

Committee on Development and Intellectual Property (CDIP)

Seventeenth session
Geneva, April 11-15, 2016

PILOT PROJECT TO ACCELERATE TECHNOLOGY TRANSFER, RESEARCH AND DEVELOPMENT IN ORDER TO IMPROVE THE TECHNICAL CAPACITY TO ABSORB LOCAL SCIENCE AND TECHNOLOGY GENERATED BY UNIVERSITIES AND THE PRODUCTION SECTOR

Document prepared by the Secretariat

1. In a communication dated April 5, 2016 to the Secretariat, the Permanent Mission of Ecuador to the World Trade Organization and other Economic Organizations proposed a project entitled "Pilot project to accelerate technology transfer, research and development in order to improve the technical capacity to absorb local science and technology generated by universities and the production sector", for discussion at the seventeenth session of the CDIP.

2. The above-mentioned communication, together with its enclosure, is contained in the Annex of this document.

3. *The CDIP is invited to consider the Annex to the present document.*

[Annex follows]



Republic of Ecuador
Permanent Representative of
Ecuador to the World Trade Organization
And other economic organizations in Geneva



Ministry of External
Relations and Human
Mobility

Note No. 4-7-0039/2016

Geneva, April 5, 2016

Mr. Mario Matus
Deputy Director General
Development Sector
World Intellectual Property Organization (WIPO) Geneva

Dear Deputy Director General,

Further to my note no. 4-7-023 of March 17 2016, please find annexed the revised draft of the document entitled "Pilot project to accelerate technology transfer, research and development in order to improve the technical capacity to absorb local science and technology generated by universities and the production sector". This version reflects WIPO's comments, transmitted to the Permanent Mission on April 1, 2016.

As you are aware, the draft was prepared by the Government of Ecuador through the Intellectual Property Institute (IEPI) and was intended for presentation at the seventeenth session of the Committee on Development and Intellectual Property, scheduled for April 11 to April 15, 2016. Accordingly, I kindly request that the document be translated into the other official languages of WIPO and made available to members. In addition, I would be grateful if you could inform me of the agenda item under which the project will be presented.

Please accept, Mr. Deputy Director General, the assurances of my highest consideration.

Dr. Juan Falconi Puig
**Ambassador, Permanent Representative of Ecuador to the WTO and other
Economic Organizations in Geneva**

cc:

Mr. Irfan Baloch
Director, Development Agenda Coordination Division, WIPO

Mr. Georges Ghandour
Senior Program Officer, Development Agenda Coordination Division, WIPO

PILOT PROJECT TO ACCELERATE TECHNOLOGY TRANSFER, RESEARCH AND DEVELOPMENT IN ORDER TO IMPROVE THE TECHNICAL CAPACITY TO ABSORB LOCAL SCIENCE AND TECHNOLOGY GENERATED BY UNIVERSITIES AND THE PRODUCTION SECTOR

1. SUMMARY	
Project Code	
Title	Pilot project to accelerate technology transfer, research and development in order to improve the technical capacity to absorb local science and technology generated by universities and the production sector
Development Agenda Recommendations	<p>Recommendation 1: WIPO technical assistance shall be, <i>inter alia</i>, development-oriented, demand-driven and transparent, taking into account the priorities and the special needs of developing countries, especially LDCs, as well as the different levels of development of Member States and activities should include time frames for completion. In this regard, design, delivery mechanisms and evaluation processes of technical assistance programs should be country specific.</p> <p>Recommendation 10: To assist Member States to develop and improve national intellectual property institutional capacity through further development of infrastructure and other facilities with a view to making national intellectual property institutions more efficient and promote fair balance between intellectual property protection and the public interest. This technical assistance should also be extended to sub-regional and regional organizations dealing with intellectual property.</p> <p>Recommendation 11: To assist Member States to strengthen national capacity for protection of domestic creations, innovations and inventions and to support development of national scientific and technological infrastructure, where appropriate, in accordance with WIPO's mandate.</p> <p>Recommendation 16: Consider the preservation of the public domain within WIPO's normative processes and deepen the analysis of the implications and benefits of a rich and accessible public domain.</p> <p>Recommendation 19: To initiate discussions on how, within WIPO's mandate, to further facilitate access to knowledge and technology for developing countries and LDCs to foster creativity and innovation and to strengthen such existing activities within WIPO.</p>

	<p>Recommendation 20: To promote norm-setting activities related to IP that support a robust public domain in WIPO's Member States, including the possibility of preparing guidelines which could assist interested Member States in identifying subject matters that have fallen into the public domain within their respective jurisdictions.</p> <p>Recommendation 23: To consider how to better promote pro-competitive intellectual property licensing practices, particularly with a view to fostering creativity, innovation and the transfer and dissemination of technology to interested countries, in particular developing countries and LDCs.</p> <p>Recommendation 25: To explore intellectual property-related policies and initiatives necessary to promote the transfer and dissemination of technology, to the benefit of developing countries and to take appropriate measures to enable developing countries to fully understand and benefit from different provisions, pertaining to flexibilities provided for in international agreements, as appropriate.</p> <p>Recommendation 28: To explore supportive intellectual property-related policies and measures Member States, especially developed countries, could adopt for promoting transfer and dissemination of technology to developing countries.</p> <p>Recommendation 31: To undertake initiatives agreed by Member States, which contribute to transfer of technology to developing countries, such as requesting WIPO to facilitate better access to publicly available patent information.</p>
<p>Brief description of the project</p>	<p>For a developing country, it is essential to improve human talent and the capacity to assimilate technology. Access to scientific and technological information contained in patent documents helps to avoid a duplication of research and development efforts and makes for the use of the available prior art. Accordingly, the innovation infrastructure of a developing country must be based on access to information on the latest innovations in order to develop new technological solutions.</p> <p>Access to information, including patent information, drives innovation. Our project is based on transforming universities into centers for information and replication of patents, in which each student must achieve the following in order to obtain a certificate: (1) replicate and enable patents granted abroad in the last 5 years; or (2) propose an alternate use or an improvement to patents granted locally, taking account of the scientific field of the prospective professional. To bring the project to fruition, teachers and students must be trained in the following:</p>

	<p>(1) how the global patent protection system works; (2) patent search tools; (3) patents searches; and (4) how to read and analyze patents. In addition, they need direct access to the following: (1) Technology and Innovation Support Centers (TISCs) of the World Intellectual Property Organization (WIPO), including all the technological tools they provide; (2) laboratories capable of performing, enabling or reproducing patents for academic purposes; and (3) they also need to link innovations with the needs of the production sector.</p> <p>The expected result is that the developing country will improve its university system and strengthen the use of global intellectual property system, in addition to building a model of self-innovation tailored to its needs and realities, thereby generating attractive opportunities for domestic and foreign direct investment and technology transfer, in order to transform the production matrix.</p> <p>It is important for this project to incorporate innovation protected by plant breeders' rights, since both universities and the production sector can develop knowledge and breed new plant varieties, which also drives development.</p>
Implementation schedule	
Link with other related programs or projects of the Development Agenda	<p>DA_10_01; DA_10_02; DA_10_03; DA_10_04; DA_10_05; DA_16_20_01; DA_16_20_02; DA_16_20_03; DA_19_30_31_01; DA_19_30_31_02; DA_19_30_31_03; DA_19_25_26_28_01; DA_16_20_02</p>
Links to expected results in the Program and Budget	<p>Strategic Goal III.1: National innovation and IP strategies and plans consistent with national development objectives.</p> <p>Strategic Goal III.2: Enhanced human resource capacity that can meet the broad range of requirements for the effective use of IP for development in developing countries, LDCs and countries with economies in transition.</p> <p>Strategic Goal IV.2: Enhanced access to, and use of, IP information by IP institutions and the public to promote innovation and creativity.</p> <p>Strategic Goal VII.2: IP-based platforms and tools for knowledge transfer, technology adaptation and diffusion from developed to developing countries, particularly least developed countries, to address global challenges.</p> <p>Strategic Goal VIII.1: More effective communication to a broad public about IP and WIPO's role.</p>
Project Duration	36 months
Project Budget	1,522,800

Subject to approval by the Program and Budget Committee

2. PROJECT DESCRIPTION

2.1. History and rationale of the project

- Before most developing countries ratified the TRIPS agreement, many of them had not developed individual systems and cultures that take account of the importance and rationale of intellectual property rights.
- In the 20 years that the TRIPS agreement has been in effect, many developing countries have not used significant technology transfer from developed countries or multinational corporations to produce sufficient science, technology and local innovation to transform their production systems.
- As a result of the lack of awareness of the benefits of the international patent system, some developing countries believe that the right to own a patent derives from the inventor's investment of time and resources to carry out an invention. This purely economic perception of patents has led to the perception that the monopoly over patents prevents other people from using the information contained in the patent. As a result, some developing countries have considered patents as mechanisms for "privatizing knowledge".
- This "privatization of knowledge" is discerned in the number of foreign patent applications and budding local innovation. For example, less than three per cent of all patent applications in Ecuador arise from a national research process.
- It is essential for developing countries to change their production structures to end their dependence on the export of raw materials and become exporters of knowledge, services and finished products with high added value.
- Capacity-building and enhancement of university talent in developing countries are fundamental to the establishment of their own economic systems, based on solidary and social innovation.
- Existing patent information allows lecturers and students to keep abreast of the latest advances in science and technology, while avoiding the duplication of efforts inherent in conducting research on technical problems that have already been solved in the existing prior art. It is also a reliable guide for producing fresh innovations, which should be strategically geared towards the production sector, based on its needs.

2.2. Objectives

The overall objective is to improve the higher education system and local research by absorbing the latest advances in science and technology contained in patent documents from all over the world, with a view to transforming the national production sector and creating a source of employment for more people.

Other objectives:

create access by developing countries to the latest developments in science and technology contained in patent documents of the last few years;

encourage university lecturers to carry out, enable or replicate these patents so as to improve the national university and research system, in connection with the production system, to bring about change in the latter; and

connect universities and the production sector with the international IP system and its strategic use to foster endogenous development.

2.3. Delivery Strategy

- The university system of the developing country will implement a pilot project to accelerate research and development in various universities.
- The project will consist in the implementation of a requirement so that students nearing the end of their course and about to receive their qualifications can:
 - (a) either carry out, enable or replicate patents granted abroad in the past five years which have **not been granted locally**; or
 - (b) propose an alternative use or utility model for **locally granted** patents – in the future professional's area of specialization.
- Moreover, students' patent enablement should be tied to technical and market needs in the local production sector.

2.3.1. Project Activity

- To garner the best results of this project, stakeholders in the national system of innovation – universities, the public sector and the market sector – must interact as follows:

(a) Universities

- Given that many students will need patent information for their projects, universities that undertake this project will need a comprehensive and properly functioning patent information center. For this reason, each university must rely on a WIPO Technology and Innovation Support Center (TISC) and all the tools the center can offer, such as access to databases.
- Since students and lecturers will begin to read patents to describe the prior art from the documents provided, they must have ongoing distance training to enable them to understand the scope of the rights held to inventions they wish to replicate.
- As students and lecturers will be enabling the latest inventions, laboratories and replication centers must have the necessary equipment to carry out the inventions.

- Given that different students will be up to date with the prior art, they will begin to raise questions regarding the new inventions they can obtain. Accordingly, they must have remote guidance from the national IP office to resolve doubts regarding the patentability of their projects.

(b) Private Sector

- Since the private sector is abreast of market needs, it should be connected directly to universities so that the universities can carry out, enable or replicate the products of patents granted abroad, not protected locally and of interest to the private sector to supply the local market and other emerging markets where these patents are not protected, and thereby contribute to changing the production system by driving local innovation.

(c) Public Sector

- As these professionals have skills that could make a substantial improvement to the prior art in the future, incentives should be offered to private companies that market and produce the end-of-course projects presented by the professionals.
- Given that universities will be aware of the existing prior art, national research will focus on the problems not resolved by the prior art. As a result, patent applications by locals will increase exponentially. However, these initial seeds of innovation cannot wait several years for a grant of refusal of registration, because registration is necessary to access risk capital or funding for their inventions. For this reason, the following tasks are necessary:
 - i. creation of mechanisms that allow for acceleration of patentability examinations using various local strategies and international cooperation;
 - ii. training for patent examiners so that patents can be finalized as quickly as possible in future; and
 - iii. optimizing patent processing procedures.
- Since many inventions are likely to have been patented abroad, there is a need for funding or alliances with institutions that promote patent filing in major markets such as the United States, China and Europe.
- It is worth noting that the approach set out in this proposal should also be followed if there is any plant breeding innovation in universities or research institutions.

2.5. Risks and mitigation

Risks: TISC personnel do not clearly understand and are unable to use effectively the information contained in the patent documents for students and lecturers.

Mitigation: A list of experts will be prepared to offer interactive support on IP matters in TISC centers located in universities.

Risk: Lack of interest in the private sector in driving the use of innovations generated by universities or research institutions for application in their activities as a means of addressing their problems and needs.

Mitigation: Map stakeholders in the production sector, the local economy and SMEs to diversify the offer in the use of innovations. Create innovation or patent banks that companies in the production sector can search for solutions to their problems. Create records of needs or problems in the production sector that need to solutions that universities can provide through their innovations.

Risks: If international cooperation is relied upon to accelerate patentability examinations, users might think that the country is losing its sovereignty.

Mitigation: Users must be empowered to understand the limitations of this project; this also requires empowering national examiners so that they can soon take over the task of registrability examinations. It must also be made clear that sovereignty in the granting of IP rights remains unchanged.

Risk: Certain registered and valid patents are impossible to enable or replicate, because the owners have not revealed all components of the invention so that any person skilled in the art is prevented from enabling the invention using only the patent document.

Mitigation: In such cases, the relevant IP office must be informed so that it may take *proprio motu* action to withdraw the patent because it cannot be enabled, in accordance with Article 29.1 of the TRIPS Agreement.

3. MONITORING AND EVALUATION

3.1. Project Review Schedule

The project will be reviewed every nine months and a progress report will be submitted to the CDPI.

At the end of the project, an evaluation will be conducted and a report thereon will be submitted to the CDIP.

3.2. Project Self-Evaluation

In addition to the project self-evaluation, an independent evaluation will be undertaken.

Project Outputs

Indicators of Successful Completion

Accelerate and use patent information regarding the latest advances in science and technology to generate local innovation and contribute to the transformation of the production sector

A report on results will be prepared, with statistics showing the figures for the local filing of patent applications as a result of the implementation of this project in universities.

Project Objectives	Indicators of Success in Achieving Project Objectives
<p>Explain the true rationale of patent law, which is understood as identifying those positive social actors that solve common problems with an invention and encouraging public disclosure of the entire invention achieved.</p>	<p>The utilization and free study of patents in universities and independently by citizens through free databases.</p>
<p>Access the latest developments in science and technology contained in patent documents of recent years, avoid duplication of effort and reduce time spent by researchers to access existing technical solutions with a view to investigating further solutions.</p>	<p>National patent applications with several quotations from existing patents, as a result of having accessed them in previous research processes.</p>
<p>Improve the academic and research level at universities, as students will expect their teachers to be abreast of the latest advances in science and technology.</p>	<p>Exponential growth in the number of academic papers for publishing submitted by universities implementing the pilot project.</p>
<p>Increase foreign direct investment and technology transfer following an increased technical capacity for absorbing science and technology from the base of the economically active population and the enforcement of intellectual property rights.</p>	<p>Foreign direct investment index attained after the implementation of the project.</p>
<p>Increase national investment in intangible value-added products as a result of the increased technical capacity to incorporate local factors.</p>	<p>Growth of non-oil exports of domestic enterprises following the implementation of the project.</p>
<p>Drive the number of foreign patent applications filed locally as a result of increased capacity to absorb foreign technology.</p>	<p>Growth in the number of patent applications filed by foreigners as compared to the previous ten years.</p>
<p>Increase the number of patent applications and utility models filed locally by nationals.</p>	<p>Increase in the number of patent applications and utility models filed locally by nationals as compared to the previous ten years.</p>
<p>Increase job opportunities for young people who develop innovations in universities.</p>	<p>Number of young people employed, taking as a reference the universities where the pilot project was implemented, subsequent to the completion of the pilot project.</p>

Challenge patents undeserving of protection for being impossible to carry out, replicate or enable by persons skilled in the art.	Number of patent withdrawal proceedings recorded abroad, for patents that are cannot be carried out, enabled or replicated by persons skilled in the art.
Allowing national exploitation of patent not registered locally, to supply the domestic market.	Reduction in imports of patent-protected products.
Allowing national exploitation of plant varieties not registered locally to supply the domestic market and contribute to food sovereignty.	Reduction in imports of products protected by foreign breeder's certificates.

5. TOTAL RESOURCES BY RESULTS

Budget (Swiss francs)

Expected Results	20162016		2017		2018		2019		TOTAL	
	Personnel	Non-personnel	Personnel	Non-personnel	Personnel	Non-personnel	Personnel	Non-personnel	Personnel	Non-personnel
Experts' fees <ul style="list-style-type: none"> • Training universities; • Training students and lecturers in IP; • Training students and lecturers on the functions of TISCS; • Training in the private sector. 		35,400		70,800		70,800		70,800		247,800
Equipment and Supplies <ul style="list-style-type: none"> • Implementation of TISCS in universities; • Refurbishment of laboratories or establishment of university replication centers 			20,000	195,000	40,000	390,000			60,000	585,000
Travel <ul style="list-style-type: none"> • Agreements to establish international cooperation mechanisms to help accelerate international patentability examinations 				30,000		30,000				60,000
Scholarships (8 examiners for 6 months) <ul style="list-style-type: none"> • Patent examiner training 				190,000		380000				570,000
SUB-TOTAL									60,000	1.462.800
TOTAL										1,522,800

[End of Annex and of document]