

WIPO resources supporting TISCs and TTOs

As TISC and TTO networks expand and provide more services to local innovators, WIPO continues to support them with knowledge and learning resources as well as effective management resources.

WIPO has developed a range of initiatives and resources to empower TISCs and technology transfer structures. These include public-private partnerships to facilitate access to technological information and the WIPO INSPIRE open digital knowledge center, which provides researchers and innovators with access to a unique blend of information and knowledge in the area of IP and innovation, in particular on patent databases, patent registers, patent analytics, technology transfer and institutional IP policies.

For the first time, WIPO has created a dedicated [IP and technology transfer webpage](#), which offers a unique reference point for information and knowledge on technology transfer and institutional IP policies to support the technology life cycle, from inception to market diffusion and commercialization. It also provides access to the [WIPO database of institutional IP policies](#) with links to existing IP and related policies (such as policies on consulting, copyright, conflict of interest, software, open access and spin-offs) of universities and research institutions worldwide.

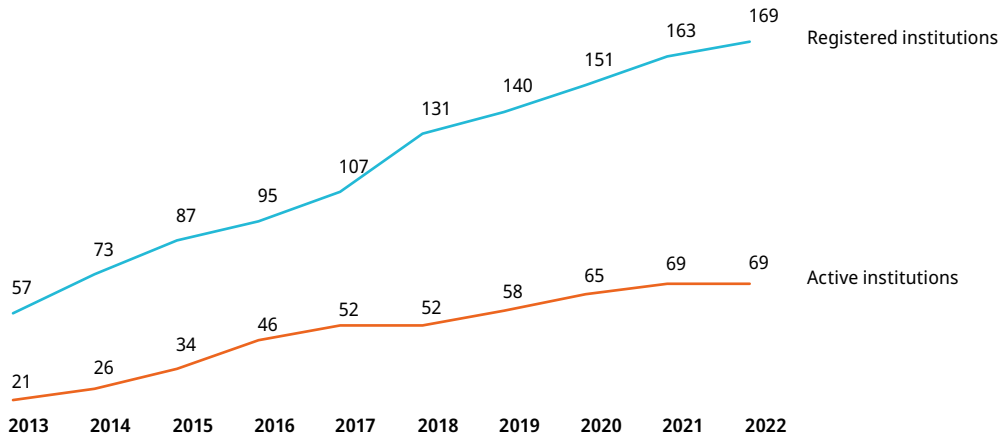
To support the growing global TISC network in managing national TISC networks more effectively, and especially to help TISC coordinators manage their national projects, coordinate and report on activities, the TPPM was developed and piloted from 2022. Once rolled out, the TPPM will also enable WIPO to follow up on TISC projects worldwide to assess and respond effectively to TISC network needs for assistance and capacity building.

In parallel, a TISC host institution assessment tool was developed to support TISC coordinators in identifying the main strengths and needs of the institutions in their network and to help ensure that TISC staff receive the training they need. The tool has started to be tested in a number of TISC networks and will continue to be rolled out in 2023.

Digital platforms and tools for access information and knowledge

Access to Specialized Patent Information (ASPI)

ASPI enables institutions in developing countries to obtain free or low-cost access to commercial patent database services that offer advanced tools and services for retrieving and analyzing patent data. It is made possible through a unique public-private partnership, with nine leading patent database providers.

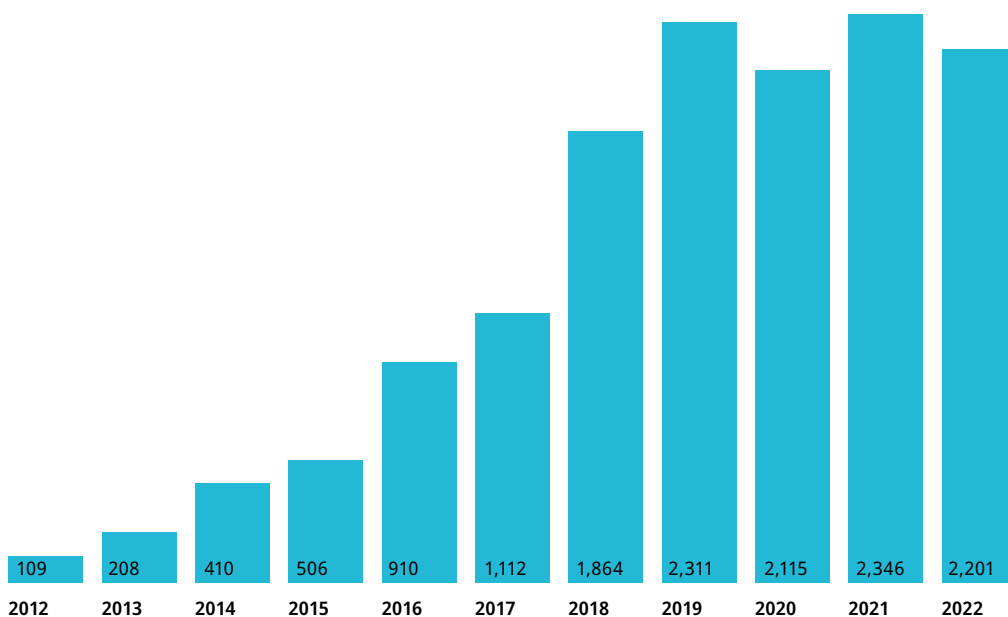
Figure 5. Number of registered and active institutions in ASPI

Source: ASPI database

Access to Research for Development and Innovation (ARDI)

Through a partnership with the publishing industry, ARDI strives to bridge the knowledge gap by increasing the availability of scientific and technical information for eligible institutions in developing countries and providing them with free or low-cost access to academic and professional peer-reviewed content including journals, books and other information resources in diverse fields of science and technology. In 2022, ARDI provided free or low-cost access to over 60,000 resources.

The program is also part of [Research4Life](#), a partnership of several United Nations agencies, private-sector enterprises, non-governmental organizations and academic institutions. Research4Life provides researchers in 125 developing countries and LDCs with free or low-cost access to up to 203,000 journals, books and other information resources in the fields of health, food and agriculture, the environment, applied sciences, law and social sciences. More than 11,000 institutions were registered in 2022.

Figure 6. Number of ARDI logins

Source: Research4Life

WIPO INSPIRE is a global knowledge platform to assist innovators, entrepreneurs, patent professionals, TISCs and TTOs in their innovation support activities.

It is a one-stop platform that provides a unique blend of information and knowledge on patent databases, patent registers, patent analytics, technology transfer and institutional IP policies, combining reference data with expert insights into resources, tools and good practice recommendations. The platform is now responsive, enabling it to be read on a range of devices.

WIPO INSPIRE was accessed by over 46,000 users in 2022 in comparison to 11,478 users in 2021, representing a 300 percent increase in usage.

Figure 7. WIPO INSPIRE usage

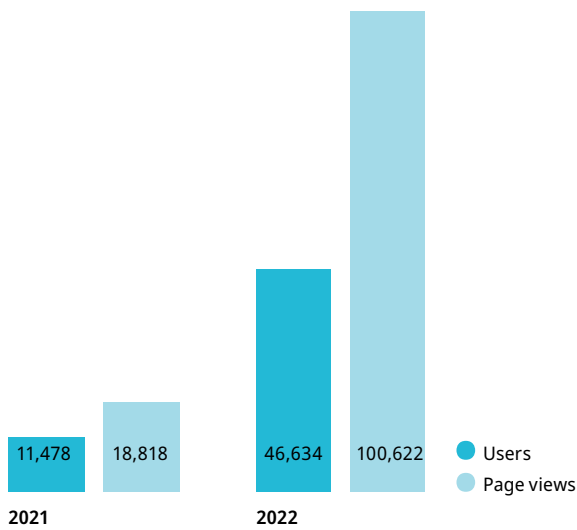
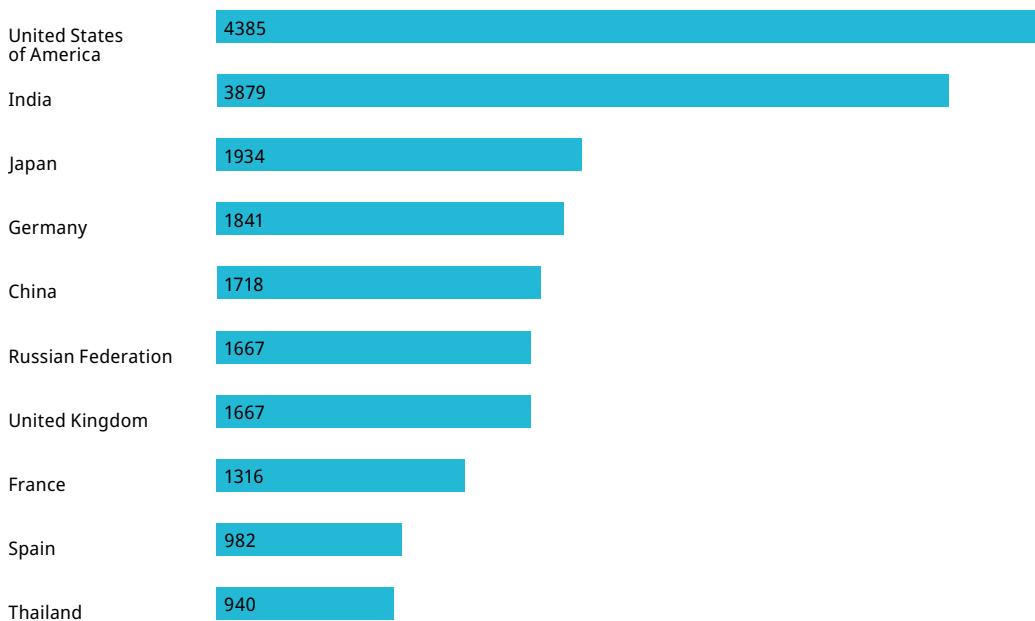


Figure 8. Top 10 countries with the highest number of visitors to WIPO INSPIRE in 2022



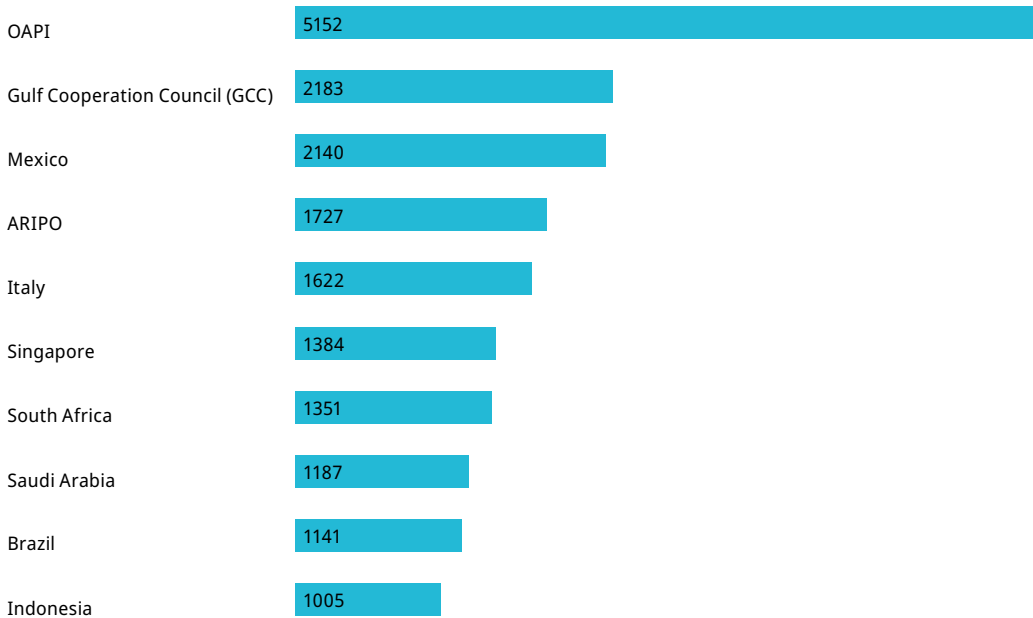
Patent Database Reports Portal

The Patent Database Reports Portal in WIPO INSPIRE provides access to the reports on national and commercial patent databases and their features. Innovators, researchers and patent professionals can find clear, accurate and unbiased information about patent databases and assess which database is best for their needs. In 2022, there were 41 detailed reports on the content and features of a wide range of patent databases. These reports were accessed by 7,640 users.

Patent Register Portal

The Patent Register Portal in WIPO INSPIRE is an interactive directory of online patent registers and gazettes to guide users to relevant sources of legal status information when researching the validity of a patent. As a gateway to legal status-related information from over 200 jurisdictions and patent information collections, the Patent Register Portal contains a searchable map and table as well as detailed jurisdiction files with useful legal-status-related information and search tips. In 2022, the portal was accessed by over 27,600 users, and the detailed jurisdiction files were downloaded more than 66,000 times.

Figure 9. Top 10 jurisdiction file downloads from the Patent Register Portal



Patent analytics

WIPO INSPIRE also offers a reference point for access to patent analytics resources, in particular PLRs and WIPO Technology Trends (WITT) reports, which track the development of technologies through the analysis of data on innovation activities that help inform policy discussions, strategic research planning and technology transfer. Through the platform, users can access 18 PLRs prepared by WIPO and 265 PLRs prepared by other organizations, as well as the WITT reports on artificial intelligence (AI) and assistive technology, which were downloaded more than 146,000 times between 2019 and the end of December 2022.

Technology transfer and institutional IP policies

Specific activities and resources on technology transfer and institutional IP policies are accessible through WIPO INSPIRE on a dedicated [IP and technology transfer webpage](#).

eTISC knowledge-sharing platform

Through WIPO INSPIRE, users can access eTISC, a virtual knowledge-sharing platform that provides a dedicated space for the TISC community and IP professionals to interact and share knowledge and ideas.

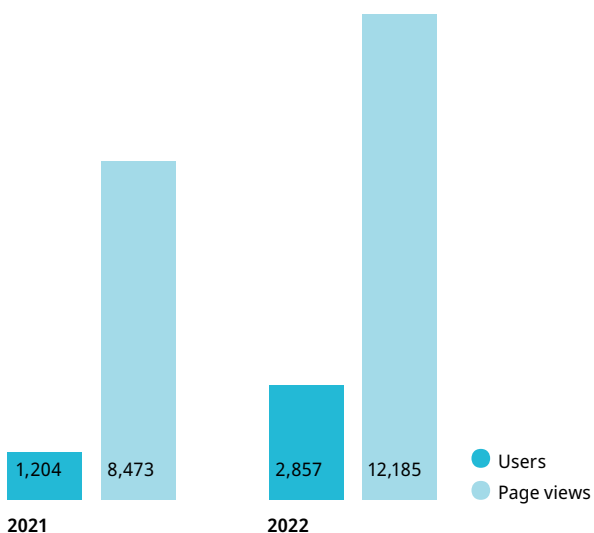
Main features of the platform include:

- “Ask the Expert” sessions for interacting with experts in fields such as patent information and technology transfer;
- group and forum discussions for sharing knowledge and experiences; and
- news and events to help users stay up to date with the latest IP information.

In 2022, a thematic series of “Ask the Expert” sessions was organized on IP management, IP licensing, IP valuation and technology transfer in the context of the increasing expansion of TISC services into these areas of work. eTISC users also received regular news relating to a wide range of IP matters relevant to TISCs, as well as innovators and IP professionals.

During 2022, eTISC was accessed by 2,857 users in comparison to 1,204 users in 2021 (i.e., a 137 percent increase).

Figure 10. eTISC usage



Training to expand knowledge and skills

To increase the capacities, knowledge and skills within TISCs and technology transfer structures, WIPO provides training through onsite and online workshops, WIPO Academy distance learning courses, and specialized learning resources on patent searches, including state-of-the-art, novelty and freedom-to-operate searches, patent analytics and technology transfer.

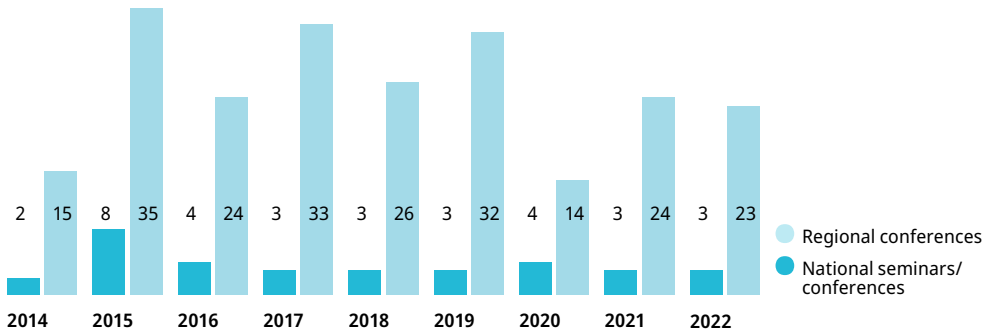
In the area of IP management and commercialization, training programs focus on the development of human capital regarding pillars of the innovation ecosystem, such as institutional IP policies, the establishment and management of technology transfer structures, and capacity-building in the area of IP marketing, IP licensing and IP valuation.

In 2022, training and capacity-building activities were delivered mostly digitally, and new modes of delivery continued to be explored with hybrid meetings and the gamification of training. A “serious game” on patent analytics that can be played either in person or in a digital board game environment is expected to be piloted in 2023. A course on introductory patent analytics was developed and is expected to be offered as a distance learning course through the WIPO Academy’s platform in 2023.

National and regional training for TISCs

To support TISCs in developing the technical skills needed to provide high-quality innovation support services to local innovators, 23 workshops were organized for national TISC networks in 2022, and three regional meetings were organized for ARIPO and ASEAN member states and for TISC networks in the Arab region.

Figure 11. Number of national and regional conferences organized for TISCs



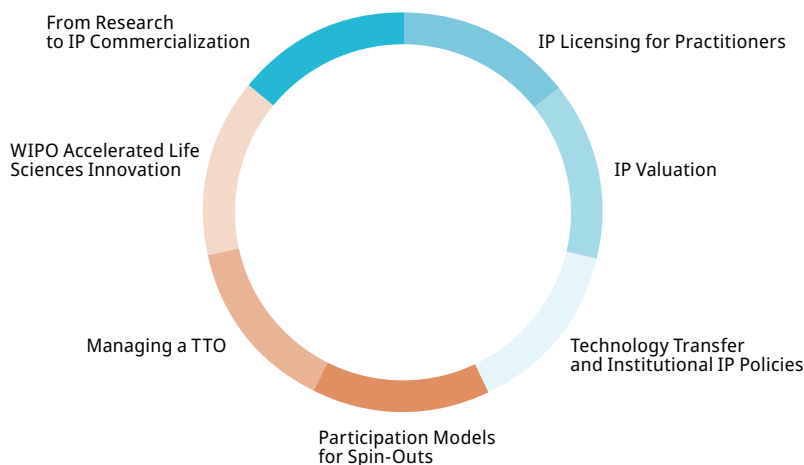
Source: WIPO IPID, 2022

To increase the standardization of TISC operations, raise the quality of services across TISCs and improve career development pathways for TISC staff, a WIPO TISC staff certification program, which aims to establish a curriculum-based professional certification for TISC staff, was launched in 2022. TISC networks worldwide were invited to submit formal expressions of interest to participate in the pilot session, which will start in 2023.

Training on technology transfer and IP commercialization

In 2022, 16 training sessions were organized specifically for technology transfer structures with the objective of enhancing the knowledge of researchers, TTO staff and managers in different aspects of technology transfer and IP commercialization, reaching over 400 participants worldwide. Hands-on training sessions were organized on the practical application of IP valuation methods in different contexts (licensing, valuation of equities, litigation) and for specific sectors (Biotechnology & Pharma, Agroindustry) to reinforce the capacity of innovation stakeholders to recognize risks and opportunities in technology transfer negotiations and to be able to value their intangible assets.

Figure 12. Training topics for technology transfer structures



To help TTOs develop and negotiate technology transfer agreements, training was also offered based on the *Successful Technology Licensing Manual* in developing countries (Algeria) and the use of WIPO models of technology transfer agreements accompanied by guidelines for customization that focus on challenging issues for TTOs (e.g., how to set up guarantees and warranties or audit sublicensing revenues). Specific advisory services on technology transfer legislation, policies and strategies were also provided, such as for Ethiopia, Nigeria and Panama in 2022.

The project on enhancing IP commercialization capacity of techno-parks in the region of EAPO member states is a customized regional program responding to IPR management challenges and the need for professional IP collaboration among innovation stakeholders. The project was launched in 2022, where project partners (WIPO, EAPO, regional IP offices and beneficiary institutions) agreed on the project concept, the content of the modules and the roadmap of planned activities for the project's implementation over a period of two years starting in March 2023.

The National Project on Enhancement of IP Commercialization Capacity of TTOs and TISCs in Egypt started with the first capacity-building program from September 27 to 29, 2022, where the beneficiaries (academic institutions and companies from the public and private sectors) were provided with practical explanations on the fundamentals of technology transfer and the particularities of technology transfer procedures and practices in Egypt. The program also included a session on institutional IP policies that helped to create new institutional IP policies and examine and improve IP policies of the beneficiaries who already had one. A series of in-person IP training events as well as a meeting with the top management of the beneficiary institutions is envisaged in 2023 as a continuation of this project.

In the Arab region, a virtual Arab Regional Meeting on IP, Innovation Incubators and Techno-Parks was also organized in cooperation with the LAS on November 30 and December 1, 2022, with the participation of LAS representatives, incubators and techno-parks from the region. The meeting provided an opportunity to share best practices in the development and management of innovation incubators and techno-parks in the region and elsewhere (Belgrade Science and Technology Park, Serbia) to create business connections and network opportunities.

Training on institutional IP policies

For more than 10 years, WIPO has provided specific support to universities and research institutions to help them create institutional policies for effective IP management and technology transfer. The IP Policies for Universities and Research Institutions initiative has three main components, as follows.

The WIPO IP Policy Toolkit was created as the starting point for universities to help them deal with issues such as ownership of IP and rights of use, IP disclosure, IP management, IP commercialization, incentives for researchers, recording and accounting, and conflicts of interest. The toolkit comprises an IP Policy Writer's Checklist, an IP Policy Template for Academic and Research Institutions, and Guidelines for the Customization of the IP Policy Template. In 2022, a draft Policy Template for Use of Copyrighted Works at Universities and Public Research Institutions was developed to complement the toolkit. The template is expected to be available in 2023.

National customized versions of the WIPO IP Policy Toolkit have been created in 11 countries, with additional versions in development. The national versions integrate local laws, regulations and practices, and facilitate the adoption of IP policies on the institutional level and their harmonization for coordinated academic and industry collaboration. They can be downloaded from the WIPO IP Policy Database. In 2022, WIPO supported the creation of national versions for Algeria, Jordan and Panama, as well as for El Salvador, where the project is ongoing.

WIPO also provides project-based coaching and technical assistance to individual universities/institutions to support them in the formulation of effective IP policies calibrated to the local context, needs and mission. Since its establishment, the IP Policies for Universities and Research Institutions initiative has assisted more than 600 institutions in formulating IP

policies. In 2022, support was provided to Belarus (11 institutions), Egypt (22 institutions), Jordan (11 institutions), Sri Lanka (four institutions) and Viet Nam (four institutions).



Belarus: In the framework of the national project on IP policies in Belarus, Darya Lando stressed the importance of WIPO's support in the development of institutional IP policies: "Policy formation is an important step, but its process can vary from country to country. It is good if the institutions concerned are supported by WIPO experts because this avoids a number of mistakes at the first stage. Thanks to the WIPO national project on IP policies in Belarus, new policies were also introduced in institutions that were not involved in the project" - Darya Lando, Associate Professor in the Civil Law Department, Law Faculty, Belarusian State University.

Egypt: "The new IP policy empowered the university to work effectively with industry to commercialize inventions, negotiate agreements and share profits with inventors. The university has also become involved in the start-up process and has become a hub for hosting and launching start-ups" - Noha Afifi, Manager, Center of Innovative Technology (CINTECH), Egypt-Japan University of Science and Technology (E-JUST).

WIPO's project in Egypt resulted in the adoption of IP policies in 22 universities and research institutions.

Jordan: "The IP policy has empowered the university in its relationship with industry, as it granted IP right holders the right to control who uses their inventions through licensing or selling inventions. The National Model for Institutional IP Policies helped in organizing policy statements, negating any conflict of interest, and increasing the incentive ratios and distribution of revenue" - Yazan Al-Zain, Director of Innovation and Entrepreneurship Center, University of Jordan.

WIPO's project in Jordan triggered the development and adoption of a Jordanian Model of Institutional IP Policies, which led to the establishment of IP policies in 11 universities.

South Africa: "The WIPO resources on IP policy development are great. I have drawn on them in developing policies myself and delivering training on the topic" - Rosemary Wolson, Director of the Technology Transfer Office, University of Johannesburg, South Africa.

International Knowledge and Technology Transfer Leadership Summit

In October 2022 WIPO hosted the International Knowledge and Technology Transfer Leadership Summit 2022, in cooperation with the Association of University Technology Managers (AUTM). Thirty-six technology transfer leaders from 29 countries and territories gathered to discuss global perspectives on knowledge and technology transfer, diversity and inclusion across the

innovation ecosystem, and models of government funding. WIPO and AUTM committed to continuing their partnership and engage in inclusive global technology transfer collaborations and social ventures worldwide.



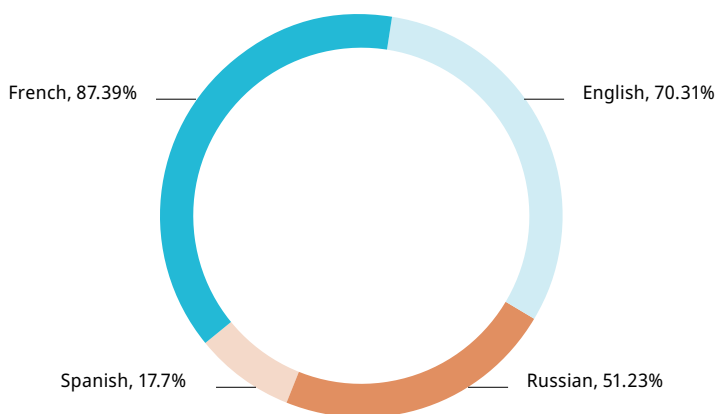
Photo: WIPO/Martin

Distance learning

The e-Tutorial on Using Patent Information, which was launched in 2020 as a distance learning course (DL177) through the WIPO Academy platform, is a self-paced course specifically developed for TISCs that comprises three learning modules: patent basics, patent search and retrieval, and patent analysis.

The e-tutorial is currently available in English, French, Russian and Spanish on the WIPO Academy’s e-learning platform. The Arabic and Chinese versions are accessible through the WIPO TISC webpage and are expected to be made available on the WIPO Academy’s learning platform in 2023.

Figure 13. e-tutorial registrations from TISC staff, by language

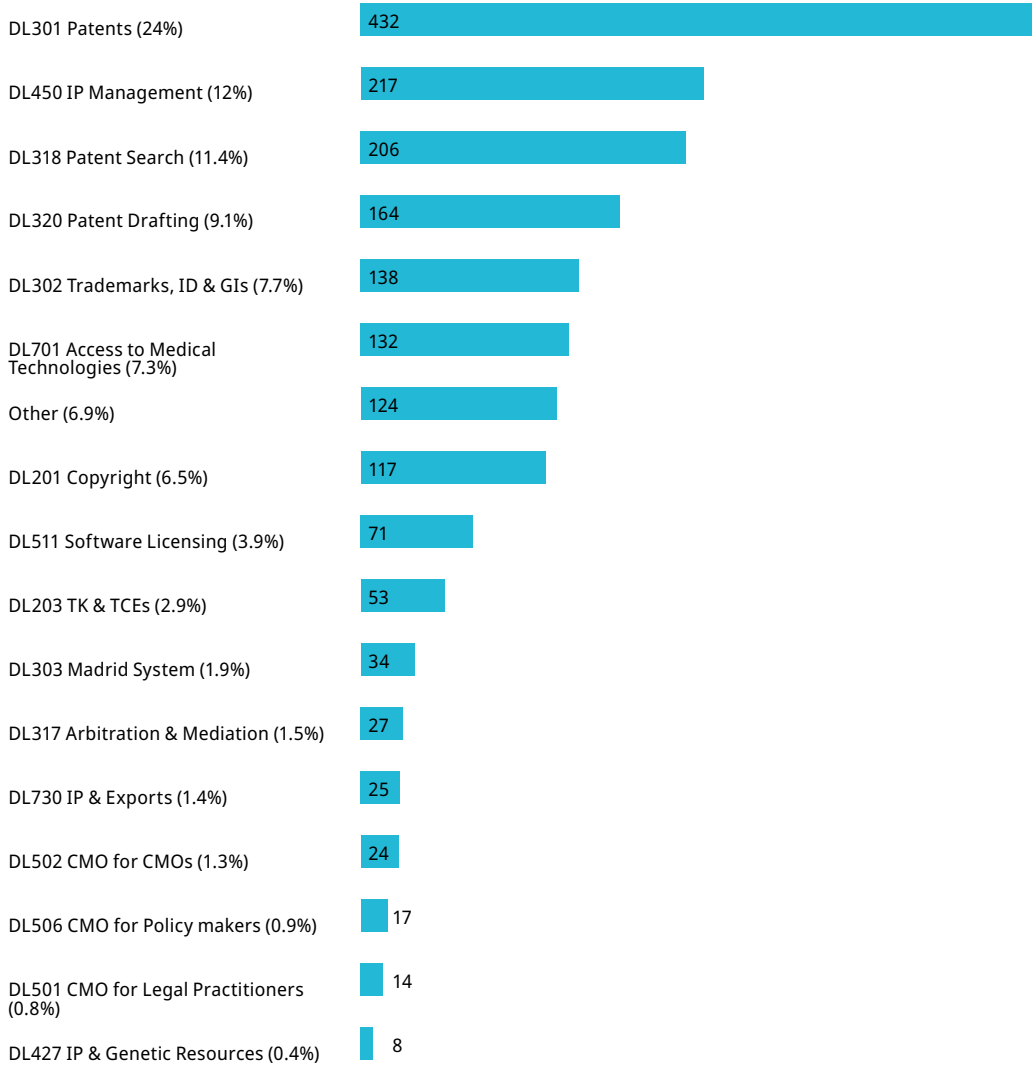


Source: WIPO Academy, 2022

In addition to the e-tutorial, 3,200 TISC staff also participated in other distance learning courses offered by the WIPO Academy in 2022.

The participation of TISC staff in advanced courses on IP management, trademarks and other IP rights, in addition to their participation in courses on patents, patent search and patent drafting, reflects the need for TISCs to increase their knowledge and skills in other innovation support areas to respond to the demand from local innovators and entrepreneurs.

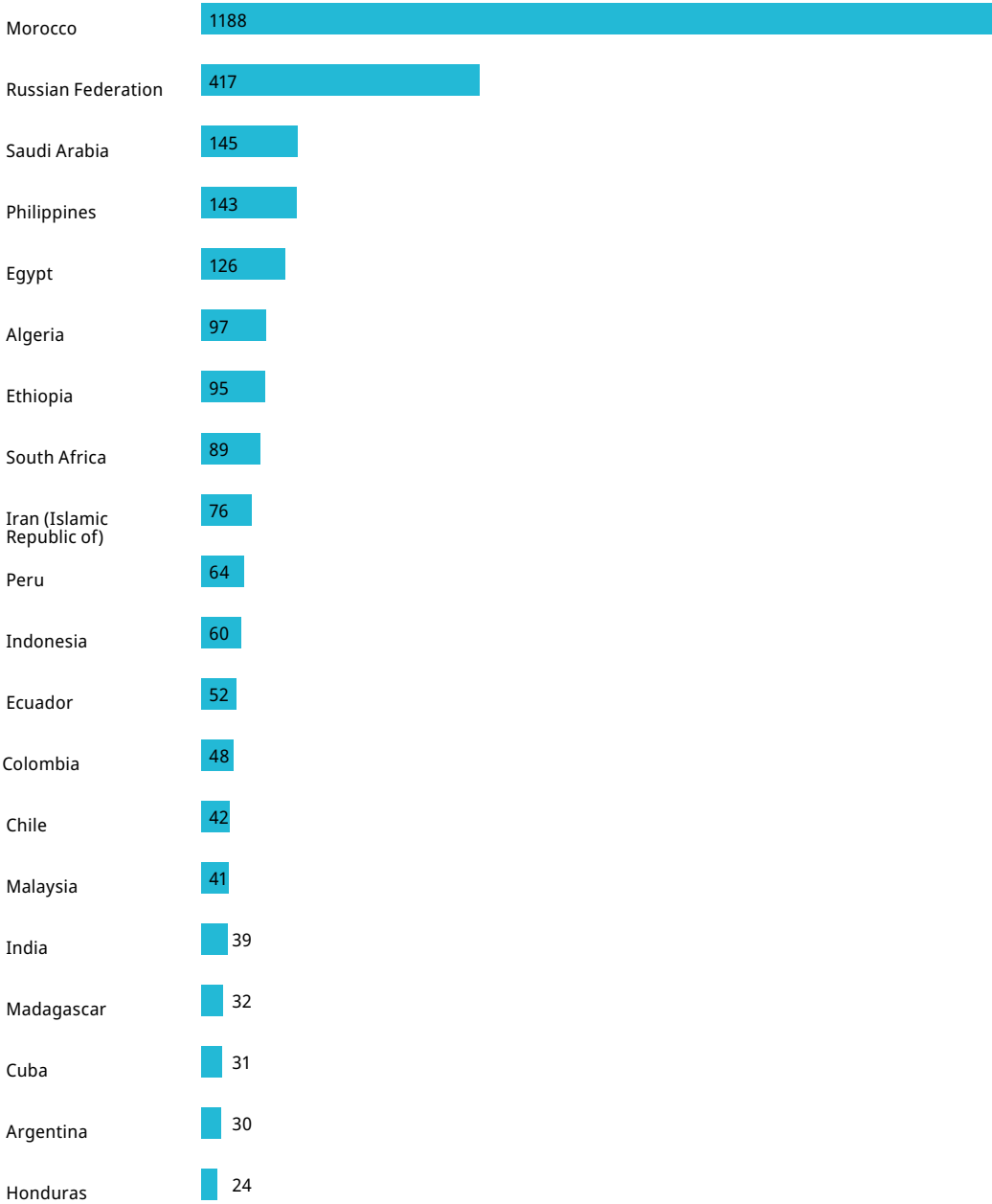
Figure 14. TISC staff participation in advanced courses of the WIPO Academy, by course



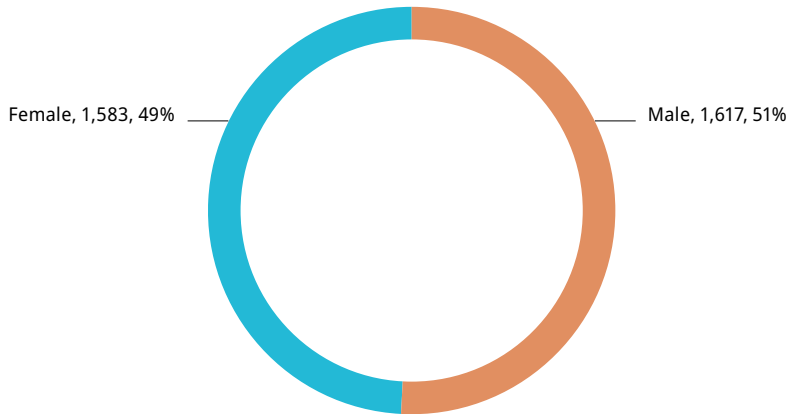
Source: WIPO Academy, 2022

TISC staff in Morocco continued to represent a large proportion (37 percent) of the total number of participants from TISCs around the world.

Figure 15. TISC staff participation in WIPO Academy training, by country



Source: WIPO Academy, 2022

Figure 16. TISC staff participation in WIPO Academy training, by gender

Source: WIPO Academy, 2022

Publications to support training and reinforce learning

Training is supported by publications developed for TISCs and technology transfer structures to reinforce learning. These publications are key reference sources on a range of subject areas such as patent documentation and databases, patent searches, patent analytics, technology transfer, IP management and commercialization. They are available in multiple languages.

In 2022, an updated version of the *WIPO Guide to Using Patent Information* was published, along with the new *Technology Transfer Training Needs Assessment Manual and Toolkit* to assess training needs in technology transfer and IP management. The manual and toolkit assist in mapping innovation value chains, including funders, developers, managers, users of IP and associated support institutions such as TISCs, as well as the relationships between them, to help users identify gaps in skills and competencies and design effective training programs for individuals and institutions at a national level. The resulting training needs assessment helps users design targeted training plans for the different stakeholders in the national innovation value chain.

Following the publication of the WIPO guides on identifying and using inventions in the public domain, a complementary toolkit was developed to provide additional practical tools for refining new product and service concepts, building on inventions in the public domain and bringing these concepts to the market. A multimedia digital training package on the toolkit was also developed and will be piloted in 2023.

Publications in the area of technology transfer

To boost technology transfer and commercialization, an *Incentives Guide for Researchers and Technology Transfer Staff* is in development. The guide aims to help universities create innovative incentive programs for their academic researchers, to encourage them to participate in technology transfer and knowledge exchange activities. It will also support technology transfer staff to help the university's TTO expand, stay healthy and reduce turnover.

In preparing the guide, WIPO conducted a worldwide survey (755 participants from 88 countries) to investigate the internal and external motivations of both researchers and TTO staff, as well as to investigate the key factors and obstacles to their engagement in technology transfer activities. Below are some interesting outcomes.

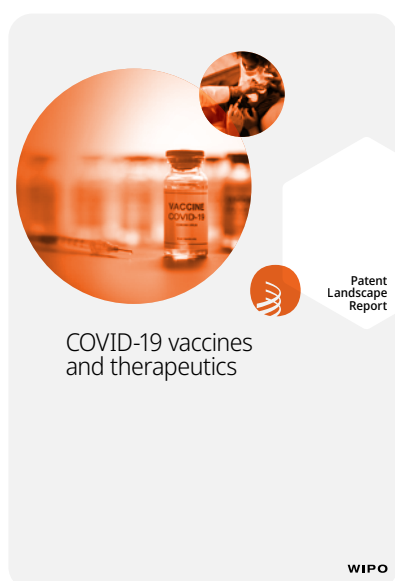
- The most frequent motivation to engage in technology transfer appears to be the desire to have a positive impact on society or to contribute to technological development, for both researchers and TTO staff. This holds true for all the continents, with the only exception being researchers in Asia, where the most frequent motivation is the desire to get recognition for their work.

- Whereas all the categories of respondents considered technology transfer equally as part of a researcher's duties, TTO professionals more than researchers think that technology transfer increases the quality of research.
- For TTO staff, stronger motivations lead to stronger satisfaction with working in a TTO. The most significant motivations associated with satisfaction are the fact that technology transfer is a challenging, exciting and intellectually valuable experience and that it allows insights into industry trends (among internal motivations), and that it makes it possible to get recognition for one's work (among external motivations).
- Female researchers also tend to be more motivated than male researchers by the desire to check the validity and practical application of their research, but also by the possibility to get recognition for their work or to be considered for promotions as a result of their technology transfer activities.
- Younger researchers appear to be more motivated than older ones by the desire to increase their network of professional relationships within industry, and by the possibility of receiving promotions or monetary rewards or starting a different career. Similar associations are observed for researchers with fixed-term rather than permanent contracts.

Publications in patent analytics

The WIPO Technology Trends (WITT) reports are flagship publications that track technology trends through the analysis of patent and other data to provide empirical evidence on innovation in specific fields. The resulting knowledge helps business leaders, researchers and policymakers in their decision-making. The first report in the series was published in 2019 and focuses on trends in patenting of AI innovations. The second report, published in 2021, is the first large-scale overview and analysis of patenting and technology trends in the field of assistive technology, and provides information about the state of play in technologies that assist people living with physical or cognitive impairments. In 2022, preparatory work started on the third report, which will focus on the future of transportation. The WITT reports were downloaded more than 146,000 times between 2019 and the end of December 2022.

Patent Landscape Reports (PLRs) prepared by WIPO over the years have covered topics of particular relevance to developing countries such as public health, food security, climate change and the environment. In 2022, two new PLRs were published: one on COVID-19-related vaccines and therapeutics, providing preliminary insights into related patenting activity during the pandemic, and one on patenting activities and related developments in the field of hydrogen fuel cells in transportation. Both reports make very useful contributions to the areas of public health and clean energy by presenting research and innovation efforts in these two areas, focusing on the efforts to fight the pandemic and the efforts to transform the Transportation Sector and put it on a net zero pathway. In addition to these reports, WIPO also provides access to over 250 PLRs prepared by other organizations.



PLRs published by WIPO in 2022



Several learning resources and tools to help build capacity and develop the patent analytics skills of researchers and innovators in developing countries have also been developed over the years. Methodological guidelines for preparing PLRs have been formalized in the *WIPO Guidelines for Preparing Patent Landscape Reports*, the *WIPO Manual on Open Source Tools for Patent Analytics* and the *Handbook on Patent Analytics*, with the latter two being revised and updated in 2022.