

Standing Committee on the Law of Patents

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PATENTS AND TRANSFER OF TECHNOLOGY: FURTHER PRACTICAL EXAMPLES AND EXPERIENCES

Document prepared by the Secretariat

INTRODUCTION

1. At its nineteenth session held from February 25 to 28, 2013 in Geneva, the Standing Committee on the Law of Patents (SCP) agreed that the Secretariat would revise document SCP/18/8 by adding further practical examples and experiences on patent-related incentives and impediments to transfer of technology on the basis of inputs received from members and observers of the SCP, taking into account the dimension of absorptive capacity in technology transfer (see paragraph 23(e)(i) of document SCP/19/7).
2. Pursuant to the above decision, the Secretariat invited, through Notes C.8261 and C.8262, members and observers of the SCP to submit practical examples and experiences on patent-related incentives and impediments to transfer of technology. The following Member States, an intergovernmental organization and non-governmental organizations provided information on transfer of technology: Costa Rica, Finland, Germany, Israel, Lithuania¹, Monaco, Poland, Republic of Korea, United Kingdom, United States of America, Zambia, World Trade Organization (WTO), International Chamber of Commerce (ICC) and IP Federation.
3. Since the submissions in their entirety are available on the SCP electronic forum, this document summarizes the information received from the above members and observers of the

¹ The submissions from Lithuania referred to Articles 42 and 45(5) of its Patent Law regarding recordation of transfer of ownership and of licensing agreements, and stated that the State Patent Bureau was not able to provide any example or experience, or evaluate practice of transfer of technology in Lithuania.

SCP. In addition, a general observation by the Secretariat on the issue is included in the document.

A VIEW OF A LEAST DEVELOPED COUNTRY

4. Zambia is the only least developed country (LDC) that made a submission on this topic. It articulated various factors that might be considered as patent-related incentives and impediments to transfer of technology, and listed its challenges. As an incentive to transfer of technology, Zambia has put in place a national IP policy which provides for licensing, commercialization and marketing of IP assets.²

5. Availability of information about the needs of technology holders and recipients as well as the capacity of recipients to absorb the technology are considered as the two fundamental conditions required for effective technology transfer. In practical terms, they could be translated into the needs to: (i) having skilled lawyers and IP experts to negotiate technology transfer licenses; and (ii) involving public-funded research institutions, universities, small and medium-sized enterprises (SMEs) and traditional knowledge holders in knowledge transactions.

6. However, the above two factors must not be considered in isolation. The practical challenges include:

- (i) weak linkages between the R&D sector and industry;
- (ii) lack of capacity on the part of the recipients to absorb and adapt the technology to suit their needs;
- (iii) lack of resources by inventors to develop and commercialize their technologies;
- (iv) lack of capacity or experts to assist inventors in drafting patent applications, thus making the whole process of transfer of technology difficult;
- (v) with regard to transfer of foreign technology, foreign direct investment (FDI) transactions, mostly, do not expressly state the licensing or research agreements; and
- (vi) lack of knowledge on IP protection and its benefits to the national economy.

7. Taking into account the different level of development, Zambia considers that the patent system should provide a mechanism that is flexible enough for LDCs and developing countries to reverse engineer patented technologies without necessarily infringing patent rights. In its view, such a mechanism would clarify the misunderstanding that patents were an impediment to transfer of technology. In addition, Zambia considers that it is long overdue that developed countries fulfill their commitments under Article 66.2 of the TRIPS Agreement.

TRANSFER OF TECHNOLOGY FROM RESEARCH INSTITUTIONS TO INDUSTRY

Technology transfer from academia in Israel

8. The Encouragement of Industrial Research and Development Law, 5744-1984 provides a legal framework for the government-sponsored supports of R&D in Israeli industry. Among others, a number of cooperative industrial R&D projects with foreign entities, both at the

² In addition, it also provides tax incentives in relation to machineries brought in Zambia.

government and corporative levels, have been pursued.³ The broad range of support activities includes assisting preparation of patent applications. When the government-assisted R&D project results in a commercially successful product, the company must pay with royalties to the Office of the Chief Scientist (OCS). In general, royalty payments are 3.0 to 3.5% of the total annual revenues derived from the sales of the developed product. Israel enjoys a high rate of activities in technology transfer from academia. The terms and conditions for such technology transfer are available at the websites of relevant Technology Transfer Offices.⁴

“Technology Transfer from University to Industry” Pilot Project in Poland

9. In 2008, the Polish Patent Office, Technology University of Lodz (TUL) and the European Patent Office signed a work plan for the implementation of a pilot project entitled “Technology Transfer from University to Industry”. The objectives of that pilot project were: (i) raising IP awareness among TUL’s staff; (ii) improving use of TUL’s research results and bridging science and business; (iii) providing support throughout the patenting process; (iv) disseminating information on IP protection; and (v) creating useful commercialization tools. The project consists of three phases. During the set-up phase, the work plan was elaborated and the staff involved were trained. Within the testing phase, a number of training workshops were organized for TUL staff. The topics of the workshops include patent and know-how protection, searching patent information and contracts related to technology transfer. During the consolidation phase, the advanced level of training continued. The participants were able to carry out prior art search and rewrite claims to comply with patentability requirements. They also gained knowledge of domestic and international IP laws, IP valuation and IP and technology transfer regulations within TUL.

10. In addition, TUL organized an Open Day for SMEs. Further, it established a contact database for entrepreneurs, technology transfer centers and patent attorneys. The project implementers found that face-to-face meetings between the science and business representatives, with support of the experts from the national patent office, gave the university a great opportunity to introduce its technology to entrepreneurs “from the neighborhood”.

11. The implementation of the pilot project proved that the main drivers of transfer of technology were: (i) raising awareness of scientists and entrepreneurs about the advantages of IP protection, commercialization and technology transfer; (ii) educating scientists about the benefits of cooperation with entrepreneurs; (iii) strengthening ties and intensifying knowledge transfer between the university and business; (iv) increasing the university’s commercial capability; (v) collecting and disseminating information about solutions, technologies, patent attorneys, clusters, technological parks, and technology transfer centers; (vi) encouraging scientists to commercialize their research results to exploit them more effectively; and (vii) disseminating information on good practices and successes in commercialization.

Experiences on the Bayh-Dole Act and federal programs in the United States of America

12. The Bayh-Dole Act which passed in 1980 has accelerated the increase in patenting by universities and in technology transfer from universities to industry in the United States of America. This was due to allowing universities to elect to take title to federally-funded inventions and by simplifying the procedures for such election. Before 1980, fewer than 250 patents were issued to US universities. In 2011, 4,700 patents were issued to members of the

³ Further information regarding the government-assisted R&D is found at the website of the Office of the Chief Scientist at: <http://www.moital.gov.il/CmsTamat/Rsrc/MadaanEnglish/MadaanEnglish.html>.

⁴ For example, the Hebrew University of Jerusalem [www.yisum.co.il], Weizmann Institute of Science [<http://www.yedarnd.com/>], Tel Aviv University [<http://www.ramot.org/>], Ben-Gurion University [<http://cmsprod.bgu.ac.il/eng/BGN1>] and the Technion- Israel Institute of Technology [<http://t3.technion.ac.il/>].

Association of University Technology Managers (AUTM). In the same year, 4,899 new license agreements were signed and 671 startups were formed with respect to university research.⁵

13. In addition, federal programs provide many incentives to technology transfer in the United States of America. Activities of the National Institute of Health (NIH) show an example of patent-related incentives related to health technology. The NIH was the first contributor to the Medicines Patent Pool (MPP) in licensing US government-owned patents related to HIV anti-retroviral (ARV) protease inhibitor drugs. Further, in 2011, the NIH became a founding contributor of WIPO Re:Search. It contributed intellectual property from its internal research programs for over 70 technologies. The NIH's participation aligns with the Presidential Policy Directive on Global Development, which calls for greater efforts to leverage R&D to improve disease treatment.

BETTER AWARENESS OF THE USE OF THE PATENT SYSTEM

14. The National Office of Costa Rica reported on a Technology and Innovation Support Center (TISC). It was designed to foster growth in patent activities, encouraging stakeholders to familiarize themselves with the advantages offered by the patent system, promoting transfer of technology and improving the quality of patents.

15. The Intellectual Property Division of Monaco is currently constructing a web site dedicated to industrial property. One of its objectives is to promote patents to national companies.

USING PATENT INFORMATION TO RESPONDE TO LOCAL NEEDS

16. Patent documents may contain technical and scientific information that is appropriate to address fundamental challenges facing developing countries ("appropriate technology"). The Korean Intellectual Property Office (KIPO) has been undertaking the development of appropriate technology for developing countries. The project consists of five steps. First, KIPO conducts surveys on local needs by investigating local problems, requirements, circumstances and cultures. Second, in order to identify ways to resolve local problems, a prior art search is conducted, using a patent database covering 150 million patented technologies. As a third step, KIPO collaborates with technology experts to adapt the selected technologies to the local climate, environment and conditions. Then, it distributes the final version of the adapted technologies to the targeted local community. Finally, it engages in a partnership with non-governmental organizations (NGOs) to assist commercialization of the product and sustainable business operations.

17. In engaging in transfer of technology with certain national offices, the German Patent Office (DPMA) is in the process of evaluating whether its database could be made available for restricted use within a development context.

USPTO PATENTS FOR HUMANITY PILOT PROGRAM

18. In February 2012, the United States Patent and Trademark Office (USPTO) launched the Patents for Humanity Pilot Program to reward companies who bring life-saving technologies to underserved people of the world.⁶ The program provides business incentives for patent owners and licensees to apply their patented technology to address humanitarian needs. The program is structured as a voluntary prize competition. Winners receive a certificate for accelerated

⁵ See <http://www.autm.net/FAQs.htm>.

⁶ See http://www.uspto.gov/patents/init_events/patents_for_humanity.jsp.

processing of a patent application, an appeal, or an *ex parte* reexamination proceeding before the USPTO on any one matter in the winner's technology portfolio. They also receive US government recognition at a public award ceremony and media publicity of their efforts.

ROLE OF THE PRIVATE SECTOR AND INVESTMENT CLIMATE

19. Some submissions referred to the important role of the private sector in enabling transfer of technology and to the appropriate investment climate for sustainable businesses. The government of the United Kingdom considers that such investment climate usually means a combination of reasonable regulations, infrastructure, property rights, market access, tax system and transparent bureaucracy. Thus, governments play a key role in building that investment climate, as does civil society in ensuring that policies are a fair reflection of the public interest. The United Kingdom seeks to promote conditions for more and better targeted transfer of technology.⁷ For example, based on the idea of social impact investment, the Department for International Development (DFID) runs a £75 million Impact Fund for private sector's development projects that target those who are most in need.⁸ Similarly, Finnpartnership is a Finnish business partnership program to increase commercial cooperation between Finland and developing countries. It provides advisory services for the business activities of Finnish companies in developing countries and financial support for their projects. In addition, Finnish Fund for Industrial Cooperation Ltd. is a development finance company providing long term risk capital for private projects in developing countries and the Russian Federation.

20. IP Federation, which represents technology-intensive UK companies involved in various kinds of technology transfer, considered that practical examples set out in document SCP/18/8 related to the experiences of individual inventors or inventors from universities, which did not reflect the experiences of large multinational companies, such as the members of the IP Federation. It however stated that many of their practical experiences of technology transfer were commercially sensitive, and if recent were rarely able to be shared publically. Therefore, it made general observations highlighting that: (i) technology transfer is a means to underpin a new business relationship with an existing or new partner who can develop a new market better than a patent owner. In such cases, a patent helps to frame transfer of technology; (ii) the effective transfer of know-how, accompanied by training, helps to cement the relationship between the partners; and (iii) technology transfer is often carried out in stages with the amount of technology transferred increasing as the parties grow to trust each other's abilities.

21. The International Chamber of Commerce (ICC) introduced a case where a patent relating to a simple single use inhaler had been licensed to a group of companies that further developed and adapted that technology to their long acting neuraminidase inhibitor (LANI) drug product, an inhalable treatment for influenza. Another case presented by the ICC was a semi-synthetic artemisinin project for an effective treatment of malaria, which was based on a multi-party Product Development Partnership (PDP) collaboration model. It involved a PDP as a coordination body, a philanthropic foundation, a university, a spin-off start-up company and a multinational pharmaceutical company. The PDP aggregated relevant IP rights developed through the collaboration. The collaboration agreements, including IP licensing conditions among the parties, were carefully drafted, taking into account risks of R&D as well as near and long-term return on investment. To meet the goal of accessible and affordable drug price, the collaborators had no expectation of royalty returns in the malaria field. Nevertheless, the collaboration benefited all the parties. For example, the university benefited from increased research finding, the start-up company parlayed knowledge and tools from the non-profit project

⁷ <https://www.gov.uk/government/policies/helping-developing-countries-economies-to-grow/supporting-pages/helping-developing-countries-to-remove-barriers-to-trade-and-investment>

⁸ <https://www.gov.uk/government/speeches/g8-impact-investment-event>

to launch commercial projects, and the pharmaceutical company would be able to combine the synthetic product into its artemisinin combination therapies.

22. The submission from the United States of America stated that, based on empirical evidence, stronger patent protection stimulated technology transfer, because it positively affected foreign direct investment (FDI) and imports. It referred to the view of many authors that the real impediments to technology transfer were not related to patents or intellectual property rights *per se*. Inadequate, weak or unclear domestic laws, regulation and practices, high tariffs, inadequate scope of patent protection and weak patent enforcement, and “taking” of patent rights through, for example, compulsory licenses, were identified as barriers for innovation and technology diffusion.

IMPLEMENTATION OF ARTICLE 66.2 OF THE TRIPS AGREEMENT

23. The submission from the World Trade Organization (WTO) drew the Committee’s attention to annual reports received by the Council for TRIPS from developed country Members with respect to the implementation of Article 66.2 of the Agreement on Trade-Related Aspects of Intellectual Property Rights (TRIPS Agreement). Those reports provided details of numerous examples of technology transfer programs. A number of such reports also referred to technology licensing in general. The submission illustrated some examples drawn from recent reports⁹, such as a technology license and/or joint R&D program between a developed country public research center and the public and private sectors in a developing country, an international cooperation program that brings together research consortia of scientists from both developed and developing countries, partnership agreements among enterprises, free state-of-the-art searches for LDCs by an IP authority of a developed country and contribution by a public research center to the Medicines Patent Pool.

OBSERVATION BY THE SECRETARIAT

24. Based on literature and theoretical analysis, elements that may be considered supportive of transfer of technology or rather obstacles to technology transfer are described in document SCP/14/4 Rev.2. In particular, Chapter XI of that document gives particular focus to the impediments, since incentives and impediments are often two sides of the same coin and a clear understanding of impediments may assist in identifying areas for further improvement. As an expansion of document SCP/14/4 Rev.2, several practical examples and experiences related to transfer of technology are contained in document SCP/18/8.

25. During the discussions at the nineteenth session of the SCP, held from February 25 to 28, 2013, some delegations stated that examples and experiences described in document SCP/18/8 had not explored the extent to which patents could be an obstacle to transfer of technology, and did not reflect various obstacles faced with respect to transfer of technology.¹⁰ Further, one delegation noted that “failure cases were as important as success cases”¹¹ for policy analysis. In order to gather more practical examples and experiences on patent-related incentives and impediments to transfer of technology, a Circular was sent to members and observes of the SCP for the preparation of this document. While the input received presented valuable insight into the complexity of the subject under discussion, the number of submissions containing concrete practical examples, particularly with respect to patent-related impediments, was small. One business organization noted in its submission that many technology transfer

⁹ WTO documents IP/C/W/497/Add.2 and IP/C/W/580/ADD.2, Add.4 and Add.6.

¹⁰ See paragraphs 126, 127 and 129 of document SCP/19/8 Prov.2.

¹¹ See paragraph 127 of document SCP/19/8 Prov.2.

experiences were commercially sensitive. This could be one reason for the difficulties in bringing out “failure cases”, but there could be other reasons as well.

26. If the Committee would continue exploring practical examples and experiences on patent-related incentives and impediments to transfer of technology, one way of doing so could be an experience sharing session during the SCP, instead of (or in addition to) written submissions by members and observers of the SCP. External speakers having practical experiences in transfer of technology may be invited so that challenges in the real world could be shared among the SCP members and observers.

27. Some statements made at the last session of the SCP showed a clue about patent-related impediments conceived by some delegations. The Delegation of Brazil, on behalf of the Development Agenda Group (DAG), referred to “anti-competitive practices which might be found in licensing contracts”¹², and the Delegation of India mentioned “impediments in licensing agreements relating to transfer of technology”¹³. Somewhat mirroring those statements, the Delegation of the United States of America highlighted the importance of voluntary transfer of technology. The latter may be interpreted in a way that voluntary licensing agreements are important and fundamental tools for technology transfer. Therefore, facilitation of voluntary licensing agreements appears to be an area of common interest at least among those delegations who spoke. Compilation of information on the national/regional regulations, guidelines, practices and jurisprudence regarding voluntary licensing agreements, including anti-competitive patent licensing practices, might be useful, should the Committee decide to explore issues in this area. Court decisions may assist the SCP in learning and analyzing the implementation of rules and regulations in concrete cases.

28. The discussions held in the SCP have shown that Member States agree that technology transfer is a complex issue affected by various factors, including the absorptive capacity of national industries and the recipient party.¹⁴ The submission from Zambia seems to indicate the relevance of absorptive capacity of inventors, businesses, IP professionals etc. in terms of using a patent system. Those needs should be effectively reflected on the capacity building programs of WIPO, involving relevant sectors of the Organization. While Member States agree that technology transfer involves various factors both inside and outside the patent system, their views on whether the SCP should address non-patent-related factors remained divided at the last session of the SCP.¹⁵

29. Since concerns about potential duplication with the CDIP projects have been raised repeatedly¹⁶, it may be worth reporting the current status of the CDIP project entitled “Project on Intellectual Property and Technology Transfer: Common Challenges – Building Solutions”.¹⁷ All Regional Technology Transfer Consultation Meetings and analytical studies¹⁸ will be completed

¹² See paragraph 127 of document SCP/19/8 Prov.2.

¹³ See paragraph 129 of document SCP/19/8 Prov.2.

¹⁴ At the Roundtable discussions during the WIPO Green Launch event, which was held in Geneva on November 28, 2013, a number of speakers indicated that the needs of a technology holder and a recipient, adaptation of technology to respond to the local needs and absorptive capacity of the recipient are important elements in effectively transferring technology.

¹⁵ See paragraphs 126, 127, 130 and 132 of document SCP/19/8 Prov.2.

¹⁶ See document SCP/18/7 for the description of completed CDIP Projects that may directly related to transfer of technology.

¹⁷ The Project Paper is found in document CDIP/9/INF/4. See document CDIP/12/2, Annex VI for the latest progress report of the Project.

¹⁸ The following six studies will be published before the next session of the Committee on Development and Intellectual Property (CDIP), to be held in May 2014: (i) economic study on IP and international technology transfer; (ii) study on existing IPR-related policies and initiatives found in the public and private sector of developed countries; (iii) case studies of cooperation and exchange between R&D institutions in developed and developing countries; (iv) a study on favorable incentive policies for businesses; (v) analysis of transfer of technology issues relating to existing and emerging issues of concerns to developing countries and LDCs; and (vi) study on alternatives for R&D efforts and support to innovation aside from the existing patent system.

by the end of 2013. By the next session of the CDIP in May 2014, a concept paper is expected to be approved. It will be followed by a High Level International Expert Forum, which will be held in June 2014. The outcome of the Forum will feed into the preparation of materials, modules, teaching tools and other instruments, the creation of a Web Forum, and future activities of WIPO programs.

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