



IP and Development in the Digital Environment – Secretariat’s Presentation

Committee on Development and Intellectual Property, 23rd session

**Geneva
May 2019**

Introduction

- The all-encompassing and rapid transition to the digital environment
 - Artificial Intelligence (AI), robotics, Big data, 3D printing, Internet of Things (IoT), Industry Revolution 4.0 (4IR)
 - Benefits and challenges
- The implications for IP and for WIPO's work
 - New emerging issues: IP laws and rules, IPR enforcement, IP Office administration
 - Needs for WIPO and Member States to cooperate and adapt
- Outline of the presentation
 - ✓ Patents
 - ✓ Brands and Designs
 - ✓ Copyright and related rights
 - ✓ IP Economics
 - ✓ IPO Administration
 - ✓ WIPO Academy
 - ✓ IPR Enforcement
 - ✓ IP and the Judiciary



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Patents

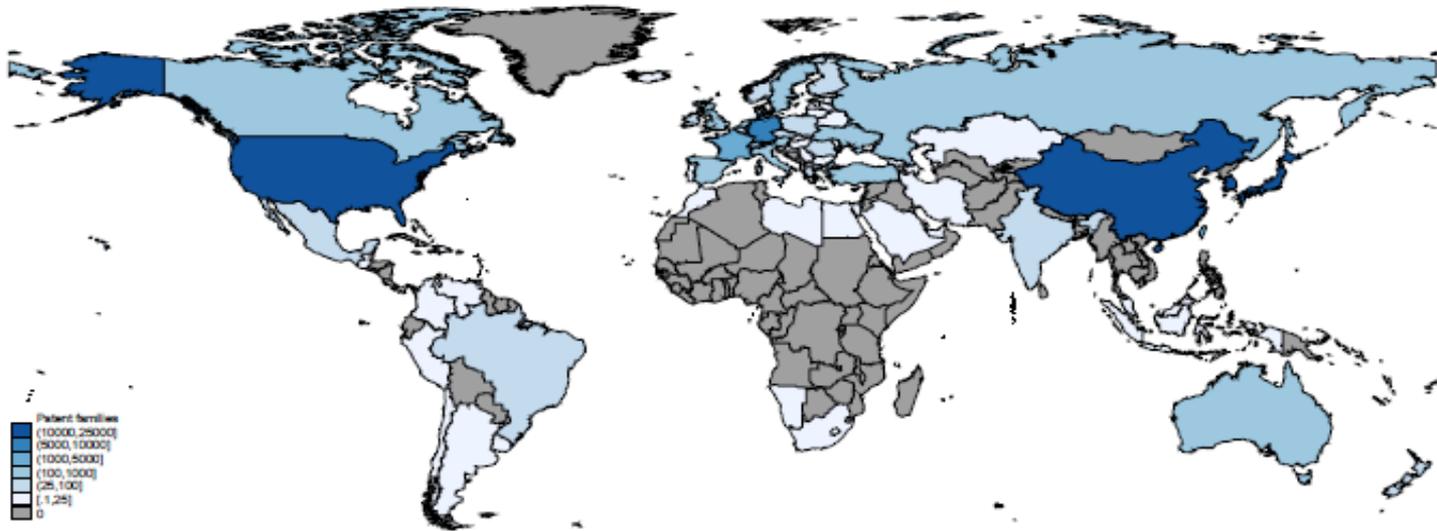
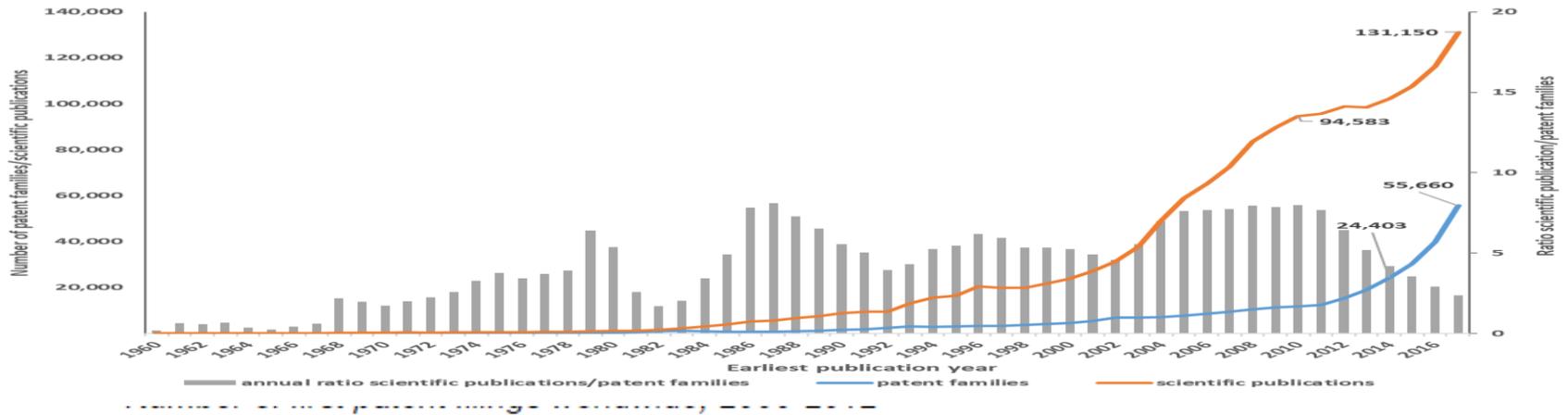
Challenges in the face of the transition to the digital environment

- It is worth considering how the patent system might impact advances in AI

- On the other way, it is worth considering how AI might impact the patent system:
 - Claims construction
 - Inventorship
 - Requirements to patentability
 - Enforcement



Time evolution of publications in scientific journals, comparison with patent filings



Source: WIPO based on the PATSTAT database (see technical annex).

Increasing but limited geographical diversity in robotics innovation

Number of first patent filings worldwide, 2000-2012

WIPO's current and future assistance to Member States in addressing those challenges

- Discussions at the SCP. The Secretariat will prepare a background document on patents and emerging technologies for the SCP 30
- Round table with the World Economic Forum about the implementation of the [Inventor Assistance Program \(IAP\)](#) and the challenges of the 4IR



Brands and Designs

Challenges in the face of the transition to the digital environment

- New digital technologies alter fundamentally the traditional way brands and designs communicate reputation and image value
 - Non-traditional trademark protection
 - Brand protection in the Domain Name System
 - Use of brands in social media
 - Protection of country names, geographical indications and names of geographical significance against unauthorized delegation as domain names

- New digital technologies impact the design of products
 - Transition from hardware design to digital interfaces
 - Design Protection for Graphic User Interfaces, Icons and Type Fonts

WIPO's current and future assistance to Member States in addressing those challenges

- Develop regulatory frameworks that support Member States and economic operators in the use of digital technologies for brands and designs (Singapore Treaty, draft DLT, SCT soft law outcomes such as agreed areas of convergence and recommendations)
- Provide assistance for concrete projects using digital technologies in brands and designs
- Assisting in the modernization of trademark and design administrations to take full advantage of new digital technologies (search and examination)



Copyright and related rights

Challenges in the face of the transition to the digital environment

- Digital technologies have reshaped the way content is being produced and consumed. The global distribution of creative content is online, on-demand and at a distance
- New players and transforming business models have emerged, both at the national and international level
- A new global creative market has been shaped and some challenges arise:
 - *how to ensure that developing and least developed countries can access and participate in this global market?*
 - *how to create an adequate and enabling infrastructure (e.g. legal framework, management tools, market conditions), so that developing and least developed countries can fully embrace the digital challenge?*

WIPO's current and future assistance to Member States in addressing those challenges

- Promote International Treaties to facilitate appropriate and fair rules for the new global creative market
- Support the update of national legislation fit for the digital environment
- Foster the modernization of copyright infrastructure to match digital market specifics
- Offer assistance on copyright management, including through WIPO Connect
- Prepare top-notch analysis of the digital impacts and challenges in specific copyright areas at the request of Member States



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IP Economics

Challenges in the face of the transition to the digital environment

- Digital technologies have transformed the value chains in the creative industries (books, newspapers, music, movies, video games, photography, etc.). New players have emerged, notably so-called digital content platforms, and bargaining positions are shifting.

- Key questions to consider:
 - How does digitization affect total supply and quality of creative works?
 - What are the effects on sales via the different distribution channels, and revenues from experimentation with new business models online?
 - What are the effects on variety and availability of works supplied on markets?
 - Can global reach of platforms create entry opportunities for new talent, including those from developing economies? Or, will virtual trade enhance superstar outcomes whereby the most successful reap the most gains?

Challenges in participating in global production

- New digital technologies – e.g., robotics, 3D printing, big data, artificial intelligence – are transforming global value chains; they may undermine the export competitiveness of developing economies in international commerce in some cases, and create new entry opportunities in others.

- Key questions to consider:
 - How will new technologies affect incentives for locating production to lower wage developing economies?
 - How can developing economies acquire new digital technologies so that their companies can participate in transforming global value chains? What role does IP play in this context?
 - What are elements of successful innovation ecosystems that allow developing economies to take advantage of newly arising opportunities?
 - What skills do developing economies need to invest in?



IPO Administration

Challenges in the face of the transition to the digital environment

Weak technical digital infrastructure, the lack of digital IP data and the lack of access to digital data of IP and scientific literature

- IPOs need to strengthen the ICT system and business solutions for benefiting from digital technologies to enhance the efficiency and services:
 - The lack of digital data at IPOs owing to paper-based IP procedures
 - The lack of digital content and platform to share IP files with other IPOs
 - The advent of AI will further widen a digital divide among IPOs and IP-related institutions
 - Capacity building for working in digital environment is needed

- Limited access to non-patent (scientific and technical information) and patent (specialized patent databases) literature in digital format, including the lack of patent analytics tools for the exploitation of this information in developing countries and LDCs

WIPO's current and future assistance to Member States in addressing those challenges

- Recommendations for IPOs to digitize their technical infrastructure and generate digital IP data (such as WIPO OCR software and training, IPAS Suite software to digitize workflow and generate digital IP data; see more WIPO recommendations on ICT strategy at https://www.wipo.int/edocs/mdocs/globalinfra/en/wipo_ip_itai_ge_18/wipo_ip_itai_ge_18_3.pdf)
- Creating and assisting Technology and Innovation Support Centers (TISCs) as national institutions to promote innovation in digital environment
- Provision of capacity building for patent intelligence including patent information analytics and identification of technologies in the public domain
- Provision of WIPO's knowledge and software suite to digitize workflow of IPOs and CMOs (IPAS Suit and WIPO Connect)
- Provision of access to digital IP data through further improved global databases (Patentscope, Brand DB, Design DB, WIPO Lex) and partnership projects (ARDI and ASPI)
- Provision of global platforms for exchange of IP digital data and knowledge on IP intelligence (WIPO CASE, WIPO INSPIRE)
- Provision of AI tools to IPOs and the public (WIPO Translate, Image Search of Trademarks)
- Facilitating participation of IPOs in standardization of digital IP data and ICT systems through Committee on WIPO Standards

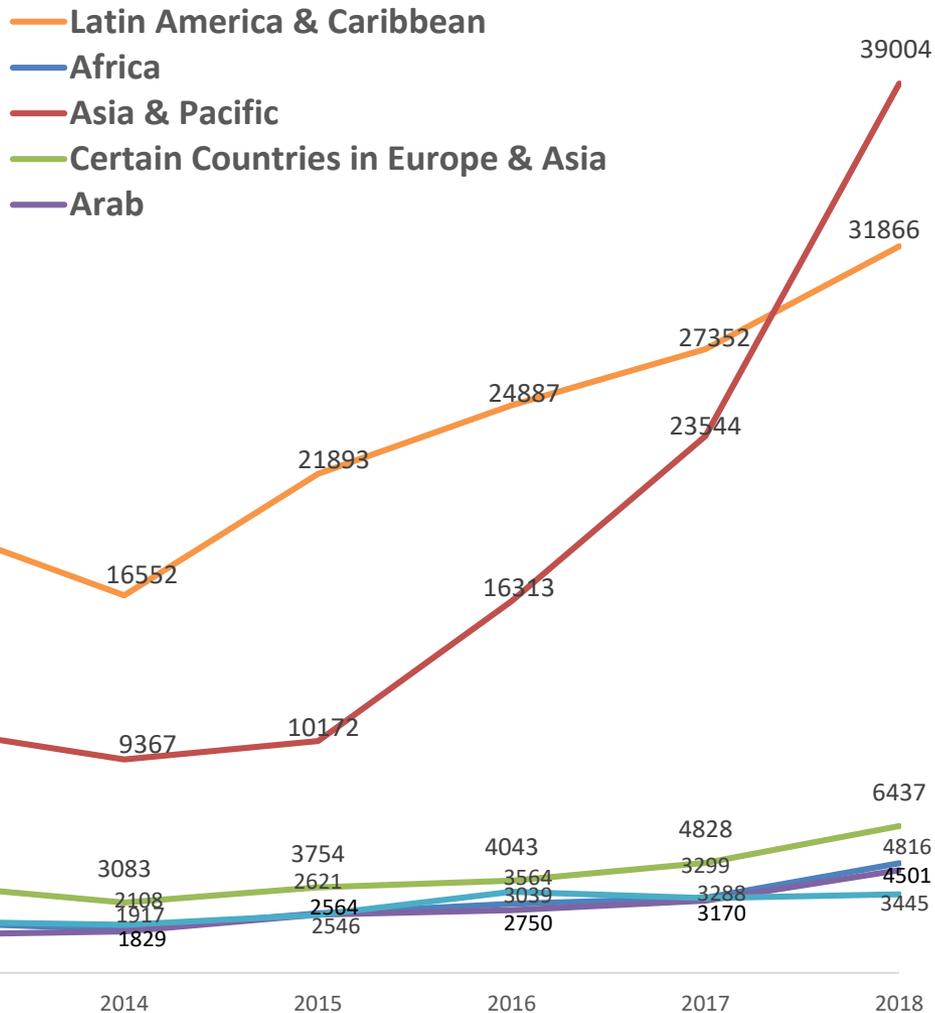


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WIPO Academy

Challenges in the face of the transition to the digital environment



Rapid developments in emerging technologies are challenging the current IP legal system and its practice at a faster pace

Require consistent change in training programs, content, and target audiences

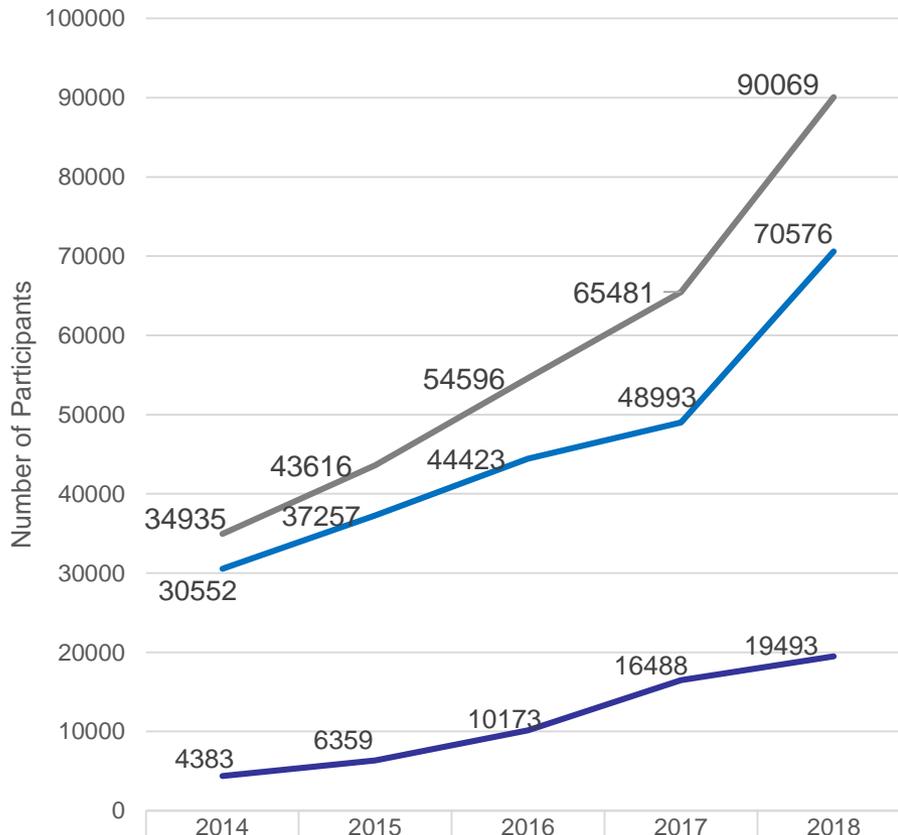
Shortage of cases and examples from developing and least developed countries (LDCs)

Different levels of accessibility in developing and least developed countries to digital environments

Changing ecosystem within digital environments/on line education (pod cast, mobile learning, and digital tutor and use of AI)

WIPO's current and future assistance to Member States in addressing those challenges

THE HIGH DEMAND FOR GENERAL AND ADVANCED IP KNOWLEDGE THROUGH ONLINE LEARNING



	2014	2015	2016	2017	2018
General DL Courses	30552	37257	44423	48993	70576
Advanced DL Courses	4383	6359	10173	16488	19493
Total Number of Participants	34935	43616	54596	65481	90069

Creation of the WIPO Academy to reduce IP knowledge gap among Member States

Provide updated IP teaching programs and content to Member States

Leverage technological advances for capacity building in IP (DL Program) (e.g. blended and mobile learning, and digital tutor)

Maintain leadership in providing IP eLearning platform and IP tutorials in all UN languages and Portuguese

Provide support to local training and research institutions, professional networks, universities, and business communities to access courses

Decentralize eLearning services through local IP Office digital platforms

Scholarships, fee reduction, and customization of courses for developing countries and least developed countries (LDCs) and countries in transition



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IPR Enforcement

Challenges in the face of the transition to the digital environment

- Issues to be addressed by the current international system:
 - Online copyright piracy and trademark counterfeiting
 - Exacerbated by the ease, speed and low costs of making and distributing unauthorized copies online, and of engaging in counterfeit e-commerce
 - Difficulties in identifying and/or prosecuting infringers
 - Cross-border online infringements, territoriality issues
 - Role of internet intermediaries

- Issues specific to developing and least developed countries
 - Legal framework
 - Capacity constraints (financial, human, judicial/administrative, technical)

WIPO's current and future assistance to Member States in addressing those challenges

- IP enforcement challenges in the digital environment are discussed in the Advisory Committee on Enforcement (ACE)
- Technical assistance informed by the discussions in the ACE
- BRIP Database Project
 - Prevent paid advertising from appearing on IP-infringing web sites, ultimately to curb financial streams of online piracy sites
 - WIPO's role is limited to administering the platform, assisting contributors and users, and promoting the Database
- *Study on IP enforcement measures, especially anti-piracy measures in the digital environment*, to be presented at the 14th session of the ACE



IP and the Judiciary

Challenges in the face of the transition to the digital environment

- Judiciaries faced with disputes arising from innovation in the digital environment that outpaces the speed of legislative and regulatory governance
 - Complex, multi-faceted disputes
 - Requiring effective remedies that reconcile the territoriality of IP rights and judicial structures, with the transnational and online nature of a growing volume of IP disputes
 - Concerning novel questions arising from technological changes that may not have been envisioned or addressed by the legislature/society
 - Involving emerging actors, including online intermediaries
 - Generating increasing volume of cases, at increased cost for courts

WIPO's current and future assistance to Member States in addressing those challenges

- WIPO Judicial Institute
- Platform of exchange of judicial information and practices on IP
 - IP Judges Forum
- Strengthened judicial capacity building
 - Master Class on IP Adjudication
 - Continuing judicial education
 - Topic-specific, ad hoc judicial colloquia
- Research and studies on judicial systems and decisions on IP
 - Online database of selected IP judgments
 - Economic analysis of IP adjudication