relevant patents to implementers. It may mean a commitment to license openly under royalty-free terms or, more commonly, under Fair, Reasonable and Non-Discriminatory (FRAND) terms. When a technology standard is adopted, SEP owners become liable to license their SEPs to implementers in accordance with FRAND terms.[46]

45 European Parliament, Legislative Train Schedule, Proposal for a regulation on compulsory licensing for crisis management and amending Regulation (EC) 816/2006, https://www.europarl.europa.eu/legislative-train/theme-a-europe-fit-for-the-digital-age/file-compulsory-licensing-of-patents-for-crisis-management, accessed 27 June 2025.

46 WIPO, Standard essential patents, https://www.wipo.int/web/patents/topics/sep, accessed 3 September 2024.

The SEP reform strived for a global standard for SEP transparency highlighting two main objectives:

- to ensure that both EU SEP owners and implementers innovate in the EU, make and sell products in the EU and are competitive in non-EU markets;
- to ensure that end users, including SMEs and consumers, benefit from products based on the latest standardised technologies at reasonable prices.[47]

The aim of this legislative initiative was to motivate European businesses to participate in the standard development process and the broad implementation of standardised technologies.[48]

The proposal assumed that the Competence Centre at European Union Intellectual Property Office (EUIPO) will be established. The role of the Centre was to administer the registry, essentiality checks, FRAND determination, and SME support services. Moreover, an obligatory register where SEP holders record their SEPs, providing details on patent and standard was to be created. Furthermore, the FRAND determination were indicated. Additionally, SEP holders as well as implementers were planned to have a chance to inform the Competence Centre about the expected maximum aggregate royalty. As a matter of choice, they were expected to ask a conciliator to recommend a non-binding aggregate royalty. Lastly, free advisory services were proposed to be available. Reduced fees for registration of SEPs, essentiality checks and access to the SEP register were planned to be offered.

The proposal was presented by the Commission and a first exchange of views took place in May 2023. On 20 May 2025, a note from Germany, Czechia, France, Hungary, Italy, Latvia, Portugal, Slovakia and Spain emphasised the need to continue discussions on the proposal. Eventually, the Commission withdrew the proposal in 2025 work programme.[49]

In its pharmaceutical strategy adopted in November 2020, the European Commission announced that it would launch several legislative and non-legislative

47 Proposal for a regulation of the European Parliament and of the Council on standard essential patents and amending Regulation (EU) 2017/1001 COM(2023)232.

48 European Commission, Standard essential patents, https://single-market-economy.ec.europa.eu/industry/strategy/intellectual-property/patent-protection-eu/standard-essential-patents_en, accessed 3 September 2024.

49 European Parliament, Legislative Train Schedule, Standard essential patents (SEP) regulation, https://www.europarl.europa.eu/legislative-train/spotlight-JD22/file-patent-licensing-package-1, accessed 27 June 2025.

actions. These include a revision of the key pharmaceutical legislation, namely Directive 2001/83/EC and Regulation (EC) No 726/2004.

On 26 April 2023, the Commission published a pharmaceutical package to revise the EU's pharmaceutical legislation and make medicines more available and affordable while supporting competitiveness and attractiveness of the EU pharmaceutical industry. The package embraces proposals for a new directive[50] and a new regulation,[51] which replace the existing pharmaceutical legislation and include the legislation on medicines for children and for rare diseases, a communication and a Council recommendation to enforce the fight against antimicrobial resistance (AMR).

The proposed legal provisions will impact certain notions of patent law, such as SPCs and Bolar exemption. It is well known that SPCs influence the effect of regulatory protection periods provided by the pharmaceutical legislation and therefore the entry of generic and biosimilar medicinal products. Consequently, they have an influence on patients' access to medicinal products and affordability. The Bolar exemption is planned to be broadened in scope and its harmonised application in all Member States ensured. Furthermore, as a main objective of the EU pharmaceutical package is to strengthen the harmonisation of legal framework related to pharmaceutical industry, this legal initiative, due to its references to intellectual property law, may be also analysed in terms of the harmonisation of patent law system at the EU level. Interinstitutional negotiations have been initiated recently.

50 Proposal for a Directive of the European Parliament and of the Council on the Union code relating to medicinal products for human use, and repealing Directive 2001/83/EC and Directive 2009/35/EC COM 2023 192 final.

51 Proposal for Regulation of the European Parliament and of the Council laying down Union procedures for the authorisation and supervision of medicinal products for human use and establishing rules governing the European Medicines Agency, amending Regulation (EC) No 1394/2007 and Regulation (EU) No 536/2014 and repealing Regulation (EC) No 726/2004, Regulation (EC) No 141/2000 and Regulation (EC) No 1901/2006 COM 2023 193 final.

The Harmonisation of Patent Law and Artificial Intelligence Systems

The last two decades may be termed as a rapid revolution of technologies that are transforming how people live and function in an interconnected digital world. The occurrence of new technologies is at the heart of the Fourth Industrial Revolution, also called Industry 4.0. New technologies are changing the way in which specific outputs are invented. They also have a considerable impact on the way in which legal provisions concerning these technologies are formulated. The technology which currently is of high interest is artificial intelligence.

In addition to the initiatives outlined, as a consequence of the development of artificial intelligence systems, there are growing questions about revising the concept of inventor and calling an artificial intelligence system an inventor. Moreover, doubts whether it is possible for an AI system to own a patent have occurred. They impact, though indirectly, the process of the patent law harmonisation, as well since they may become future notions being under discussion globally in terms of searching for their international standardised forms.

The debate on whether an artificial intelligence system could be an inventor is still making the headlines. Parallel applications submitted to patent offices around the world naming a machine, an AI system – the Device and Method for the Autonomous Bootstrapping of Unified Sentience (DABUS), as the sole inventor have not met with success, leading to appeals in several courts.[52] Stephen Thaler, the member of the AI Inventor Project led by prof. Ryan Abbott,[53] created and operated DABUS and is the owner of the machine and the copyright owner of the source code. If Thaler had named himself as an inventor, there would have been no problems with the application. However, he chose to name DABUS as the inventor in the patent applications for two inventions, described as follows:

52 Kaitlyn Taylor, "The Patentability of Inventions with Artificial Intelligence Listed as an Inventor Following Thaler v Hirshfeld," *The University of Cincinnati Intellectual Property and Computer Law Journal*, vol. 6, no. 2 (2022): 2–3.

53 The Artificial Inventor Project, https://artificialinventor.com/, accessed 3 September 2024.

I. a light beacon that flashes in a new and inventive manner to attract attention ("Neural Flame");[54]

II. a beverage container based on fractal geometry ("Fractal Container").[55]

Instead of a natural person, Thaler had identified DABUS as the sole inventor based on the fact that the claimed inventions were conceived and autonomously created by the artificial intelligence system. It was stressed that it was DABUS, rather than any other person, that recognised the salience and novelty of the invention. The applications were rejected for failure to comply with the requirement to indicate a "natural person" as the inventor. So far, all countries where DABUS applications have been filed have declined to grant the patent, except for South Africa[56] and, conditionally, Australia.[57] The patent law in South Africa does not require a substantive pre-grant patent examination procedure to evaluate the patentability of the invention described in the application. As a result, an AI system could be claimed an inventor. In Australia, the possibility of such a patent being issued remains an option. The court stated that an artificial intelligence system can be listed as an inventor under Australia's patent law because the term "inventor" is not defined within the statute, and as a consequence, the requirement is not limited to humans and could potentially include AI.[58] It is, however, worth mentioning that works on new patent law are in progress in Brazil, where it was claimed that an AI system could be an inventor. Other jurisdictions have not accepted such a straightforward approach. It may be, though, only a matter of time.

The DABUS case opened the floor to a number of questions and legal doubts, such as those related to inventorship, ownership as well as transparency of artificial intelligence systems and trade secrets, which will be scrutinised subsequently.

54 USPTO Application No. 16/524350 (29 July 2019). See also UKIPO Application GB1818161.0.

55 USPTO Application No. 16/524532 (29 July 2019). See also UKIPO Application GB18116909.4.

56 Pretz, A first: AI system named inventor, https://spectrum.ieee.org/first-time-ai-named-inventor, accessed 3 September 2024.

57 Karpan, 2 Wins for AI-Made Inventions May Be Just the Beginning (5 August 2021), https://www.law360.com/articles/1410414/2-wins-for-ai-made-inventions-may-be-just-the-beginning, accessed 3 September 2024.

58 Thaler v. Commissioner of Patents [2021] FCA 879.

The primary argument that artificial intelligence systems should be able to be named inventors in the cases when an AI system created an invention or substantially participated in its creation is to protect the rights of human inventors. It is indicated that allowing a human to be named an inventor of an object created by AI systems would allow people to take credit for work that they did not actually do, and thus could lead to a complete devaluation of human innovation.[59]

Regarding the issue of who is entitled to a patent, it is stressed that it is much more important to know who owns intellectual property rights arising from innovations created by artificial intelligence systems, regardless of who is declared as an inventor in a patent application. This is because an inventor does not necessarily own a patent. It can be the same person, and sometimes it is, but it is not necessarily the case. Therefore, it is suggested that artificial intelligence systems could be listed as inventors without owning a patent.[60]

Intellectual property law and its relationship to artificial intelligence should be considered in relation to various aspects of data protection and privacy law. However, the nature of AI systems as a black box makes it difficult to accurately disclose an invention, so that an invention created by artificial intelligence systems may never become a part of the public domain. According to Article 83 of the European Patent Convention,[61] which refers to the disclosure of an invention, the disclosure must allow a person skilled in the art to carry out the invention, which means that AI systems should exhibit characteristics such as transparency, explainability and traceability. A similar requirement may be found in Article 13 of the Artificial Intelligence Act (AIA).[62]

A tendency to protect innovative inventions in the form of trade secrets rather than choosing a patent protection is visible. This is argued on the grounds that patents describe technology in detail, and when patent applications are

59 Gaétan de Rassenfosse, Adam B. Jaffe, Manuel F. Wasserman, "AI-Generated Inventions: Implications for the Patent System," *Southern California Law Review* (2023), https://papers.ssrn.com/sol3/papers.cfm?abstract_id=4434054, accessed 3 September 2024.

60 Ryan Abbott, "Everything Is Obvious," *UCLA Law Review 2*, vol. 66, no. 2 (2018): 20.

61 Art. 83 of the European Patent Convention.

62 Art. 13 of the Regulation (EU) 2024/1689 of the European Parliament and of the Council of 13 June 2024 laying down harmonised rules on artificial intelligence and amending Regulations (EC) No 300/2008, (EU) No 167/2013, (EU) No 168/2013, (EU) 2018/858, (EU) 2018/1139 and (EU) 2019/2144 and Directives 2014/90/EU, (EU) 2016/797 and (EU) 2020/1828 (Artificial Intelligence Act), OJ L, 2024/1689, 12 July 2024.

published, all details of a technology are available to the public, regardless of whether a patent is finally granted. Trade secrets, on the other hand, ensure the confidentiality of information.[63] What is more, the cost of patent protection may discourage some companies, whereas if one chooses trade secrets, seeking legal protection is not necessary.

As shown above, the development of new technologies undoubtedly creates new legal challenges. Currently, it seems rather impossible to undermine provisions of patent law and its fundamental changes to the concept of inventor and granting him a patent. Policy makers try to take full advantage of the flexibility of the patent law and adapt it to the rapidly changing technological environment. It does not, however, completely eliminate the scenario that in the foreseeable future provisions of the current patent law will need to be changed as a result of the improvement of new technologies. This may affect as well all initiatives which are intended to harmonise the system of patent law. However, for the time being, no legal initiatives on harmonising patent law as a consequence of the emergence of new technologies have begun.

Conclusions

All of the initiatives presented, whether at the EU and regional level or globally, seek to unify patent law. It seems, however, to be clear that they focus on different aspects of patent law. There are no exact cases which would confirm a structured direction of possible changes as the initiatives do not conceptually overlap. It can be argued that this is due to different needs of each geographic area, whose levels of development of innovation and new technologies are different. Dissimilar levels of awareness of how important it is to ensure an adequate level of protection and enforcement of intellectual property rights probably also has a significant impact.

In this context, the question may once again arise as to whether it is reasonable to make any changes to the patent law so as to harmonise the provisions. It seems that at this stage, radical alterations are not necessary, since the current patent law is extremely flexible and relatively efficient. This does not mean that

63 Ryan Abbott, "I Think, Therefore I Invent: Creative Computers and the Future of Patent Law," *Boston College Law Review*, vol. 57, no. 4 (2016): 1079.

the ongoing discussions on a direction of changes and specific assumptions should be suspended. However, if any modifications were to be made, it would obviously have to happen at a global level. After presenting the activities of Group B+, European institutions and regional economic blocs, a clear conclusion emerges. Taking such steps requires a great deal of determination, in-depth knowledge of the matter and a considerable timeframe. Certainly, no changes will be made without an active participation and balanced compromise between the five largest patent offices, namely the EPO, JPO, KIPO, SIPO and USPTO.

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