



Technology and Innovation Support Centers (TISCs) Report 2018

Celebrating 10 years of TISCs



Technology and Innovation Support Center (TISC) program

The Technology and Innovation Support Center (TISC) program is a global program created in 2009 to enable developing countries, least developed countries and countries in transition to better exploit their innovative potential.

The TISC program helps countries to access and make more effective use of patent information, scientific and technical literature and search tools and databases, thus boosting their IP capacity. It promotes innovation, technology transfer, commercialization and utilization of technologies across 78 countries.

The TISC program is administered by the Innovation and Knowledge Infrastructure Department of the World Intellectual Property Organization (WIPO). The program addresses WIPO's Strategic Goal IV, Coordination and Development of Global IP Infrastructure, contributing significantly to the ongoing expansion of the WIPO Knowledge Network by providing value-added services and specialized platforms and tools designed for strategic knowledge-sharing and innovation management.

We are delighted to share our annual report on the TISC program and its wealth of activities and initiatives carried out around the world. This year marks the tenth anniversary of the launch of the program and this report showcases the progress and achievements it has made in that time.

Francis Gurry, Director General

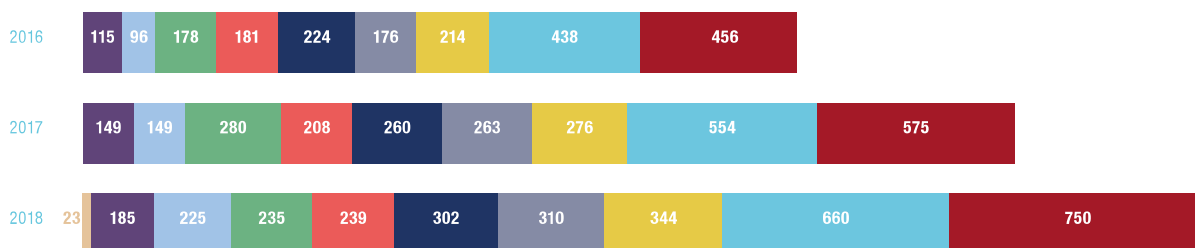


Building a culture of innovation

Innovation can come from any country and takes many forms. However, not all innovators have local access to the technological insight and related IP services they need to fully capture and protect their IP rights. The TISC program assists and empowers inventors and entrepreneurs, building on the rich set of technology information disclosed in more than 100 million published patent documents and scores of scientific and technical publications. Typically, TISCs are located in host institutions such as patent offices, universities, research centers, or science and technology parks. These centers provide on-the-ground information and support to innovators where they need it most.

Number of TISCs providing different types of services

(Source: TISC Directory)



- Analytics – Patent Landscape Reports (PLRs) and related services
- Assistance and advice on IP management – Patent drafting, prosecution
- Assistance and advice on IP management – Commercialization
- Search – Validity
- Search – Freedom to operate, clearance
- Search – Novelty, patentability
- Assistance and advice on IP management – Licensing, technology transfer
- Search – State of the art
- Assistance and advice in using databases
- Access to patent, scientific and technical databases

Key milestones in the 10 years of the TISC program



2009

Launch of the TISC project

Launch of ARDI



2010

Launch of ASPI

Conclusion of first Service Level Agreements (SLAs) to implement a TISC network



2013

First ASEAN Regional TISC meeting

First "Ask the expert" session on eTISC



2012

Launch of interactive eTutorial

Inauguration of eTISC knowledge management platform



2011

ARDI joins Research4Life partnership

Publication of the first *WIPO Patent Landscape Report*



2014

TISC and Patent Landscape Report projects become WIPO regular activities

First use of open-source tools in a WIPO Patent Landscape Report



2015

Publication of *Guidelines for Preparing Patent Landscape Reports*



2016

Launch of Development Agenda Project on the Public Domain

Launch of the Inventor Assistance Program (IAP)

Launch of TISC training on patent analytics

Online publication of *Manual on Open Source Tools for Patent Analytics*



2017

First TISCs start providing patent analytical services

Approval of new Development Agenda Project on Technology Transfer and IP Management



2018

Launch of the first *WIPO Technology Trends on Artificial Intelligence*

First workshops on the guides for identifying and using information in the public domain

Launch of the Patent Register Portal

Providing value-added support services

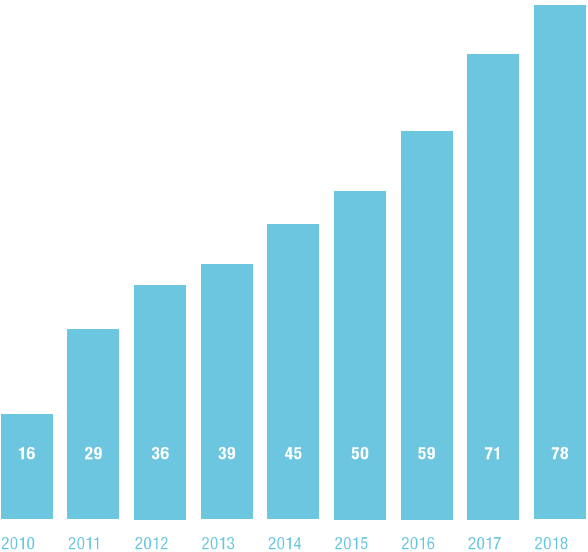
TISCs provide a diverse range of technology and innovation support services, from basic services to value-added services that help inventors, researchers, and entrepreneurs unlock their innovative potential.

Over 10 years, the TISC program has built a global network of effective and sustainable access points offering high-quality services.

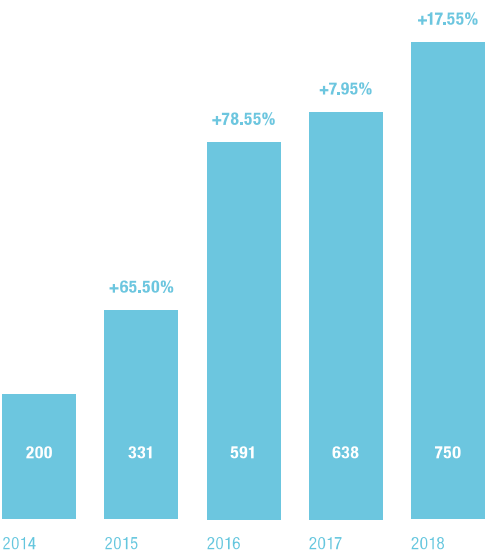
TISC services

- Access to patent and non-patent databases
- Networking and exchange of experiences
- Increase awareness on IP and contribute to economic growth in the country
- Provide quality services on patent search and analysis
- Patent filing and drafting support
- Training on access to and use of patent information
- Commercialization and technology transfer support

Number of national TISC networks over time
(Source: Service Level Agreements)



Number of TISCs and growth over time
(Source: TISC Directory)



750 centers across 78 countries

Since the TISC program was launched in 2009, 78 countries, of which 26 are least developed countries (LDCs), have signed Service Level Agreements (SLAs) with WIPO to develop national TISC networks. Over the last 10 years, 750 TISCs have been established.

Strong growth of the network

The TISC network continues to grow in **Benin**, with four new members joining in 2018 and three more in the pipeline.

In **Madagascar**, 16 new institutions joined the TISC network, making it now one of the largest TISC networks in the region, with 73 members.

In 2018, 12 new institutions signed agreements with the National Patent Office of **Palestine** to establish TISCs.

In **Ukraine**, the first TISC was officially launched in November 2018 at the International Forum “Innovation Market”.

Regional TISC networks were created to provide a formal platform for TISCs to exchange experiences and best practices, and to build on national and regional strengths in order to provide even more targeted support and services. Regional networks have been established among the Member States of the **Association of South East Asian Nations (ASEAN)** and in **Central America and the Dominican Republic (CATI-CARD)**.

Member States of the **African Regional Intellectual Property Organization (ARIPO)** formalized a regional TISC network in November 2018. The objective of the network is to serve as a platform for sharing experiences and best practices, and to catalyze innovation and development in the region.

Increasing maturity and sustainability

TISCs are financially and technically self-supporting institutions to which WIPO provides advice on demand. The sustainability of TISCs is measured through levels of maturity:

- **Maturity level 1:** countries that have signed a Service Level Agreement with WIPO, that have signed institutional agreements at national level between the TISC national focal point and TISC host institutions, and which provide at least an annual report on national TISC activities.
- **Maturity level 2:** countries that meet maturity level 1 standards and which provide basic patent information searches, e.g. state-of-the-art patent searches.
- **Maturity level 3:** countries that meet maturity level 2 standards and which provide value-added IP services, e.g. drafting patent landscape reports.

By the end of 2018, 34 countries out of 78 had reached some degree of sustainability, with 24 countries providing basic patent information search services and eight countries providing additional advanced value-added services.

TISCs by maturity level



TISC growth generates more services for innovators

Demand for TISC services continues to strengthen

As the number of sustainable national TISC networks grows, an increasing number of TISCs provide innovators with access to locally based technology information and related innovation support services. As such, the demand for TISC services has continued to strengthen. This year, TISCs experienced the greatest surge in the number of enquiries and requests for assistance since the TISC program was launched. In 2018, TISCs received an estimated 935,000 enquiries.

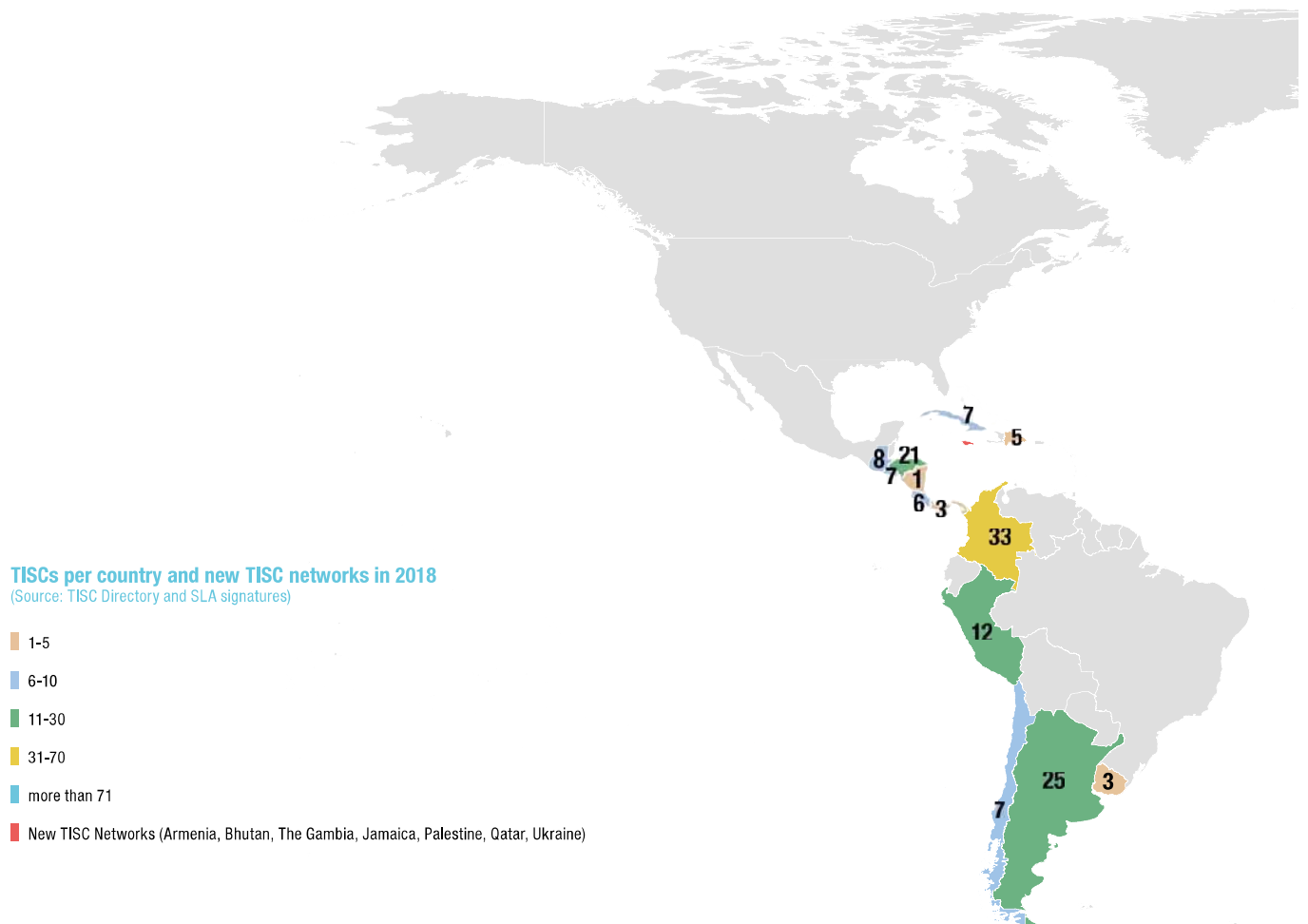
In **Argentina**, the National Institute of Industrial Property provided more than 100 hours of TISC training to over 200 people. With a growing national network (33 TISCs established in 19 institutions

across six regions), TISC members of the national network responded to over 500 different types of enquiries and provided advice on areas relating to patents (64%), trademarks (18%), contracts (5%), and licensing (1%).

In **Colombia**, members of the national TISC network prepared 600 technology searches, 43 patent landscape reports, and provided 6,600 consultations on different IP themes across 20 different cities.

In **Costa Rica**, the TISC network responded to over 1,150 enquiries and prepared 77 state-of-the-art searches.

In **Pakistan**, the network of 27 TISCs, mostly hosted by universities, received on average 371 enquiries per month.



Annual events and increased support from TISCs help researchers and entrepreneurs leverage the IP system more effectively

TISCs continued to carry out a large number of awareness-raising and capacity-building events to support innovators, researchers and entrepreneurs in how to use the global IP system effectively to support and foster local innovation. Some of the events organized during the year include:

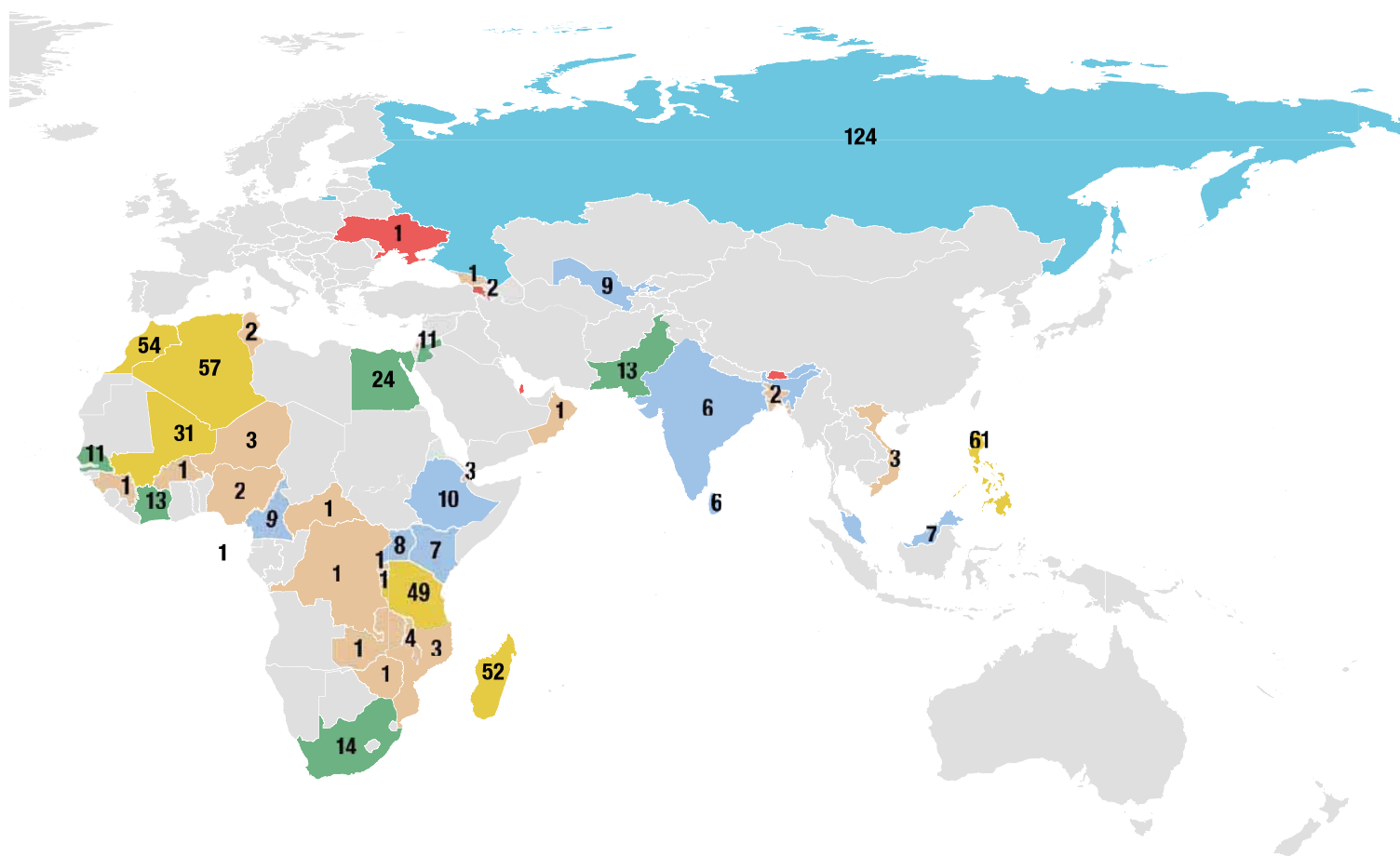
In **Colombia**, 9,500 participants benefited from over 350 training activities through the TISC program.

Following a WIPO seminar conducted in October 2018 in **Ethiopia**, the Ethiopian Intellectual Property Office conducted seven courses on patent search and the IP system.

TISC networks within countries are growing, enabling more services to be directed to local needs.

Over 150 awareness-raising events hosted by the Cell for IPR Promotion and Management of India were carried out in schools, universities, and companies across **India**.

In **Madagascar**, over 200 participants from universities, research centers, SMEs and industry received dedicated training on IP through the TISC network. Members of the TISC network also participated in industry, science and research events throughout the country to raise awareness



The technology and innovation support services offered by TISCs create real value, resulting in technology transfer and IP commercialization.

about patent information and to provide assistance on the use of patent databases and patent searches (e.g. the Industry Fair of Madagascar and Science Hack Day which brings together researchers, scientists, and industry representatives to collaborate on innovative projects).

In **Pakistan**, 55 awareness-building seminars on the patent filing system and on access to patent databases were organized throughout the year in different regions of the country. Twelve capacity-building sessions were held by the Intellectual Property Organization of Pakistan for TISC staff over the year.

In the **Russian Federation**, the sixth Congress of TISCs took place in September in Saint Petersburg with 152 participants, followed by a national TISC training seminar in Moscow, in November. Fourteen additional national training events and several regional scientific and technical conferences were also organized throughout the year by the Federal Service for Intellectual Property (ROSPATENT). The provision of e-filing of Russian IP rights, including patent applications, was expanded to 25 TISCs in 2018, and free access to the IPS databases, including Russian patent documents, is provided to all TISCs.

Forty-two seminars were organized in **Uzbekistan** by the Agency on Intellectual Property of the Republic of Uzbekistan, in cooperation with the Chamber of Commerce and its territorial offices. The Agency held educational outreach seminars across the country to increase entrepreneurs' knowledge in the field of legal protection of intellectual property. Twenty-eight seminars were held on the topic of

“Protection of IP in Uzbekistan” and 14 seminars were hosted on other related TISC themes.

Patent applications are on the rise

The support provided by TISCs to local innovators has had a direct impact on innovation in these countries, as evidenced by a rise in the number and quality of patent applications filed by members of the TISC networks.

In **Benin**, five patent applications were filed at the African Intellectual Property Organization (OAPI) through the TISC network.

In **Colombia**, 140 patent applications, 46 industrial designs and 600 trademark applications were filed in 2018.

In **India**, the six institutions hosting TISCs in the country filed nearly 50 patent applications in 2018 alone.

In **Madagascar**, 35 patent applications were filed at OAPI and five additional applications were filed through the PCT.

In **Morocco**, 121 patent applications and 15 PCT applications were filed in 2018; 66 percent of all patent applications filed by Moroccan applicants were filed by members of the TISC network.

In **Pakistan**, out of the 311 patents filed at national level, 76 were filed by TISC host institutions.

In **Sri Lanka**, an increase in the quality of patent applications filed through TISCs or by applicants who sought assistance from TISCs was experienced, with more complete documents containing prior art information.

Technology commercialization and licensing is bringing new value

The technology and innovation support services offered by TISCs create real value, resulting in technology transfer and IP commercialization.

In 2018, the TISC based in the NRDC Visakhapatnam in **India** successfully transferred nine technologies, and the TISC hosted by the Punjab State Council for Science and Technology transferred its invention related to low-emissions hybrid kilns to 300 brick kilns, earning revenues amounting to eight million Indian rupees.

In **Madagascar**, 41 patents in the area of meat processing and 31 patents in the area of vanilla processing were identified to be in the public domain and free to use in the country.

In **Morocco**, two members of the national TISC network, the *Université Internationale de Rabat* and the *Université Hassan 1^{er} de Settat*, signed an agreement with the Moroccan Industrial and Commercial Property Office (OMPIC) to provide value-added services for universities and research and development centers. The services will help these institutions to establish technology transfer offices in order to effectively use IP. OMPIC also partnered with Technopark to strengthen technical assistance given to enterprises and startups when it comes to protecting patents and commercializing technology.

TISCs without borders: international partnerships create new opportunities

In 2018, a number of initiatives between regions led to new partnerships and even greater cooperation between countries. The aim is to increase the impact and reach of TISCs and to build on the strengths of the sustainable TISCs.

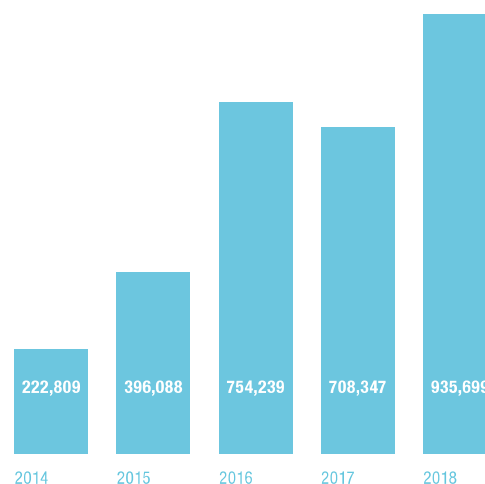
Madagascar and **Djibouti** initiated a partnership to exchange experiences and best practices on managing national TISC networks.

A partnership was established between **Morocco** and **OAPI** to prepare patent landscape reports in the field of green technologies, including the areas of water treatment, biodegradable plastics, and food packaging.

Members of the **CATI-CARD** regional TISC network, including universities and national TISC coordinators, partnered to prepare seven patent

Number of enquiries received by TISCs

(Source: Annual reports on national TISC activities submitted by TISC coordinators)



landscape reports across an array of fields. These included pest control with bio-pesticides (*Universidad de Costa Rica*); hydrogen as an alternative energy source (*Universidad de Galileo de Guatemala*); the use of pitaya as a natural coloring and associated technologies (*Universidad Nacional Autónoma de Nicaragua*); early flood warning systems (*Universidad Nacional Autónoma de Honduras*); technologies for the collection of sargassum (National Office of Industrial Property of the Dominican Republic); treatment of wastewater for re-use in agriculture and industry consumption (Cuban Office of Industrial Property); and resistance of solar panels to extreme wind conditions and protection against warming (Spanish Patent and Trademark Office).

On the other side of the globe, the **ASEAN** regional TISC network began implementing a formal training and mentorship program. This capacity building initiative aims to improve and refine the basic patent search skills of junior TISC staff through coaching and mentorship from senior, more experienced TISC staff.

WIPO: Supporting TISCs with resources and tools

WIPO has developed a number of initiatives, publications, training materials and tools designed to help TISCs access and make effective use of valuable scientific and technical information. As part of WIPO's efforts to support TISCs in building capacity, two public-private partnerships have been established with leading patent database providers and publishers, ASPI and ARDI.

Access to Specialized Patent Information (ASPI) program

ASPI enables institutions in developing countries to obtain free or low-cost access to commercial patent database services. It is made possible through a unique public-private partnership with eight leading patent database providers.

Access to Research for Development and Innovation (ARDI) program

ARDI aims to increase the availability of scientific and technical information in developing countries through a public-private partnership with the publishing industry. Over 50 publishers currently provide free or low-cost access to around 30,000 journals, books and reference works for 120 developing countries and territories through ARDI. The program is also a member of the

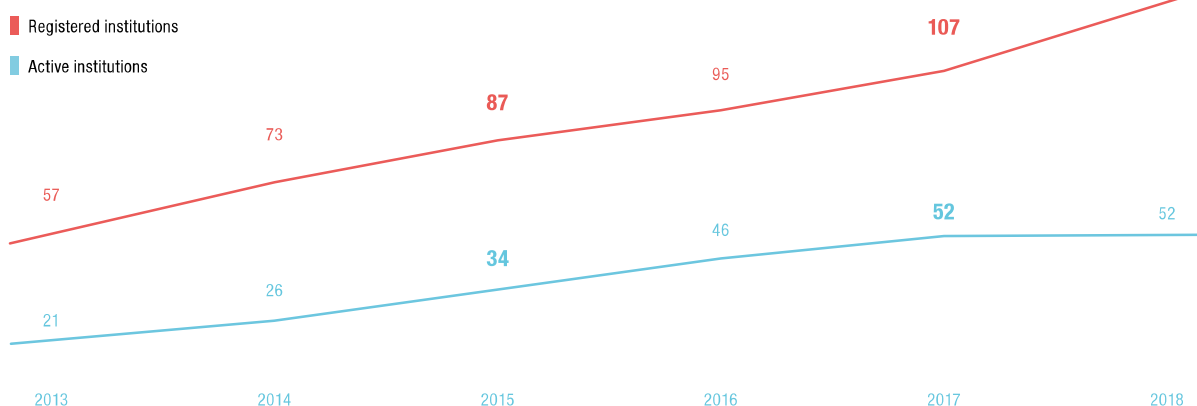
Research4Life partnership, a joint initiative of several United Nations agencies, private sector enterprises, non-governmental organizations, and academic institutions.

Content available through the Research4Life programs can now be accessed more easily through a single common platform and login. The International Labour Office (ILO) joined Research4Life in 2018 offering access to legal publications via its "Global Online Access to Legal Information" (GOALI) program.

Publications and training materials boost capacity

A number of publications have been created by WIPO to boost capacity building among TISCs worldwide. These publications are key reference sources for a range of subject areas, including patent documentation and databases, patent search, patent analysis, and TISC management. They are available in multiple languages and include brochures and guides as well as *WIPO Patent Landscape Reports*. These insightful reports examine patent filing trends and provide technical and business information of particular relevance to developing countries in areas such as public health, food and agriculture, environment, energy, and disabilities.

Number of registered and active institutions participating in ASPI



New series exploring technology trends

The first report in a new series analyzing patent filing trends and patenting activity in different areas of technologies was launched in 2018. This ground-breaking report entitled *WIPO Technology Trends – Artificial Intelligence* focuses on technologies and trends in this rapidly emerging field. The report compares patenting activity and scientific publications whilst scrutinizing top players from industry and academia across different technologies and application fields. It also highlights the geographical distribution of artificial intelligence (AI) patent protection, existing AI policies and future prospects.

A new PATENTSCOPE AI Index was launched as a companion resource to the *WIPO Technology Trends – Artificial Intelligence*, providing one-click access to patent documents related to different AI techniques, AI functional applications, and AI application fields available through WIPO's free PATENTSCOPE patent database. The PATENTSCOPE AI Index also provides key phrases and patent classification symbols, allowing users to create their own patent search queries to explore the landscape of AI technologies.

e-Tutorial on using and exploiting patent information

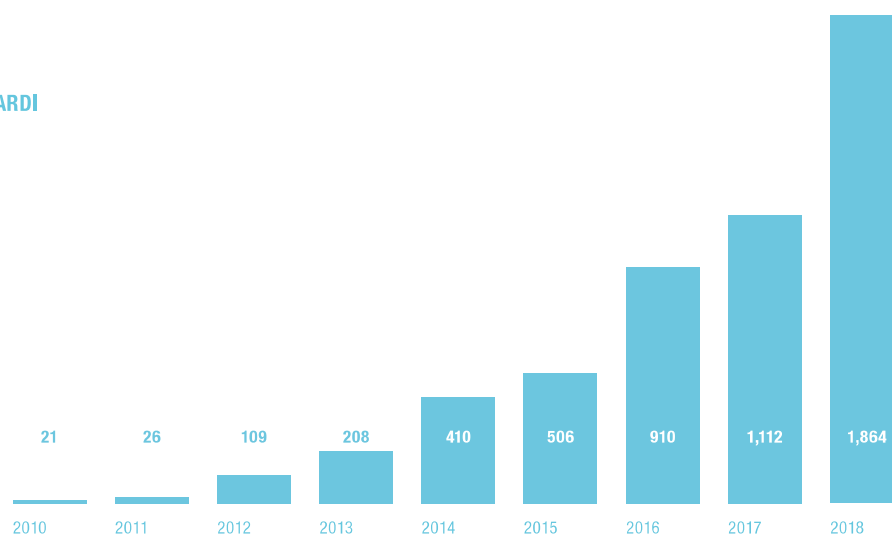
This free and interactive e-Tutorial was developed to help innovators learn how to use the wealth of technology information in patent documents to boost their own research and development. It comprises three sections, on patent basics, patent search and retrieval, and patent analysis.

In 2018, the e-Tutorial was converted to a new browser adaptive and responsive design so that it can be accessed and used on mobile devices. This also opened up new possibilities for translation of the e-Tutorial (currently available in English, French, Spanish and Russian) into other non-Latin script languages, including Arabic and Chinese.

eTISC knowledge sharing platform

eTISC connects the TISC community and other individuals with an interest in patent information and related subjects. A range of features allow eTISC members to share knowledge and experiences across national and regional boundaries. In addition, it offers training opportunities through webinars and "Ask the Expert" sessions on a range of topics. eTISC had 2,326 members at the end of 2018 representing 126 countries.

Number of institutions active in ARDI



TISCs are being empowered through knowledge-sharing platforms and trainings provided by WIPO.

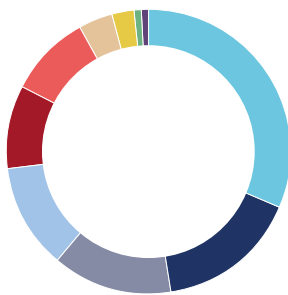
Patent Register Portal gets a facelift

The Patent Register Portal is a global portal providing links to online patent registers and gazettes together with legal status-related information that can be retrieved and searched online. The Portal was redesigned with a new user interface and advanced search functionalities. The new version was launched in November 2018 and contains information for over 200 jurisdictions and patent information collections on a searchable map and table, new help files with detailed legal status-related information, and search tips.

It is available on the WIPO website where a short video on how to use the Portal can be accessed.

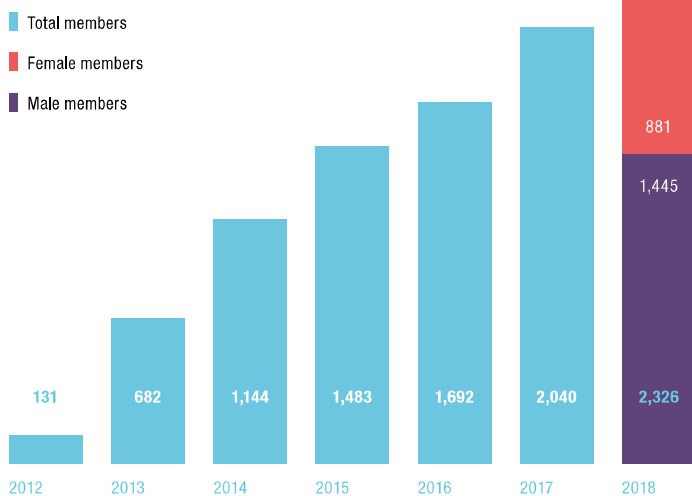
In the first two months following its launch, the Portal registered 1,880 user sessions and 4,571 downloads of the new help files containing detailed legal status-related information and search tips for all jurisdictions included on the Portal.

Members of eTISC by institution type



- University 31%
- Regional or National IP Office 16%
- Other Government institution 14%
- Private Sector 12%
- Individual 9%
- Research Center 9%
- WIPO 4%
- NGO 3%
- Other United Nations entity 1%
- Others 1%

Number of eTISC members



WIPO develops knowledge and skills

Training provided by WIPO supports the development of knowledge and skills among TISC staff building their capacity to provide a range of high-quality services.

Training includes on-site workshops and seminars with a focus on training of trainers, distance learning carried out in cooperation with the WIPO Academy, and “Ask the Expert” sessions and webinars on specific topics on the eTISC platform.

The topics covered by WIPO include: basic concepts and skills in patent searching; different types of patent searches, including state-of-the-art, novelty and freedom to operate, as well as patent analytics.

New training focus: identifying and using information in the public domain

The training is backed by two new guides to be published in 2019, which offer a step-by-step approach and a number of practical tools. The first guide helps users determine whether specific inventions are protected by patents or if they are

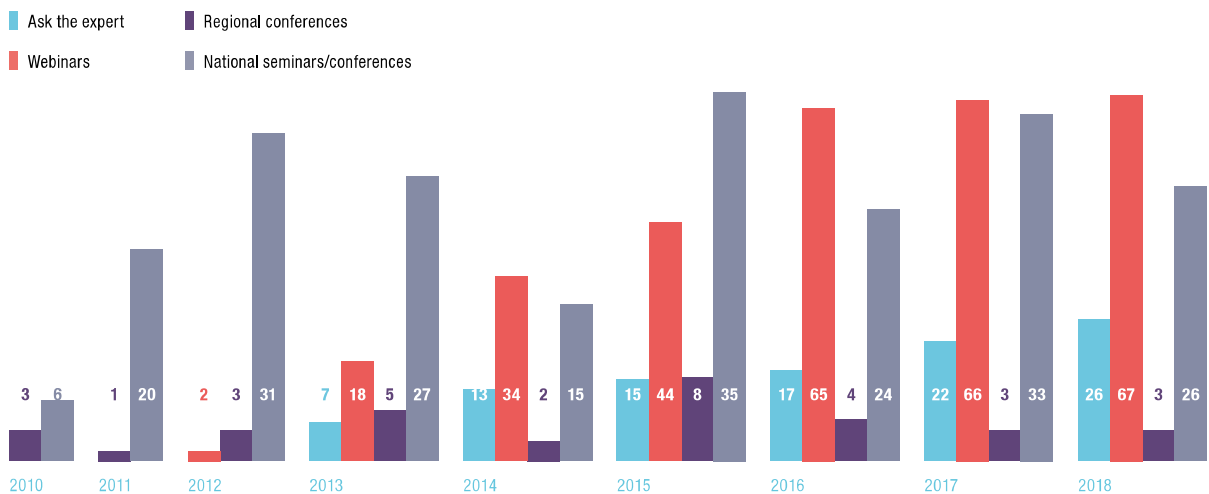
in the public domain; the second explains how to integrate public domain information and knowledge into product design and development.

New tools for assessing training needs in the area of technology transfer and IP management

Launched in 2017, the Development Agenda Project on IP Management and Technology Transfer aims to enhance innovation capabilities by developing new materials and training in the area of technology transfer and commercialization. A methodology and toolkit for assessing training needs and mapping innovation value chains was developed in 2018 and used to formulate training plans in four pilot countries (Chile, Indonesia, Rwanda and South Africa) which will be rolled out in 2019.

11,000+ TISC participants trained by WIPO since 2009
7,000+ distance learning courses followed by TISC participants since 2014
+52% increase in TISC staff trained by the WIPO Academy since 2017

Number of Ask the Expert, webinar sessions, regional and national conferences organized



Outlook for 2019

New resources are being developed to reinforce TISC capabilities worldwide.



Publication of the new WIPO guides on identifying and using inventions in the public domain in six languages (Arabic, Chinese, English, French, Russian and Spanish).



Expanded training on identifying and using inventions in the public domain.



Development of a new online knowledge platform providing greater transparency on the features and functionalities of patent databases (WIPO INSPIRE) and its integration with the eTISC social media platform.



Training activities on technology transfer and IP commercialization/utilization in four pilot countries.



Arabic and Chinese translations of the e-Tutorial on using and exploiting patent information.



Preparation of the second publication in the *WIPO Technology Trends* series on assistive technologies for people with disability or impairment.



Publication of TISC success stories from Colombia, the Dominican Republic, Morocco, the Philippines, and Uganda.

Useful links

WIPO TISC program

www.wipo.int/tisc/en

WIPO TISC Directory

www.wipo.int/tisc/en/search

ASPI program

www.wipo.int/aspi/en

ARDI program

www.wipo.int/ardi/en

Patent Landscape Reports

www.wipo.int/patentscope/en/programs/patent_landscapes

WIPO Technology Trends – Artificial Intelligence

www.wipo.int/tech_trends/en/artificial_intelligence

PATENTSCOPE Artificial Intelligence Index

www.wipo.int/tech_trends/en/artificial_intelligence/patentscope.html

eTISC platform

etisc.wipo.org

Patent Register Portal

www.wipo.int/patent_register_portal

Inventor Assistance Program (IAP)

www.wipo.int/iap

Alternative Disputes Resolution (ADR) for TISCs

www.wipo.int/amc/en/center/tisc

Development Agenda Project on Technology Transfer

www.wipo.int/meetings/en/doc_details.jsp?doc_id=372830

Development Agenda Project on Public Domain

www.wipo.int/meetings/en/doc_details.jsp?doc_id=329197



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