

Committee on Development and Intellectual Property

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COMPILATION OF TECHNOLOGY EXCHANGE AND LICENSING PLATFORMS

Document prepared by the Secretariat

1. During its nineteenth session, held from May 15 to May 19, 2017, the Committee on Development and Intellectual Property requested the WIPO Secretariat to “prepare a compilation of existing national, regional and international technology exchange and technology licensing platforms, as well as of challenges related thereto, facing in particular developing countries and LDCs.” (Paragraph 8.8. of the Summary by the Chair of the nineteenth session).

2. Accordingly, the Annex to this document responds to this request.

3. *The CDIP is invited to take note of the information contained in the Annex to this document.*

[Annex follows]

I. INTRODUCTION, SCOPE, AND METHODOLOGY

A non-exhaustive compilation of existing national, regional and international technology exchanges and licensing platforms is provided below, focusing on exchanges and licensing platforms administered by governmental or intergovernmental organizations and open to multiple technology providers. Private exchange and licensing platforms, including those maintained by numerous academic institutions to signal the licensing availability of their own technologies, are not considered to fall within the scope of the present compilation.

The compilation provides for each reviewed exchange or licensing platform a description of its objectives and organizational framework as well as a summary of key features including: (i) the organization responsible for hosting and administering the exchange or licensing platform; (ii) types of organizations that participate in the exchange or licensing platform as suppliers or consumers; (iii) the services offered through the exchange or licensing platform; and (iv) the areas to which technologies offered or requested on the platform belong.

The compilation is organized into three sections on national, regional, and international platforms, respectively, according to the nature of the organization responsible for hosting and administering the exchange or licensing platform. It also includes a special section on notable platforms under development including the Global Innovation Exchange being developed within the framework of the United Nations interagency Technology Facilitation Mechanism (TFM) launched as part of the 2030 Agenda for Sustainable Development.

A discussion on challenges related to technology exchanges and licensing platforms, facing in particular developing countries and LDCs, is provided in section VI below.

II. NATIONAL PLATFORMS

1. Australia – Source IP, IP Australia

Source IP is administered by IP Australia and aims “to facilitate innovation and commercialisation by providing a means for public sector patent holders to signal their licensing intent and promote their key areas of technology within a single platform”.

The platform seeks to maximize the potential collaboration opportunities for businesses seeking to work with public sector research partners and is particularly focused on making it easier for Australian businesses, including small businesses, to access innovation and technology generated by the publicly funded research sector in Australia.

Hosting Organization(s)	IP Australia
Participants	Government institutions; research institutions; academic institutions (universities); enterprises (SMEs)
Services	Technology exchange and licensing Research collaboration
Technology areas	All technology areas

Reference: <https://sourceip.ipaustralia.gov.au/>

2. China – China International Technology Transfer Center (CITTC)

The China International Technology Transfer Center (CITTC) is a technology and knowledge exchange platform, which includes specific technology offers and requests as well as offering technical assistance and international cooperation and partnerships. CITTC is supported by the Ministry of Science and Technology, the Beijing Municipal Science and Technology Commission and the People's Government of Haidan District. In order to further leverage the results of its network the CITTC cooperates with international academic and research institutions in Europe and North America.

Hosting Organization(s)	Ministry of Science and Technology, with the Beijing Municipal Science and Technology Commission and the People's Government of Haidan District
Participants	Government institutions; academic institutions (universities); research institutions; science and technology parks; enterprises; industry; private sector
Services	Technology exchange and licensing Knowledge exchange Funding mechanism
Technology areas	Aerospace; Agriculture; Automotive; Building and Construction; Chemicals; Electronics; Engineering; Health Care; IT; Life Sciences; New Energy

Reference: <http://www.cittc.net/sites/english/projects-home.html>

3. China – International Technology Transfer Network (ITTN)

Established by the Beijing Municipal Science and Technology Commission, the International Technology Transfer Network (ITTN) works with technology transfer and innovation service organizations at the domestic and international level to foster international research collaboration and technology transfer in China. Its mission is to provide a platform for science and research centers, enterprises and government institutions at the national and international level where such institutions can collaborate on specific technology transfer projects and innovation cooperation programs.

Hosting Organization(s)	Beijing Municipal Science and Technology Commission
Participants	Government institutions; non-governmental organizations; academic institutions (universities); research institutions; technology transfer organizations; enterprises
Services	Technology exchange and licensing; Research collaboration

Technology areas	Biomedicine and Healthcare; Energy and Environmental Protection; High-end Equipment; Information Communication Technology; Modern Agriculture; New Materials; Rail Transit Technology Innovation; and other technology areas
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Reference: <http://www.ittn.com.cn/Technology>

4. Cuba – Open Innovation Platform

The Open Innovation Platform allows companies to review and improve products and services with ideas and requests from other companies. Specific technology groups and campaigns can be joined or started. The Open Innovation Platform also includes features for sharing ideas, files, documents, calendars, fora, etc. to discuss, gather ideas, vote, collaborate and improve products and services. It also reviews and facilitates e-commerce, e-learning and crowd-funding.

However, registration is necessary and not all features are free of charge.

Hosting Organization(s)	Open Innovation Platform
Participants	Enterprises; private sector
Services	Knowledge exchange Research collaboration Crowdfunding
Technology areas	All technology areas

Reference: www.in-cubator.org

5. India – FreeTech Forum and Technology Database of the Council of Scientific and Industrial Research (CSIR) – Central Food Technological Research Institute (CFTRI)

The CSIR-Central Food Technological Research Institute (CFTRI) is an R&D institution established by the Government of India. CSIR-CFTRI focuses on the development and dissemination of food science technologies and holds a large portfolio of proven technologies and processes in its technology database, many of which have been successfully transferred to SMEs and to industry.

Technologies are offered free of charge in the FreeTech Forum so as to encourage the manufacture of these products thereby generating employment, entrepreneurship, effective utilization of raw materials and to generally improve people's nutrition.

Hosting Organization(s)	Council of Scientific and Industrial Research (CSIR)
Participants	Government institutions; academic institutions (university); research institutions; enterprises (SMEs); industry

Services	Technology exchange and licensing Research capabilities
Technology areas	Food science

Reference: <http://www.cftri.com/technology/>; and <http://14.139.158.39/freetech/>

6. India – India SME Technology Services Ltd. (ISTSL)

India SME Technology Services Ltd. (ISTSL) offers a technology exchange platform where micro, small and medium enterprises (MSMEs) can access opportunities at the global level for new and emerging technology, as well as to establish potential business collaborations. The ISTSL offers a large computerised database of technology available from different countries and gives users updated information on sources of technologies and means of accessing them.

Moreover, the Small Industries Development Bank of India (SIDBI) has, in collaboration with the United Nations Asian Pacific Centre for Transfer of Technology (UN-APCTT), established a Technology Bureau for Small Enterprises (TBSE) so as to link and offer the critical elements of technology and finances for the SME sector.

Hosting Organization(s)	Small Industries Development Bank of India (SIDBI), State Bank of India (SBI), Oriental Bank of Commerce (OBC), Indian Overseas Bank (IOB), Indian Bank
Participants	Government institutions; enterprises (SMEs); innovation support centers; financial institutions; private sector
Services	Technology exchange Knowledge exchange
Technology areas	Agriculture, Agroindustry; Chemical Industry; Construction, Mining, Transport; Electrical, Electronics, Telecommunications; Energy; Environment; Food; Industrial Logistics, Services; Measurement, Control, Instrumentation; Machinery, Equipment; Materials, Coating; Medicine, Pharmaceuticals; Metal, Metalworking; Plastics, Glass, Rubber; Paper, Wood, Textile

Reference: <http://www.techsmall.com/technology-offers.php?id=database>

7. India – The Innovation Technology Platform

The Innovation Technology Platform focuses on connecting Nordic companies and institutions working in technology areas such as energy, water, waste, climate change and related environment sectors with Indian companies, to address technology and innovation challenges in India and enable growth. It also permits a dialogue between the main players in the value chain: technology developers, solution seekers, government authorities and research and development institutions.

The Innovation Technology Platform is supported by the Infrastructure Leasing and Financial Services Ltd (IL&FS) Group, one of India's leading infrastructure development and financial institutions, which supports companies in speeding up their growth and business ambitions through public private partnerships (PPPs).

Hosting Organization(s)	Infrastructure Leasing and Financial Services Ltd (IL&FS) Group
Participants	Government institutions; academic institutions (universities); research institutions; enterprises; private sector
Services	Technology exchange and licensing; Exchange of knowledge and know-how Funding mechanism through the IL&FS Environment and Infrastructure Innovation Fund
Technology areas	Air and Environment; Energy Efficiency; Energy Infrastructure; Green Energy; Urban Habitats; Waste and Recycling; Water and Waste Water

Reference: <http://innovationplatform.in>

8. Japan – Japan Science and Technology Agency (JST) Technology Transfer Program

The Japan Science and Technology Agency (JST) is network-based research institute responsible for the implementation of science and technology policy in Japan, including the government's Science and Technology Basic Plan.

JST provides a wide range of information on science and technology and raises awareness and understanding of science and technology related issues, as well as undertaking strategic international activities related to Japan's science and technology policy.

JST also identifies research projects show significant potential as the basis for future innovation and offers a broad array of programs to support collaboration between university and public-sector researchers and the private sector. More specifically, JST works to facilitate technology transfer of leading-edge research output from universities and public research institutions to the industrial sector.

It also provides a platform where selected technologies are available for licensing at: https://www.jst.go.jp/tt/EN/univ-ip/cips/licensing/details_01.html

Hosting Organization(s)	Japan Science and Technology Agency (JST)
Participants	Academic institutions (universities); research institutions; industry; enterprises; private sector
Services	Technology exchange and licensing Knowledge exchange Research collaboration

Technology areas	Green Innovation; Life Innovation (Food, Environment and Health); Nanotechnology and Materials; Information and Communications; Science and Technology
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Reference: <https://www.jst.go.jp/tt/EN/about.html>

9. Korea – Kibo Technology Matching System (KTMS)

The Korea Technology Finance Corporation (KOTEC) has established a technology transfer platform called the Kibo Technology Matching System (KTMS) for SMEs to promote open innovation and to more effectively monetize their R&D results. The process of matching needs and offers is initiated by the Technology Appraisal Center (TAC), which consults and identifies the technology needs of the requesting company. The Technology Convergence Center (TCC), which is specialized in intermediary services will communicate with the requested party both online and offline. The TCC uses the KTMS online platform to search the requested technologies.

If a technology is matched, the TCC supports due diligence, negotiation and contracts related to the technology. Finally, KOTEC financially supports the requesting company with a guarantee a loan for licensing, development and production. There are approximately 240,000 offered profiles and around 1,000 requested profiles available on the KTMS website.

Hosting Organization(s)	Korea Technology Finance Corporation (KOTEC)
Participants	Government institutions; enterprises (SMEs); private sector
Services	Technology exchange and licensing Knowledge exchange Funding mechanism
Technology areas	All technology areas

Reference (currently only available in Korean): <https://tb.kibo.or.kr>

10. Israel – Start-up Nation Central (SNC)

Start-Up Nation Finder is an online, free technology exchange platform offering a comprehensive overview of the Israeli innovation ecosystem. It is an important resource offering in-depth information concerning Israeli start-ups, investors, hubs and multinational corporations. It also offers data technology, crowd-sourcing possibilities, as well as a team of professional analysts. Information and insights are available for companies whose technologies are therefore promoted at a global level.

Hosting Organization(s)	Start-up National Central (SNC)
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Participants	Government institutions; research and development centres; enterprises; private sector
Services	Technology exchange and licensing Research collaboration
Technology areas	Agricultural Technology; Biotechnology; Cybersecurity; Digital Health; Ecommerce; Fintech; Machine Learning; Robotics

Reference: <https://www.startupnationcentral.org/>

11. Singapore – Exploit Technologies Pte Ltd (ETPL), Agency for Science, Technology And Research (A*STAR)

ETPL is the commercialization arm of the Agency for Science, Technology and Research (A*STAR), supporting innovation and commercialization of A*STAR's research outcomes. Its teams specialize in intellectual property, technology transfer and commercialization with the objective to increase the value of their intellectual property and incubate high-tech business ventures to have a commercial impact. ETPL works with industry leaders, mentors, catalysts and the A*STAR research community, in its aim to build a cohesive innovation and enterprise ecosystem.

Hosting Organization(s)	Agency for Science, Technology and Research (A*STAR)
Participants	Government institutions; A*STAR research institutions: Biomedical Research Council (BMRC) research institutes and consortia, Science and Engineering Research Council (SERC) research institutions; enterprises (SMEs); industry
Services	Technology exchange and licensing Research collaboration Access to research capabilities
Technology areas	Electronics; Energy; Environment; Foods; Infocommunications and Multimedia; Manufacturing; Materials and Chemicals; Life Sciences; Medical Devices; Diagnostics; Pharmaceuticals

Reference: <https://www.etpl.sg/innovation-offerings/technologies-for-license>

12. Switzerland – Swiss Technology Transfer Association (swiTT)

The Swiss Technology Transfer Association (swiTT) is active in the transfer of technology from institutes of public research and education, university hospitals, and other not-for-profit research organizations to the private sector in Switzerland. The swiTT platform also offers an exchange of experiences and best practices in technology transfer.

swiTT maintains a database called swittlist of technology and licensing opportunities from public research and education institutions available to interested parties in both the private and public sectors.

Hosting Organization(s)	Swiss Technology Transfer Association (swiTT)
Participants	Academic institutions (universities); research institutions; private sector
Services	Technology exchange and licensing Knowledge exchange Technology alert
Technology areas	Advanced Materials, Micro- & Nanotechnology; Biotechnology, Pharmaceuticals, Diagnostics & Medtech; Chemical Processes & Compounds; Civil & Mechanical Engineering, Aerospace; Electrical & Electronics Engineering, Sensors & Analytics; Information & Communications Technology

Reference: <https://switt.ch/>

III. REGIONAL PLATFORMS

1. Enterprise Europe Network (EEN)

The Enterprise Europe Network (EEN) of the European Commission combines and builds on the former Innovation Relay Centres and Euro Info Centers with the aim to offer an integrated business and innovation support to Small and Medium-sized Enterprises (SMEs). It is co-financed under the European Union's programme for the competitiveness of SMEs (COSME).

The EEN is currently active in 63 countries worldwide and brings together 3,000 experts from more than 600 member organisations regarding business support. It offers free, specific support and advice to assist businesses to innovate and grow nationally and internationally. Services include identifying new technologies, licensing innovative products and services, finding international partners and opportunities for business, technology and research cooperation.

It also provides the possibility to search for partners to manufacture, distribute, co-develop and supply products, ideas and business. This is done on a country basis, so that for example in Switzerland the database is found at

<https://www.swisseen.ch/en/innovation-technologie/technology-database>

An alert for newly added opportunities is also possible:

<https://www.swisseen.ch/en/innovation-technologie/technology-database>

Hosting Organization(s)	European Commission
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Participants	Academic institutions (universities); research institutions; enterprises (SMEs); innovation support organizations; regional development organizations; chambers of commerce and industry
Services	Technology exchange Research collaboration Technology alert
Technology areas	Aeronautics, Space and Dual-Use Technologies; Agrofood; Automotive, Transport and Logistics; BioChemTech; Creative Industries; Cultural Heritage; Environment; Healthcare; ICT Industry & Services; Intelligent Energy; Maritime Industry and Services; Materials; Nano and micro technologies; Retail; Sustainable Construction; Textile & Fashion; Women Entrepreneurship

Reference: <http://een.ec.europa.eu/>

2. European Cluster Collaboration Platform (ECCP)

The European Cluster Collaboration Platform (ECCP) is a service facility aiming to provide cluster organizations with tools to make efficient use of networking and searching potential partners and opportunities; developing collaboration within Europe and beyond; supporting the emergence of new value chains through cross-sectorial cooperation; accessing the latest quality information on cluster development; and improving the performance and competitiveness of the cluster and its members.

Although this is not a technology transfer platform per se for individual companies, but a matchmaking platform for cluster management organizations in Europe to link with others in Europe and further afield by creating partnership to support internationalization by cluster members who include producers and other 'ecosystem' organizations. Clusters are concerned with facilitating collaboration amongst member firms, supporting member firms' innovation activities including by finding technologies for them to buy and buyers for technologies they have developed, and enabling member firms' access to private and public funding.

Hosting Organization(s)	European Commission
Participants	Cluster organizations: clusters of enterprises (SMEs), research organizations, producers' associations, industry
Services	Technology exchange Knowledge exchange Funding mechanism
Technology areas	All technology areas

Reference: <https://www.clustercollaboration.eu/>

3. Renewable Energy Technology Bank (RET-Bank)

The Renewable Energy Cooperation-Network for the Asia Pacific (RECAP) was established and is hosted by the Asian and Pacific Centre for Technology Transfer (APCTT). It promotes research and development partnerships and facilitates technology transfer cooperation among countries in the Asia and the Pacific region in the area of renewable energy through the “Renewable Energy Technology Bank (RET-Bank)” of tested and proven renewable energy technologies (RETs) in the areas of solar, biomass, wind, mini-hydro power and geo-thermal energy.

A repository of information on renewable energy technologies that are readily available for transfer and deployment, the RET-Bank offers technologies available for public access through the APCTT and RECAP websites.

Hosting Organization(s)	Asian and Pacific Centre for Transfer of Technology (APCTT)
Participants	Government institutions; research institutions
Services	Technology exchange Research collaboration
Technology areas	Renewable Energy: Solar, Biomass, Wind, Mini-Hydro Power and Geo-Thermal Energy Technologies

Reference: <http://apctt.org/recap/ret-bank-detail>

4. Technolog4SME

The Technolog4SME Database is an online platform hosted by the Asian and Pacific Centre for Transfer of Technology (APCTT) for information exchange on the availability and sourcing of technologies for SMEs in countries in the Asia and the Pacific region. The database provides a list of technologies available for transfer (<http://www.apctt.org/technology-offer>), a list of technology requests (<http://www.apctt.org/technology-request>), as well as opportunities for business cooperation through joint venture and partnerships (<http://www.apctt.org/partnership-offer>). The use of the Technolog4SME database is free of charge.

The APCTT also hosts a broad range of programs and services supporting science, technology and innovation (STI), technology transfer and technology intelligence, which are considered useful in the area of technology transfer and are referenced at the end of the current document. The APCTT has also compiled a list of global, as well as national, technology databases that deal with the technology transfer related services for SMEs and entrepreneurs, which can be found on its website at <http://apctt.org/aptitude/>.

Hosting Organization(s)	Asian and Pacific Centre for Transfer of Technology (APCTT)
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Participants	Enterprises (SMEs)
Services	Technology exchange Knowledge exchange Business cooperation (joint venture and partnerships)
Technology areas	All technology areas

Reference: <http://www.apctt.org/technology-transfer>

5. Sustainable Agricultural Technologies in South and Southeast Asia (SATNET Asia)

The Network for Knowledge Transfer on Sustainable Agricultural Technologies and Improved Market Linkages in South and Southeast Asia (SATNET Asia) is a network of institutions in the region, which share knowledge on sustainable agricultural technologies and improved market connections. SATNET Asia facilitates knowledge transfer through the development of a portfolio of best practices on sustainable agriculture and trade facilitation.

The SATNET Asia database contains information on sustainable agricultural technologies and good agricultural practices promoted by development practitioners and implemented by small farmers in various countries of South and South-East Asia.

Hosting Organization(s)	Centre for Alleviation of Poverty through Sustainable Agriculture (CAPSA), with the Asian and Pacific Centre for Transfer of Technology (APCTT), the Trade and Investment Division (TID) of ESCAP, The World Vegetable Center – East and Southeast Asia (AVRDC ESEA), and the Food Security Center (FSC), University of Hohenheim, Germany
Participants	Government institutions; academic institutions (universities); research institutions, non-governmental organizations; private sector
Services	Technology exchange and licensing Knowledge exchange Research collaboration
Technology areas	Agriculture

Reference: <http://satnetasia.org/>

IV. INTERNATIONAL PLATFORMS

1. Environmental Technology Database, United Nations Industrial Development Organization Investment and Technology Promotion Office (UNIDO ITPO Tokyo)

The United Nations Industrial Development Organization's (UNIDO) Investment and Technology Promotion Office, Tokyo (UNIDO ITPO Tokyo) was established in accordance with an agreement concluded between UNIDO and the Government of Japan.

UNIDO ITPO Tokyo's Environmental Technology Database shares information on energy and environment related technologies from Japanese enterprises and thereby promotes the transfer of such technologies to developing countries. The technologies are reviewed and checked for registration in the database by UNIDO officers and technology consultants based on the following criteria: 1) Applicability in developing countries; 2) Competitive advantage; 3) Conformity with UNIDO's mandate of industrial development; 4) Sustainability; 5) Technical maturity.

Hosting Organization(s)	United Nations Industrial Development Organization Investment and Technology Promotion Office (UNIDO ITPO Tokyo)
Participants	Government institutions; non-governmental organizations; enterprises; private sector
Services	Technology exchange Capacity building
Technology areas	Low carbon & energy conservation (agriculture, fishing, and forestry, buildings and household, cogeneration, energy efficiency, industry, renewable energy); prevention and destruction of pollution (ozone-depletion substances, air pollution, industrial waste water, sewage, land water, ocean, soil and underground water, urban and living environment); waste treatment & management (recycling of plastics, recycling of glass, end-of-life vehicles, production process, municipal solid waste, industrial waste, medical waste).

Reference: http://www.unido.or.jp/en/activities/technology_transfer/technology_db/

2. Global Innovation Exchange

The Exchange was initially developed with the cooperation of over 100 international organizations from across government, business, academia and civil society. The founding partners include the U.S. Global Development Lab at USAID, AusAid, KOICA and the Bill & Melinda Gates Foundation. Other organizations include donors, foundations, universities, research organizations, non-governmental organizations, and news media, which contribute to the development of the Exchange.

The Exchange provides means to find, share and contribute to breakthrough innovations, as well as to search for funding, connect with other resources to continue testing innovations and follow the latest trends in technologies.

It currently comprises a large number of innovations which are offered for funding, collaboration, application and feedback, with finances available for supporting for innovations, as well as a large number collaborators ready to review and evaluate new solutions or to give their expertise to entrepreneurs.

Hosting Organization(s)	Global Innovation Exchange
Participants	International organizations; government institutions; academic institutions (universities); research institutions; non-governmental and civil society organizations; private sector
Services	Technology exchange Funding mechanism
Technology areas	Agriculture; Digital Development & Enabling Technologies; Energy; Environment; Health; Housing and Infrastructure; Transport & Supply Chain; Water Sanitation and Hygiene

References: <https://www.globalinnovationexchange.org/innovations>
<https://www.globalinnovationexchange.org/funding>

3. South-South Global Assets and Technology Exchange (SS-GATE)

The United Nations Office for South-South Cooperation (UNOSSC) established the South-South Global Assets and Technology Exchange (SS-GATE) to promote the identification, sharing and transfer of innovations and technologies between developing countries.

The platform comprises a website where Southern governments, institutions and companies can indicate specific needs for goods, services, information and resources and where private sector companies in other Southern countries can offer services, products and/or financing to meet those needs. Local facilitation and transactional support is further provided by SS-GATE country centers, regional hubs and the SS-GATE secretariat in Shanghai, China.

Hosting Organization(s)	United Nations Office for South-South Cooperation (UNOSSC)
Participants	Government institutions; academic institutions (universities); enterprises; business associations; civil society; private sector
Services	Technology exchange and licensing Funding mechanism
Technology areas	Agriculture; Clean Energy; Health

Reference: <http://ss-gate.info/>

4. Technologies and Practices for Small Agricultural Producers (TECA), Food and Agriculture Organization of the United Nations (FAO)

The Technologies and Practices for Small Agricultural Producers (TECA) platform provides practical information regarding agricultural technologies and practices to help small producers in the field. Users have easy access to a knowledge database to improve their production systems, product marketing and farm management. Technologies are also listed in the TECA database, which have been tested and/or adopted by small producers and which are easy to replicate and increase production in a sustainable way.

TECA also offers various online forums and Exchange Groups where experts and practitioners can share their experiences and knowledge on different farming systems for small producers and improve their support to small producers.

Hosting Organization(s)	Food and Agriculture Organization of the United Nations (FAO)
Participants	Farmers' associations; academic institutions (universities); non-governmental organizations; private sector
Services	Technology exchange Research collaboration Knowledge exchange
Technology areas	Agricultural mechanization; Capacity development; Climate change and disaster risk reduction; Crop production; Fishery and aquaculture; Forestry; Livestock production; Natural resources management; Nutrition; Post-harvest and marketing

Reference: <http://teca.fao.org/home>

5. WIPO GREEN, World Intellectual Property Organization (WIPO)

WIPO GREEN is an interactive marketplace that promotes innovation and diffusion of green technologies. It does this by connecting technology and service providers with those seeking innovative solutions.

WIPO GREEN contributes to green technology innovation and transfer by bringing together a wide range of technologies and players in the green technology innovation value chain. It connects owners of new technologies with individuals or companies looking to commercialize, license or otherwise access or distribute a green technology. Moreover, the network facilitates commercial relationships and transactions by connecting green technology providers and seekers, and acts as a gateway to a range of useful services.

Hosting Organization(s)	World Intellectual Property Organization (WIPO)
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Participants	Intergovernmental organizations; non-governmental organizations; research institutions; enterprises (SMEs); experts and industry associations; financing institutions; private sector
Services	Technology exchange and licensing Knowledge exchange Capacity building to facilitate technology transfer Roster of green technology experts and service providers Funding/investor matchmaking mechanism
Technology areas	Building and Construction; Chemicals and Advanced Materials; Energy; Farming and Forestry; Green Products; Pollution and Waste; Transportation; Water

References: <https://www3.wipo.int/wipogreen/en/>
<https://www3.wipo.int/wipogreen-database/>

V. PLATFORMS UNDER DEVELOPMENT

1. Technology Facilitation Mechanism (TFM) Online Platform

Within the framework of implementing the Sustainable Development Goals (SDGs), the United Nations decided, at the *Third International Conference on Financing for Development* in July 2015, to establish a Technology Facilitation Mechanism (TFM) to facilitate multi-stakeholder collaboration to support the SDGs (see paragraph 123 of the *Addis Ababa Action Agenda*), one component of which is the development of an online platform as a gateway for information on existing science, technology and innovation (STI) initiatives, mechanisms and programs.

The TFM online platform is currently not operational, but work is underway to design, develop and operationalize it, including the preliminary collection of existing technology applications and initiatives in addressing sustainable development challenges.

One major element in the development of the online platform has been an independent assessment, which not only provides options for architecture, management and governance structure, but also described in detail the benefits and financial costs of various options for the online platform. It is also very relevant in that it reviews and lists currently existing technology exchange platforms in its annexes.

One of its key messages is that “The online platform should support actual technology transfers via matchmaking, not be simply an information repository for policy and/or scientific information.”

Reference: <https://sustainabledevelopment.un.org/tfm>

The full independent assessment for the TFM online platform can be found at:
https://sustainabledevelopment.un.org/content/documents/16505Full_Report_Online_Platform_Assessment.pdf

2. Disaster Risk Reduction (DRR) Technology Sharing Platform

This is another technology sharing platform that is not yet established, but has been the subject of discussion within UN fora, in particular at the United Nations Office for Disaster Risk Reduction (UNISDR) charged with implementing the International Strategy for Disaster Reduction (ISDR).

This technology platform for the global network on climate change adaptation (CCA) and disaster risk reduction (DRR) would aim to provide information on various products and services with the primary objective to allow businesses to share DRR technology.

It is foreseen that the platform will use an advanced information system from an open source, which would guarantee its future expansion by providing a standardised base, as well as flexible commercialization of platform technology transfer in the future.

Reference: <https://www.unisdr.org/we/inform/publications/50221>

VI. CHALLENGES RELATED TO TECHNOLOGY EXCHANGES AND LICENSING PLATFORMS

Technology exchanges and licensing platforms require significant resources on the part of administering organizations to operate effectively, including: (i) technical resources such as hardware and software; and (ii) human resources to fulfil roles such as platform development and administration, customer service and support, business management and development, marketing and communications, and legal services.

These resources are required to ensure that those platforms can achieve the basic elements of operation, namely “authenticity, effectiveness, smooth matching, and the ability to provide personalized service”, as laid out in the Full Report on Independent Technical Assessment Findings for the Online Platform for the Technology Facilitation Mechanism.¹ The cost of these resources can be substantial, estimated to run as high as 2 million US dollars in start-up costs and 1.2 million US dollars in operating costs for the Online Platform for the Technology Facilitation Mechanism (not including translation costs), according to the associated Full Report on Independent Technical Assessment Findings.²

Technology exchanges and licensing platforms similarly require certain resources on the part of suppliers and consumers of technology to use them effectively, including human resources on the consumer side to define technology needs and identify appropriate technologies to meet these needs, and on the supplier side to manage technology portfolio and present these technologies, and to contract and conduct exchanges on both sides.

Operating and using technology exchanges and licensing platforms also requires reliable infrastructure notably in terms of internet connectivity.

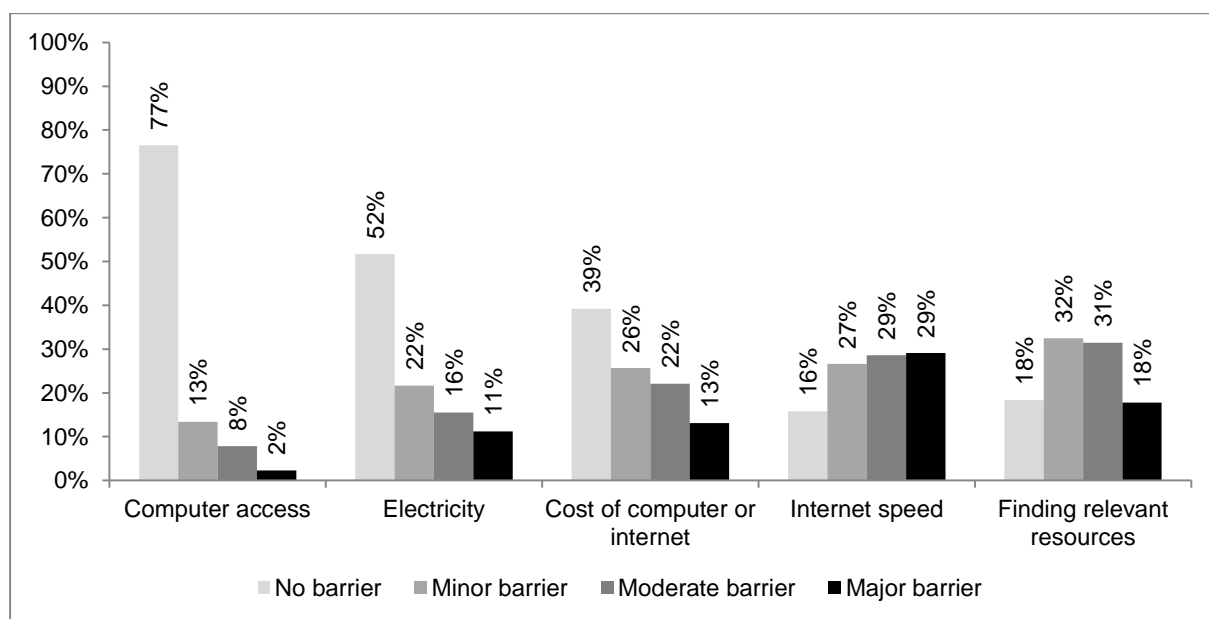
Challenges related to online platforms in developing and least developed countries (LDCs) have been highlighted in sources such as the 2009 Report on “Factors Affecting Information Uptake in Universities in Developing Countries” and the 2010 and 2014 Research4Life User Experience Reviews, prepared for the Food and Agriculture Organization of the United Nations (FAO),

¹ https://sustainabledevelopment.un.org/content/documents/16505Full_Report_Online_Platform_Assessment.pdf

² Ibid.

United Nations Environment Programme (UNEP), World Health Organization (WHO) and WIPO, and include:

- Lack of access to computers with internet connectivity;
- Internet speed and quality;
- Cost of internet access;
- Competition for internet access;
- Poor-quality grid-based electricity;
- Difficulty in finding relevant resources;
- Lack of facility with the language of publication; and
- Other barriers related to local conditions (e.g. conflict, transportation infrastructure).



Adapted from: 2015 Research4Life User Experience Review

These sources also point to a shift in the obstacles to using online platforms in developing countries and LDCs from infrastructure (lack of access to computers with internet connectivity, cost of internet access, and poor quality grid-based electricity) towards infrastructure and capacity (internet speed and quality and difficulty in finding relevant resources).

Barrier	2015 No barrier or minor barrier	2010 No barrier or minor barrier	Trend
Computer access	90%	76%	↓
Electricity	73%	62%	↓
Computer/internet cost	65%	56%	↓
Internet speed	27%	38%	↑
Finding relevant resources	32%	55%	↑

Adapted from: 2015 Research4Life User Experience Review

Note: Trend indicates increasing or decreasing barrier

Technology exchanges and licensing platforms are intended to foster transactions among suppliers and consumers of technology, which further requires: (i) financial resources; and (ii) an enabling environment. Challenges to realizing such transactions in developing and least developed countries include inadequate financing mechanisms, resulting from weak and

uncertain markets and associated investment risk, an underdeveloped financial sector, and inadequate financing from the public sector through government funds and donor funds, preventing suppliers of technology from realizing prices that would be needed to cover not only the cost of research and development but also provide profits, as indicated in the Study on the Economics of IP and International Technology Transfer.³ They also include a poor enabling environment, with underdeveloped policy and legal frameworks in terms of intellectual property and other areas, adverse economic conditions including high or uncertain inflation, weak physical infrastructure, and a scarcity of skilled workers to which a lack of educational institutions contributes, as also indicated in the Study on the Economics of IP and International Technology Transfer.⁴

Least developed countries face particular challenges in terms of operating and using technology and fostering transactions among suppliers and consumers of technology due to human and structural conditions, including “abject poverty, lack of infrastructure, access to basic human needs such as water, energy, basic sanitation, and healthcare”, “low stocks of skilled labour and the disadvantages of geography (such as inadequate natural harbours)”, and resulting limited absorption capacities, as emphasized in the Evaluation Report of the Project on Intellectual Property and Technology Transfer: Common Challenges – Building Solutions and 2014 MDG Gap Task Force Report.^{5,6}

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³ http://www.wipo.int/meetings/en/doc_details.jsp?doc_id=287167

⁴ Ibid.

⁵ http://www.wipo.int/meetings/en/doc_details.jsp?doc_id=311558

⁶ https://sustainabledevelopment.un.org/content/documents/16505Full_Report_Online_Platform_Assessment.pdf