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PATENT LAW PROVISIONS THAT CONTRIBUTE TO EFFECTIVE TRANSFER OF TECHNOLOGY, INCLUDING SUFFICIENCY OF DISCLOSURE

Document prepared by the Secretariat

1. The Standing Committee on the Law of Patents (SCP), at its thirty-first session, held in Geneva from December 2 to 5, 2019, agreed that the Secretariat would continue to compile information on patent law provisions that had contributed to effective transfer of technology, including sufficiency of disclosure. On this subject, Member States shared such information and their experiences during, in particular, the twenty-seventh and twenty-eighth sessions of the SCP, held in December 2017 and July 2018, respectively. In addition, documents SCP/29/6, SCP/30/8 and SCP/31/7, which compiled further information on that subject, were submitted to the twenty-ninth, thirtieth and thirty-first sessions of the SCP, held in December 2018, June and December 2019, respectively.

2. This document follows the style of the previous documents on the same subject. It presents, on a country by country basis, a summary of the information received from Member States, in response to Circular C. 8940, dated January 10, 2020.¹ It contains not only the specific legal provisions under the patent law but also technology transfer law as well as practical tools, programs and initiatives, which are based on, or promote the use of, such legal provisions.

¹ Full information received from the Member States is made available at:
https://www.wipo.int/scp/en/meetings/session_32/comments_received.html.

3. As to the legal provisions relating to patent law, the following provisions were addressed in the Member States' submissions: sufficiency of disclosure; licensing and transfer of patent rights and their registration; reduction of fees, regulation of patent agents, intellectual property (IP) rights as collateral and mechanisms to incentivize voluntary licensing (for example, license of rights).

Algeria

4. In order to add value to the results of scientific research, institutional and regulatory mechanisms have been established at the national level. Incubators for businesses were introduced in 2009, and the role of the National Agency for the Enhancement of Scientific Research has been strengthened. In addition, the enactment of new laws on the direction of scientific research and on small and medium-sized businesses in 2015 has contributed to improvement of the overall situation.

5. The Algerian National Industrial Property Institute plays a crucial role in these mechanisms through raising awareness of the need to respect IP rights. In that context, a national network of Technology and Innovation Support Centers (TISCs) constitutes a platform for exchanging information and technical assistance with the aim of promoting innovation. To date, 78 TISCs have been established by the Algerian National Industrial Property Institute in universities, businesses, incubators, research centers, colleges and for the Startup Accelerator Institute (HABA).

Argentina

6. The National Institute of Industrial Property (INPI) carries out a series of actions that contribute to effective technology transfer, as stated, below.

(a) Patent holders may use the INPI platform to register their wish to license their patents.

(b) Any person who licenses an IP right may register the respective contract and shall obtain taxable profits. It is a way of incentivizing voluntary licenses and effective technology transfer.

(c) In accordance with the Argentinian law, patent applications must disclose the invention in a manner sufficiently clear and complete for it to be carried out by a person skilled in the art. If this requirement is not met, the invention shall not be patentable.

(d) Small and medium-sized enterprises (SMEs), individuals, national or provincial public universities, and non-profit organizations shall enjoy a 50% reduction of the established fees.

(e) To improve the quality of patent agents, the training necessary to obtain the corresponding license was revised. The course is delivered by INPI experts in two parts: remote sessions via the WIPO Academy platform and face-to-face sessions at the INPI headquarters. Courses and workshops are also provided to industrial property agents to keep up with developments of the applicable law.

Ecuador

7. The Organic Code of the Social Economy of Knowledge, Creativity and Innovation (COESCCI) envisages several aspects related to legal provisions that promote technology transfer and the strategic use of IP rights to foster the development of science, technology and innovation and to transform the production systems in Ecuador. It also

promotes the flow of information and technology transfer among the actors of the national system of science, technology, innovation and ancestral knowledge.

8. More specifically, the definitions of “technology transfer centers” and “public research institutions” are provided in Articles 23 and 24, respectively. Article 24 also stipulates that all public research institutes must have a structure and regulations that enable them to function adequately in relation to research, technological development and technology transfer.

9. Article 81 states that technology transfer includes activities to transfer knowledge, techniques or technological processes that enable the development of products, processes or services. It includes contractual agreements such as proof of concept, technological validation, transfer of intellectual property rights, intellectual property licensing, know-how contracts and training, and hiring of national labor. Technology transfer shall be incorporated as a requirement in the public procurement of goods, works and services, including consulting services, as well as in investment contracts and any other form of procurement carried out by the State, unless duly justified in accordance with the policy issued for that purpose. In such processes, specific requirements and qualification criteria may be established for those bidders who are willing to make greater technology transfer commitments, according to the methodology defined by the Executive Branch for this purpose.

10. In addition, according to General Provision 28, to build national technology transfer capacity, degree courses or academic programs offered by higher education institutions may involve the reproduction or second use of patented inventions.

11. Moreover, the sufficient disclosure of an invention in a patent application is important for technology transfer (Article 280 of COESCCI). It ensures the reproducibility of the invention by a person skilled in the art.

12. The Ecuadorian regulations recognize the transfer of technology as a mechanism to promote research and create opportunities for the development of knowledge and innovation ecosystems, which is under the responsibility of the Ministry of Higher Education, Science, Technology and Innovation (SENESCYT). The National Service for Intellectual Rights (SENADI) is tasked to promote the patent system and requires clarity and sufficiency of disclosure in patent applications as a contribution to national technology transfer.

France

13. Article L.612-5 of the Intellectual Property Code provides the requirement on sufficient disclosure, including deposit of biological material. The absence of sufficient disclosure leads to the invalidation of the patent (cf. L.613-25).

14. The National Industrial Property Institute (INPI) is developing structured actions and providing continuous support to ensure professional training for actors in research and innovation ecosystems. Beyond these permanent awareness-raising and training goals, INPI particularly supports start-ups, small and medium sized-enterprises (*Petites et Moyennes Entreprises (PME)*) and intermediate-size enterprises (*Entreprises de Tailles Intermédiaire (ETI)*). Issues relating to technology transfer are typically addressed as part of company visits, preliminary IP assessments, the financial assistance program for intellectual property start-ups and companies (known in French as the “*Pass PI*” program), master classes and patent document search services. Materials concerning collaborative research and transfers have also been designed and disseminated by INPI.

(a) With the aim of helping inventors and entrepreneurs to make progress with their projects, personal and confidential meetings with experts from the Institute as well as free legal consultations with IP advisors or specialist lawyers have been organized. These

sessions, which are free and available upon appointment, are intended to provide a basic level of information.

(b) The preliminary IP assessment takes into account all industrial property tools that can be mobilized within a company by including contracts, licenses, document search, and purchases/sales of technologies. The preliminary intellectual property assessment makes it possible to define courses of action and identify expertise within the company to implement an intellectual property policy. It provides clarity on the actors and costs in this area.

(c) The start-up program offers free support from the Institute's experts for a minimum of two years, such as delivering action plans and measuring the effectiveness of the company's strategy through the "*Empreinte PI*" ("IP Footprint") tool developed by the Institute. This program also includes the possibility of financial assistance from the Institute with the "*Pass PI*" financial assistance program.

(d) The intellectual property master class program is a low-cost training program that includes six training days over six months to establish good industrial property practices, in particular in relation to patent filing strategy. It makes it possible to: develop filing and extension strategies adapted to the aims of the participant and in accordance with the available resources; structure the internal management processes for innovations and industrial property; increase autonomy in securing the innovation process; and improve strategic decision-making. This program also allows participants to: (i) liaise with an Institute expert dedicated to the needs of the beneficiary company; (ii) access the Institute's network of recognized experts in intellectual property and innovation; (iii) have a mentor specializing in intellectual property in companies and benefit from his/her experience; and (iv) receive support from Business France financed by the Institute, if the assessment identifies a need for international development.

(e) The "*Pass PI*" ("IP Pass") program is a financial assistance mechanism that allows small and medium-sized businesses to access the services of a patent advisor. Through this program, the Institute encourages beneficiary companies to put recommendations into practice and thereby optimize their industrial property innovation strategy. This program is intended for innovative start-ups and small and medium-sized businesses that have undergone one of the Institute's preliminary intellectual property assessments or received a company visit following which the implementation of new actions was recommended.

(f) The "*Bourse Brevet*" ("Patent Market") is an online platform² that makes it possible to identify patents proposed for licensing, make contact with patent holders and propose patents for licensing. This platform also has educational documentation on: (i) preparations for negotiating a license agreement; (ii) sample contracts; and (iii) a model agreement on confidentiality and the post-signature obligations under the contract.

(g) The Institute also offers numerous training courses that are open to the public, including the topic of covering licensing agreements, where appropriate.

² <https://bourse-brevets.inpi.fr/?/>.

Japan

15. The Japan Patent Office (JPO) is committed to actively supporting the activities of WIPO GREEN and to promote the wider use of environmentally sound technologies worldwide. Many Japanese companies have actively participated in WIPO GREEN (ranked No. 2 in terms of the numbers of users and registered technologies). Under the support of the Funds-in-Trust Japan Industrial Property Global (hereinafter “FIT Japan”), various support activities for WIPO GREEN, such as promotional activities for Japanese companies, have been conducted. In addition, the JPO became a partner of WIPO GREEN in February 2020, which made the number of Japanese partners to 19.

16. The transfer of technology from developed countries to developing countries can be advanced through development and improvement of the IP systems. In that light, the JPO has been conducting a number of cooperation activities to improve IP systems worldwide. It has voluntarily contributed approximately CHF 80 million in total to FIT Japan for 32 years, supporting WIPO's initiatives to develop intellectual property systems in developing countries. In 2019, the JPO's contribution amounted to CHF 5.78 million. It has been assisting WIPO to advance initiatives for enhancing technical and knowledge infrastructures, including training courses, dispatch of experts and computerization support. The JPO sent 403 experts to 38 countries in the Asia-Pacific and Africa regions, and invited 1,862 people from 65 countries to Japan from 1996 to 2019.

17. The JPO also carries out its own cooperation activities. For example, it held a Training Course on Academia-Industry Collaboration and Technology Transfer in August 2019, to which 24 individuals involved in IP management at universities and research institutes from 11 countries were invited. Through the lectures on how industry-academic collaborations and transfer of technology have been advanced in Japan, the course introduced the efficient and effective ways and initiatives for managing IP. The trainees also had discussions on solutions to the challenges that their organizations were facing.

18. Regarding the development of the national legal framework related to technology transfer, in the past, while universities and academic research institutes delivered many outstanding research results, they were not fully developed and commercialized by industries. Universities also did not have departments specialized in IP issues. There was a growing need for Technology Licensing Organizations (TLOs) in universities to promote patent protection of their research results and to transfer those successful achievements to industries, i.e., to handle licensing agreements with companies. Consequently, the Act on the Promotion of Technology Transfer from Universities to Private Business Operators was enacted in May 1998 in order to support establishing TLOs at universities.

19. Furthermore, in the past, where IP rights were granted on the results of research and development (R&D) activities supported by the national government's funds, such IP rights were owned by the national government. In order to increase the incentives of individuals (inventors) involved in R&D activities and promote the wider use of the research results arising from the government funding, in 1999, the Japanese government decided to launch an initiative to allow the individuals to retain IP rights for inventions arising from government-funded R&D. Subsequently, it enacted the Japanese version of the Bayh-Dole Act (Article 17 of the current Industrial Competitiveness Enhancement Act).

20. One good example of a technology created at a university that later evolved into a business is the development of blue light-emitting diodes (LEDs). In 1986, Mr. AKASAKI Isamu, a professor at Nagoya University at that time, and his assistants succeeded in finding techniques for synthesizing high-quality single crystal gallium nitride (GaN). In 1987, the Research Development Corporation of Japan (JRDC) (current Japan Science and Technology Agency (JST)) commissioned an R&D project “Manufacturing blue light-emitting diodes of GaN”,

under which Mr. Akasaki and Toyoda Gosei Co., Ltd. realized the world's first blue LED using GaN. In 1995, blue LEDs were commercialized by Toyoda Gosei Co., Ltd. Now, blue LEDs are widely used not only in lighting devices but also in the areas of communications and healthcare, contributing to saving energy worldwide and supporting further innovation.

21. The study report issued by the JST states that from 1987 to 1990, the JST committed 550 million yen (about CHF 4.86 million) to the development of blue LED manufacturing technology. The total sales of products using blue LEDs from 1997 to the end of 2005 reached around 3.6 trillion yen (CHF 31.8 billion), including the sales of cellular phones and large-sized full-color displays. The blue LED products created the added value of nearly 350 billion yen (CHF 3.10 billion) in the overall Japanese industries and around 32 thousand jobs. From 1995 to 2005, the JST received around 4.6 billion yen (CHF 40.7 million) as the license fees.

22. As one of the domestic initiatives to promote technology transfer, the JPO and the National Center for Industrial Property Information and Training (INPIT) have been conducting "Dispatching Service of Intellectual Property Advisor for University-Industry Collaboration" since 2016. It supports universities to manage and license IP for commercialization of "technology seeds". The advisors, with the agreement of the university officials in charge of university-industry collaborations, provide supports related to: (i) discovering and evaluating technology seeds and launching university-industry collaboration projects; (ii) searching potential partner companies; (iii) formulating intellectual property strategies, bearing appropriate business models in mind; (iv) extracting and patenting inventions from the results of R&D and developing a patent portfolio; and (v) concluding contracts with partner companies, etc.

Nigeria

23. Section 3(1)(a) of the Nigerian Patents & Designs Act contains the disclosure requirement, which makes it mandatory for all applicants to fully disclose the technology behind their invention, which enables transfer of technology. The duration of patents for a 20-year period, stipulated in Section 7(1), could encourage foreign direct investments, which in turn promote technology transfer. In addition, the recognition of the right of applicants to claim foreign priority encourages more foreign filing with a rippling effect of more technology being transferred.

Philippines

24. The Philippines recently passed three new laws to assist micro, small, and medium-sized enterprises (MSMEs) and start-ups. They demonstrate that innovation is at the center of the country's development policies.

25. The Republic Act No. 11293, otherwise known as the Philippine Innovation Act (PIA), was signed into law on April 17, 2019. This law is mainly intended to generate and scale up actions in all levels and areas of education, training, research and development towards promoting innovation and internationalization of MSMEs. Under this law, the government shall adopt a broader view in developing its innovation goals and strategies, covering all potential types and sources of innovation. The PIA established an interagency committee, the National Innovation Council (NIC), to develop the state's innovation goals, priorities and long-term national strategy, including the development of a National innovation Agenda and Strategy Document (NIASD). It is envisioned that through a startup MSME innovation development program, the government shall mobilize its various agencies to work hand-in-hand with private organizations to provide technical and/or financial support programs for the development training of entrepreneurs. One of the notable programs under the PIA is the Innovation Fund, where grants will be issued to qualified entrepreneurs and enterprises that are engaged in developing innovative solutions benefiting the poor and the marginalized. Specific to intellectual property, the PIA mandates the enforcement of the Intellectual Property Code of the Philippines (IP Code), as well as other

relevant intellectual property legislations (e.g., E-Commerce Act, Technology Transfer Act, etc.), for the protection of the exclusive rights of scientists, inventors, and innovators to their intellectual property and creations. Further, the Intellectual Property Office of the Philippines (IPOP HL) is tasked to introduce reforms which seek to promote, streamline, and rationalize the registration of patents, trademarks, copyrights, industrial designs and geographical indications to ensure protection of innovation against misappropriation.

26. The Republic Act No. 11337, known as the Innovative Startup Act (ISA), took effect on August 6, 2019. It is aimed to streamline government and non-government initiatives in both local and international spheres in order to create new jobs and opportunities, improve production, and advance innovation and trade in the Philippines. This law seeks to provide tax benefits to all registered startup companies in the Philippines. The government agencies mandated to implement the programs, benefits and incentives will include full or partial subsidies for the following: (i) business documents processing costs; (ii) processing of claims with other government agencies; (iii) the use of facilities, office space, equipment, and services provided by government or private institutions, the use of repurposed government spaces and facilities; and (iv) grants-in-aid for research, development, training and expansion projects.

27. The Republic Act No. 11057, known as the Personal Property Security Act (PPSA) allows the use of personal property (including intellectual property rights) as collateral in securing loan obligations.

Singapore

28. Singapore implemented the National IP Protocol in 2018 to facilitate technology transfer from the government to commercial enterprises and start-ups. The protocol brings about the following benefits:

- (i) to expedite effective IP commercialization for companies through streamlined IP practices at research institutes, universities and public agencies;
- (ii) to create greater flexibility for IP terms that cater to business needs; and
- (iii) to balance the commercial interests of businesses with the national interest of creating maximum value from publicly funded R&D.

With the Singapore National IP Protocol, public agencies have a standard and streamlined approach to managing intellectual property from publicly funded R&D, with the flexibility to grant exclusive or non-exclusive licenses, and even assign IP to industry to encourage IP commercialization.

29. Another mechanism for encouraging the sharing and exploitation of patented technology is through licensing of patents. Section 53 of the Singapore Patents Act provides the license of rights scheme which encourages voluntary licensing of technology and knowledge exchange, as the patent owners are offered a significant reduction of renewal fees. Third parties are able to search information on patents with such voluntary licensing offers on the IPOS IP2SG website.

Zimbabwe

30. Section 9(3) of the Patents Act requires that the complete specification shall fully describe the invention and the manner in which it is performed. Applicants shall also disclose the best mode of performing the invention known to them at the time when the specification is lodged. The Act also provides for the license of rights (Section 29), which contributes to effective technology transfer.

31. In addition, the Zimbabwe National Intellectual Property Policy and Implementation Strategy (ZNIPPIS) provides for establishing a system for IP management at tertiary institutions and the private sector, in order to institutionalize a mechanism for licensing control, to create a model national licensing system, and to establish TISCs.

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