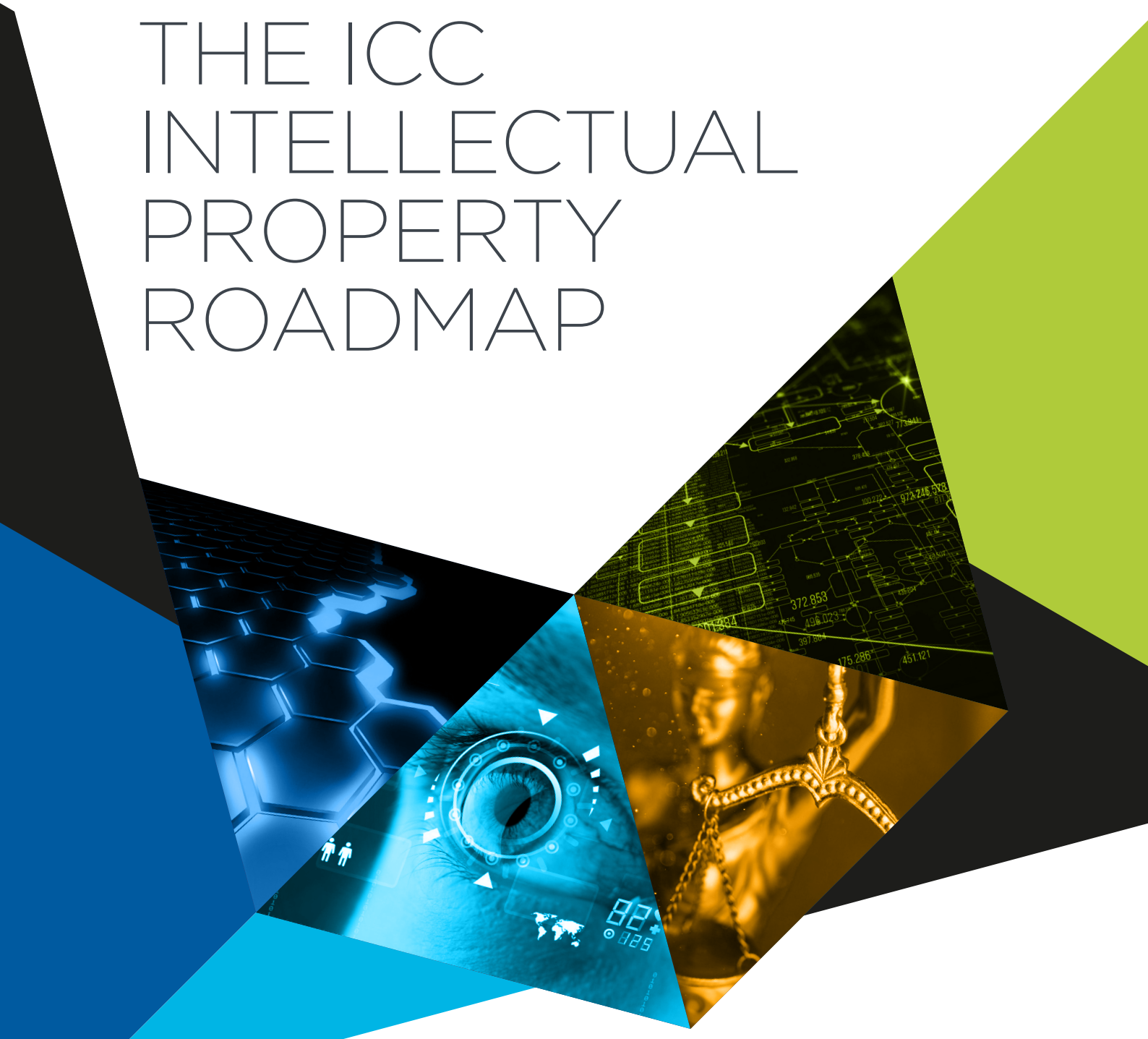
14TH EDITION 2020

THE ICC INTELLECTUAL PROPERTY ROADMAP

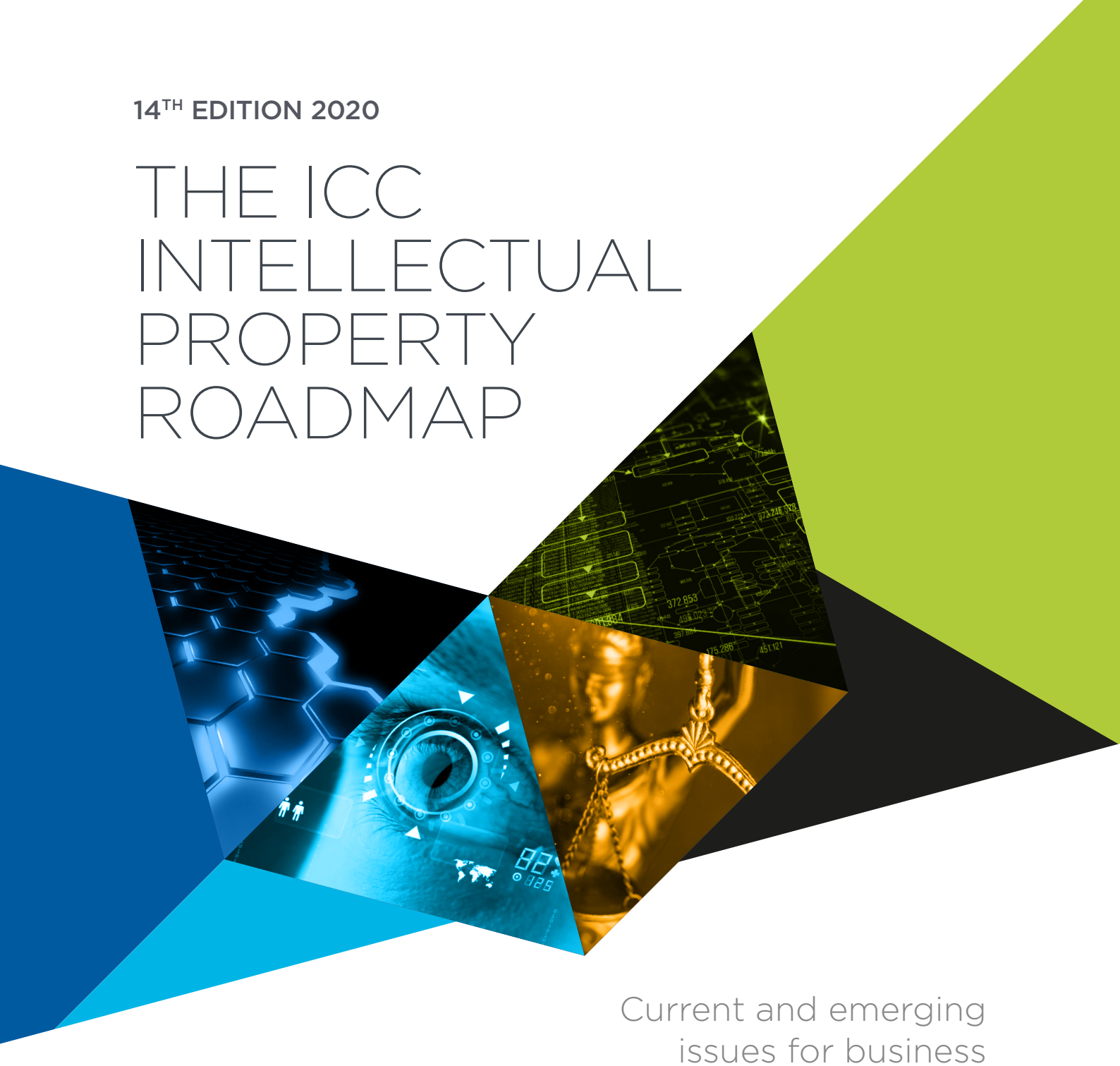


Current and emerging issues for business and policymakers

INTERNATIONAL CHAMBER OF COMMERCE
The world business organization

14TH EDITION 2020

THE ICC INTELLECTUAL PROPERTY ROADMAP



Current and emerging issues for business and policymakers

The ICC Intellectual Property Roadmap sponsors

Contents

Preface

Intellectual property (IP) has earned the reputation of being a particularly fast-evolving area of law. The three years since the 2017 edition of the ICC Intellectual Property Roadmap have only reinforced this trait, due to IP's intimate connection to technological progress and the information society.

While the importance of IP assets to businesses is increasingly recognized, the interaction between business and government on its regulation remains an unresolved question. The complexity of IP regulation and its ubiquity across all areas of economic activity can often hide its primary policy goals: innovation and creativity. Business has an important role to play in helping governments understand the nature of this relationship, and in highlighting the positive spillover effects of this relationship for society at large. Innovation and creativity are targeted by IP, but they are issues with broader societal implications, making IP a crucial conversation for a larger audience beyond the legal and scientific community.

Innovation and creativity are also central to all policies on sustainable development and the fight against climate change. This edition is published five years into the United Nation's 2030 Agenda for Sustainable Development and four years after the 2016 Paris Agreement, and it calls for the recognition of the global IP framework as a key instrument to achieve sustainable development. Likewise, this edition addresses IP issues in the implementation of the United Nations Framework Convention on Climate Change, as the IP framework is crucial for effective technology transfer and driving innovation that is also consistent with Sustainable Development Goal (SDG) No. 13 on climate change.

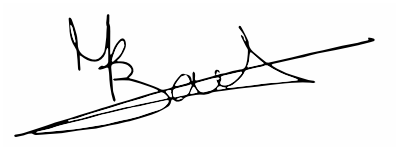
At the time of this edition's publication, the Covid-19 pandemic is reshaping nearly every policy discussion and severely impacting lives and livelihoods globally. Much of the content of this roadmap gained new relevance in the context of this crisis. The management and the valuation of IP assets, particularly those owned by SMEs, will be affected by the fallout of the pandemic. The current crisis has fostered multistakeholder conversations about innovation in healthcare, technology transfer, and the fight against piracy and counterfeiting. Furthermore, the societal transformations linked to the increased use of digital technologies have drastically accelerated, breathing new life into existing discussions about IP rights in the digital world. IP will undoubtedly be a driving force in the Covid-19 recovery, with both business and policymakers partnering to develop the measures that will guide that recovery.

The 2020 edition of the ICC Intellectual Property Roadmap provides an overview of these and many other IP policy issues. Major modifications were made to the sections on patents, copyrights, trademarks, trade secrets, and biological diversity. The transversal issue of artificial intelligence was included in the sections on patents, copyrights, and information products and data. Major updates were also made to the sections on domain names and counterfeiting and piracy, in response to developments that impact businesses' use of the existing framework of IP rights.

We thank the members of each task force that contributed to this edition and, in particular, its Lead Coordinator, Mathias Karlhuber.

We hope that the ICC IP Roadmap will continue to be a useful reference tool for all those who work in – or need to understand – intellectual property policy, and we welcome feedback from readers so that we can continue to improve future editions of this publication.

John W.H. Denton AO
Secretary General
ICC



Ingrid Baele
Chair
ICC Commission on Intellectual Property

This is the fourteenth edition of "The ICC Intellectual Property Roadmap: Current and Emerging Issues for Business and Policymakers", which is produced by the ICC Commission on Intellectual Property and was first issued in 2000. The ICC IP Roadmap draws upon existing ICC positions and is not intended to create new ICC policy. It can be accessed at iccwbo.org/iproadmap in English and other languages, together with the ICC policy papers cited.

Acknowledgements

IP Roadmap Chair

- Mathias Karlhuber, Cohausz & Florack, Germany

Section coordinators

- Dominika Boehm, Siemens, United Arab Emirates
- Axel Braun, F. Hoffman-La Roche LTD, Switzerland
- Szonja Csörgő, Euroseeds, Belgium
- Ana de Sampaio, J.E. Dias Costa, LDA, Portugal
- Manisha Desai, UCB Pharma, Belgium
- Stefan Dittmer, Dentons, Germany
- Bruce Foucart, Deputy Director, ICC BASCAP, United States of America
- Michael Jewess, Research in intellectual property law, science, and technology, United Kingdom
- Philippe Lanet, Orange, France
- Sandra Leis, Dannemann Siemsen, Brazil
- Elisabeth Logeais, UGGC Avocats, France
- Paul Lugard, Baker Botts LLP, Belgium
- Dominic Muyldermans, CropLife, Belgium
- Flip Petillion, Petillion Law, Belgium
- Richard Pfohl, Music Canada, Canada
- James Pooley, A Professional Law Corporation, United States of America
- Peter Thomsen, Novartis International, Switzerland
- Annet van Hooft, van Hooft Legal, France

Contributors

- Flavia Alves, Facebook, United States of America
- Armando Bode, Boga & Associates, Albania
- Nick Campbell, Arkema Group, France
- Jorge Chávarro, Cavelier Abogados, Colombia
- Kherk Ying Chew, Wong & Partners, Malaysia
- Carlos Davila-Peniche, Baker McKenzie, Mexico
- José Roberto de Almeida Junior, Mattos Filho, Brazil
- Tanguy de Haan, NautaDutilh Brussels, Belgium
- Valentin de le Court, Daldewolf, Belgium
- Isabela de Sena Passau Alves, Mattos Filho, Brazil
- Elio De Tullio, De Tullio & Partners, Italy
- José Mauro Decoussau Machado, Pinheiro Neto Advogados, Brazil
- Sergio Ellmann, Marval, O'Farrell & Mairal, Argentina
- Leah Evert-Burks, Michigan State University, United States of America
- Cecilia Falconi Pérez, Falconi Puig Abogados, Ecuador
- Li Fan, CCPIT Patent and Trademark Law Office, China
- Peter Glynn, Australian Chamber of Commerce and Industry, Australia

- Natalia Gulyaeva, Hogan Lovells CIS, Russia
- Hakim Haouideg, Fieldfisher Brussels, Belgium
- Lisandro Herrera, Galicia Abogados, Mexico
- Andries Hofkens, Veemarkt 70, Belgium
- Adrian Howes, Nokia, United Kingdom
- Urho Ilmonen, FACT Law group, Finland
- Sameer Jain, Pamasis Law, India
- Dimitris Kouzelis, Intel-Lex, Greece
- Renata Leka, Boga & Associates, Albania
- Michael LeMieux, Policy Advisor, ICC BASCAP, United States of America
- Ji Li, ZTE Corporation, China
- Louis Lozouet, Venturini IP, Brazil
- Vincent Mazauric, Schneider Electric, France
- Margie Milam, Facebook, United States of America
- Claire Morel de Westgaver, Bryan Cave Leighton Paisner, United Kingdom
- Karina Müller, Müller Mazzonetto, Brazil
- Ganapathy Narayanan, Tata Consultancy Services, India
- Philipp Neels, Ampersand, Germany
- Lidia Neves, Miranda Law Firm, Portugal
- Tilman Niedermaier, CMS Hasche Sigle, Germany
- Paola Nunziata, CMS Adonnino Ascoli & Cavasola Scamoni, Italy
- Maria Ostashenko, ALRUD Law Firm, Russia
- Michael Pachinger, Saxinger, Chalupsky & Partner, Austria
- Antonia Patriota, Mercado Livre, Brazil
- Daniel Peña, PM Abogados, Colombia
- Raymundo Pérez Arellano, Von Wobeser & Sierra, Mexico
- Justin Perrettson, Novozymes, Denmark
- Sudhir Ravindran, Altacit Global, India
- José Antonio Romero, Ava Firm, Mexico
- Dan Rosen, Australian Recording Industry Association, Australia
- Alejandra Salazar, Clarke Modet, Colombia
- Rogier Schellaars, Van Doorne, Netherlands
- Sven Schilf, Weitnauer Rechtsanwälte, Germany
- Camilla Schrappe, Mercado Livre, Brazil
- Flavio Soares, Soares & Vacite Abogados, Spain
- Carlos Stasburg, Pinheiro Neto Advogados, Brazil
- Foong Lam Tai, Gan Partnership, Malaysia
- Tuuli Timonen, Nokia Technologies Oy, Finland
- Xin Tong, ZTE Corporation, China
- Ruth Urs, Bosch, Germany
- Bart Van den Brande, Sirius Legal, Belgium
- Agustín Vargas, Vargas Law Abiding Group, Mexico
- Jyothi Vishwanathan, Tata Consultancy Services, India
- Matthew Wahlrab, Innovative Foundations, United States of America
- Jun Wang, Beijing TA Law Firm, China
- Hongyang Wang, CCPIT Patent and Trademark Law Office, China
- Wei Wang, Fuxi Institution, China
- Lili Wu, Han Kun Law Offices, China

Coordinators from ICC Headquarters

- Majda Dabaghi, Director, ICC Inclusive and Green Growth
- Sandra Hanni, Knowledge Manager, ICC Inclusive and Green Growth
- Sophie Peresson, Director, ICC Innovation for All
- Hélène van Lith, ICC Commission on Arbitration and ADR

Editorial team – ICC

- Angèle Beauvois
- Danny Grajales Pérez-y-Soto
- Sophie Peresson

We also thank the ICC Commission on Intellectual Property Chair, Ingrid Baele, and officers Elisabeth Logeais and Axel Braun for their active participation in the review of this publication, as well as our ICC Secretariat colleagues, Daphne Yong-d'Hervé, Charly Gordon and Timea Suto. Many thanks also to ICC National Committees for their contributions and assistance in the preparation of this roadmap.

Intellectual property basics

What is intellectual property?

Intellectual property (IP) is a creation of the intellect that is owned by an individual or an organisation in the private or public sector, which can then choose to share it freely or to control its use in certain ways. IP is found almost everywhere — in creative works like books, films, records, music, art and software, and in everyday objects like cars, computers, drugs and varieties of plants, all of which have been developed thanks to advances in science and technology. The distinctive features that help us choose the products we buy, like brand names and designs, can also fall within the scope of IP.

Even the place of origin of a product can have rights attached to it, as is the case with Champagne and Gorgonzola. Much of what we see and use on the Internet, be it a web page or a domain name, also includes or represents some form of IP.

Why is intellectual property protected and who benefits?

Through a system of intellectual property rights, it is possible not only to ensure that an innovation or creation is attributed to its creator, inventor, or producer, but also to secure ownership of it and benefit as a result. By protecting IP, society acknowledges the benefits it contributes and provides an incentive for people to invest time and resources to foster innovation and expand knowledge. These benefits extend not only to all participants in our knowledge-based economy, but to society as a whole.

The IP system is designed to benefit society as a whole, striking a delicate balance to ensure that the needs of both the creator and the user are satisfied. IP rights usually allow the rightsholder to exercise rights over the use of their work or invention for a limited period of time. In return for granting such rights, the IP system contributes to society in a number of ways, for example by:

- Enriching the pool of public knowledge and culture.
- Maintaining fair competition and encouraging the production of a wide range of quality goods and services.
- Underpinning economic growth and employment.
- Sustaining innovation and creation.
- Promoting technological and cultural advances and expression.

Where suitable or sufficient IPR are not available, or are difficult to enforce, innovators and innovative enterprises may need to rely to a greater extent on other means to protect themselves from unfair competition, such as through secrecy, contractual agreements or technical means of preventing copying. Such means can be less effective in promoting the goals set out above.

How is intellectual property protected?

Intellectual property rights (IPR) are granted under the national laws of each country or region. In addition, various international agreements on IP rights harmonise laws and procedures, or allow IP rights to be registered at the same time in several countries. Different types of intellectual property — literary and artistic creations, inventions, brand names and designs, to name a few — are protected in different ways:

- Creations in the fields of literature and the arts, such as books, paintings, films, musical compositions and recordings, as well as software, are generally protected through copyright or so-called related rights.
- Technological inventions are typically protected by patents.
- Distinctive features — such as words, symbols, smells, sounds, colours and shapes — that distinguish one product or service from another, can be protected by trademark rights.
- The specific external appearance given to objects, such as furniture, car body parts, tableware or jewellery, may enjoy design protection.
- Geographical indications and trade secrets are also considered to be types of intellectual property and most countries provide some form of legal protection for them.
- Rules to prevent unfair competition in the commercial world also help protect trade secrets and other types of IP.
- Plant varieties are protected mainly by a specific IP protection regime called plant variety rights, but may also be protected by patents or by a combination of the two systems.
- Specific legal protection is provided in some countries for integrated circuits and databases.

The same product can also be simultaneously protected by more than one type of IP right in different countries. Some types of innovation and creations are not protected by IP. This can be a result of a deliberate choice of legislators, or the result of a type of innovation being too new or not understood well-enough to be included in the existing legal framework.

Copyright

Copyright exists to encourage the production of original artistic, literary and musical creations, from books and paintings to movies, recordings and software. The copyright system rewards artistic expression by allowing the creator to benefit commercially from their work. In addition to granting economic rights, copyright also bestows moral rights which allow the creator to claim authorship and prevent mutilation or deformation of their work that might harm their reputation.

To qualify for copyright protection, the work has to be an original creation and expressed in a certain fixed form. Copyright is automatically vested in the author once the work is created, though a few countries maintain voluntary registration systems that provide additional benefits. It can then be licensed or assigned, often to a publisher or a producer. Copyright protection gives an author exclusive rights of a certain duration, generally from the time of creation of the work until 50 or 70 years after the author's death or, for sound recordings, often 70 years or more after publication.

Copyright law allows the copyright holder to control certain uses of their work. These uses, which the author can authorise or prohibit, typically include reproducing, distributing, making available, renting, recording, communication to the public, broadcasting and translating or adapting the work. In some countries, the author does not have the right

to prevent certain uses of his or her works but still has a right to be remunerated for such uses. In every country, exceptions exist that allow the public to make certain uses of works without either remunerating or obtaining the authorisation of the author. An example of this could be the use of limited quotations for illustration or teaching. The protections afforded to the copyright holder, as well as limitations and exceptions provided under copyright law, are an essential part of copyright frameworks. By striking the right balance, together they facilitate the creation of artistic works as well as new means to distribute and enjoy artistic works.

Most countries provide similar protection for phonogram producers, performers and broadcasters. In some countries, performers, producers and broadcasters of copyrighted works are protected by copyright just like authors; in other countries, they are instead protected by so-called neighbouring or related rights. Copyright has become increasingly important with the development of digital technology and the Internet, where it is a major form of IP protection for content distributed online, and where it faces difficult enforcement issues.

Several international agreements on copyright protection and related rights exist. These include the Berne Convention for the Protection of Literary and Artistic Works (1886), the Rome Convention for the Protection of Performers, Producers of Phonograms and Broadcasting Organizations (1961), the Geneva Convention for the Protection of Producers of Phonograms against Unauthorized Duplication of their Phonograms (1971), the WIPO[1] Copyright Treaty (1996) and the WIPO Performances and Phonograms Treaty (1996) — both of which address the protection of authors' and music producers' and performers' rights in the digital world — and more recently the Beijing Treaty on Audiovisual Performances (2012) and the Marrakesh Treaty to Facilitate Access to Published Works for Persons who are Blind, Visually Impaired or otherwise Print Disabled (2013). The World Trade Organization (WTO) Agreement on Trade Related Aspects of Intellectual Property Rights (TRIPS) (1994) is the first multilateral trade-related intellectual property agreement. It covers most types of intellectual property and includes copyright and related rights.

Patents

A patent is a governmental authorisation which gives the inventor the right, for a specified period of time, to prevent others from using, making, selling, offering for sale or importing his invention without his authorisation, i.e., it is a prohibitive right, not a positive right to use. In return, the inventor must disclose the details of his invention in a patent document that is made publicly available. In essence, patents represent a social contract between society as a whole and inventors.

An innovation that the inventor prefers to keep secret is known as know-how or a trade secret and protected under other laws.

In most countries, patent protection lasts for 20 years counted from the filing date and is issued by national or regional patent offices, to which the inventor has to submit an application.

In order to be granted the patent, the invention must fulfil three conditions:

- It must be novel — it should never have been made publicly available in any form before.
- It must be "non-obvious" or "involve an inventive step" — it should not be an invention that would have easily occurred to a skilled person in the relevant field of technology.

[1] World Intellectual Property Organization

- It should be capable of industrial application — it must be something that can be industrially manufactured or used.

Over the years, patent systems have been adopted by many countries because:

- They encourage the disclosure of information to the public, increasing the public's access to technical and scientific knowledge. Without the assurance of a patent, an individual or corporate inventor may choose to keep the details of an invention secret.
- They provide an incentive and reward for innovation and investment in research and development (R&D) and future inventions.
- The limited duration of a patent encourages the rapid commercialisation of inventions, so that the public receives a tangible benefit from the invention sooner rather than later.
- By encouraging the publication of details of inventions, patents help avoid duplication of research and stimulate further research, innovation and competition.
- Patents are perceived as a sound intellectual property title, granted in most territories after a rigorous examination process.

The patent system has been continuously developing during its entire existence, and this has contributed to its strength over time. To coordinate the patent systems of the countries and tackle the substantive and procedural issues in obtaining state and regional patents, several international agreements on patent protection exist. For substantive issues, the most important are the Paris Convention for the Protection of Industrial Property (1883) and the WTO Agreement on Trade Related Aspects of Intellectual Property Rights (TRIPS) (1994), while the main patent treaties for procedural issues are the Patent Cooperation Treaty (1970) and the Patent Law Treaty (2000). There are also some other regional agreements, such as the European Patent Convention (1973), Lusaka agreement (1976), Bangui Agreement (1977) and the Eurasian Patent Convention (1994). The European Patent Convention sets out rules for obtaining a patent in its Contracting States which, when granted, splits up into national patents in the designated countries. A revised version of the Convention (EPC 2000) and Implementation Regulations came into force in 2007.

Designs

Design rights protect the visual appearance of a product or its packaging, combining form and function. The minimum requirements for protection through IP rights are (i) novelty and (ii) originality or individual character, whose criteria respectively borrow from patent law (novelty) and copyright law (originality).

To be eligible for protection, a design must display aesthetic features, not be dictated solely by a technical function, and not be predated by a known overall identical or similar design. Designs can be expressed in two-dimensional (drawing) or three-dimensional (model) formats. Designs contribute significantly to the marketability of goods, adding commercial value to them, and are crucial assets in several industries, such as textiles, fashion, jewellery, mobile consumer devices, automobiles, domestic appliances, furnishing and decoration.

The regime for design protection differs from one country to another. In most jurisdictions, design protection is subject to registration, with minimal examination most of the time.

Design protection is an area that benefits from significant harmonisation at the levels of international filing as well as of substantive applicable law. The Hague Agreement (1925) concerning the international filing of industrial designs, as amended by the WIPO Geneva Act (1999) allows for centralised filing for design protection in the 65 countries that

are currently parties to the Agreement. The adhesion of Korea, the United States (US), and the number of countries planning to adhere, illustrate the expansion of design protection worldwide. For procedural issues, the classification of goods is governed by the Locarno Agreement (1968), and projects are under way to improve searches and update product indications.

In the European Union (EU), a popular road for filing for protection is through the European Union Intellectual Property Office (EUIPO) in Alicante, which operates the registered Community design system, valid in all EU member states. As for substantive law, EU-wide harmonisation has been achieved through Regulation No 6/2002. This provides for a Community design right, effective in all EU member states, which grants protection for up to 25 years for registered designs, and for a shorter term of three years for unregistered designs.

A design right confers upon its owner the right to prevent unauthorised copying by third parties and to prohibit the making, selling, importing or exporting of products incorporating or applying the design. Depending on the country, the owner may also concurrently avail him or herself of the protection of copyright, trademark and patent laws. Due to the growing economic importance of designs in the modern economy, they have been garnering much more attention. Designs and designers are today often brought into the conception phase of a product or a service, and advances in design-related technology and manufacturing techniques have made possible the development of new products and services.

However, in view of the diversity of design laws, further harmonisation and guidance on the scope of protection of designs and its enforcement are needed for designs to prosper as a full-fledged IP right.

Trademarks

Trademarks allow consumers and businesses to differentiate between goods and services coming from different sources and to select the ones whose reputation they trust.

For manufacturers or service providers who have invested the time, effort and money to build up a good brand image, trademarks are a way to prevent others from unfairly taking advantage of their reputation. This ensures fair competition in the marketplace and encourages companies to invest in the quality and reputation of their products or services.

Trademark protection can apply to brands, names, signs, symbols and even colours, smells, sounds and shapes. This means trademarks protect almost any distinctive feature attached to a product or service.

In most countries, registration of a trademark in a national or regional trademark office is for the protection of specific goods or services. A trademark holder can prevent others from using its trademark or a similar mark for the same or similar goods or services, if doing so is likely to cause confusion in the minds of the public. In many countries, famous or well-known trademarks also enjoy protection against uses that disparage, dilute or take unfair advantage of the reputation of such marks.

Almost all businesses, large and small, rely on trademarks. Trademark protection is used more than any other form of intellectual property in both developing as well as developed economies. Trademarks serve to guarantee origin to local consumers, and readily searchable trademark registers allow businesses to avoid selecting new marks that could be confused with existing ones.

There are several international agreements on trademark protection. The main ones, adopted by the largest number of countries, are the Paris Convention for the Protection of Industrial Property (1883) and the TRIPS agreement

(1994). The Trademark Law Treaty (1994) and the Singapore Treaty on the Law of Trademarks (2006) have a relatively limited number of contracting parties.

For procedural issues, the main treaties are the Madrid Agreement concerning the International Registration of Marks (1891) and its Protocol (1989), which uses French, English and Spanish as official languages, and the Nice Agreement concerning the International Classification of Goods and Services for the Purpose of Registration of Marks (1957).

There are also several regional arrangements that provide for protection in multiple countries through a single trademark registration. These include: the European Union Trade Mark (EUTM) — formerly known as the Community Trade Mark (CTM) — which allows a trademark holder to obtain a single trademark registration covering all member countries of the European Union; registrations with the Benelux Office for Intellectual Property (BOIP), which cover Belgium, the Netherlands and Luxembourg; trademarks filed through the African Intellectual Property Organization (OAPI) which cover essentially French-speaking countries in Africa; and the ARIPO Protocols, namely the Banjul Protocol on Marks which currently covers 10 African member states.

Geographical indications

The TRIPS agreement defines geographical indications as the indications that identify a good originating in the territory of a country, region or locality where a given quality, reputation or other characteristic of the good is essentially attributable to its geographical origin.

The Paris Convention for the Protection of Industrial Property, the Madrid Agreement for the Repression of False or Deceptive Indications of Source on Goods (1891) and the Lisbon Agreement for the Protection of Appellations of Origin and their International Registration (1958), amended by the Geneva Act in 2015, also set general rules to guarantee protection for geographical indications.

Even though some jurisdictions do not accept every form of protection, there are basically three legal ways to classify a product according to the link between its geographical origin and its quality:

- Indications of source, which indicate that a product or service originates from a country, region or specified place, e.g. Made in France; Made in China; Product of the US.
- Geographical indications, which identify a good as originating in the territory of a Member, or a region or locality in that territory, where a given quality, reputation or other characteristic of the good is essentially due to its geographical origin, e.g. Café de Colombia; Murano Glass; Toledo Steel.
- Appellations of origin, which indicate that a product originates in a specific region, but limited to those cases where the characteristics of the product are due to the geographical environment of that region, including natural and human factors, e.g. Champagne, Roquefort, Tequila.

Indications of source simply indicate the origin of the product, while both geographical indications and appellations of origin indicate a link between the goods and their place of origin. What distinguishes one from the other is that the characteristics of the goods protected under an appellation of origin are essentially or exclusively due to their geographical origin, including natural and human factors, and they usually imply higher quality and often a higher price because of the stricter rules of quality control imposed on the producers in the area protected.

Most countries provide for the registration of geographical registrations in their legislations, although terminology, procedures and rules can vary substantially.

Plant breeder's rights (PBR)

A plant breeder's right (also called plant variety right (PVR)) is *a sui generis* intellectual property protection system for plant varieties, which gives to the breeder the exclusive right to exploit the variety for at least 20 years (25 years for vines and trees).

A plant variety is eligible for protection if it is:

- New — it must not have been exploited in the protected territory for more than one year or elsewhere for more than four (or six) years before the date of application.
- Distinct — it must be clearly distinguishable from any other variety whose existence is a matter of common knowledge at the time of the filing of the application.
- Uniform — it must be sufficiently uniform in its relevant characteristics.
- Stable — its relevant characteristics must remain unchanged after repeated propagation.
- Designated by a suitable denomination.

The PVR does not protect the variety as such — as an invention is protected by a patent — only certain embodiments. It is the propagating material that is covered by the exclusive right of the titleholder, so that its production, reproduction, sales, import and export and related activities can be controlled. In some countries, harvested material from the protected variety, as well as products made directly from harvested material, may also be protected by such rights.

A unique feature in the PVR system and one of its most important exceptions is the so-called breeders' exemption, which allows breeders to use protected varieties in the development, and subsequent exploitation, of new varieties. The breeders' exemption encourages the improvement of varieties, given that a new variety cannot be developed without using existing material.

The only international agreement on Plant Variety Rights is the International Convention for the Protection of New Varieties of Plants (1961, revised in 1972, 1978 and 1991), which is governed by the Union for the Protection of New Varieties of Plants (UPOV). At present more than 95,000 PVR titles are in force in the territories of the UPOV members.

Article 27(3)(b) of the TRIPS Agreement also refers to plant varieties; it obliges the members of the World Trade Organization to provide for the protection of plant varieties either by patents, by an effective *sui generis* system or by any combination thereof.

Transversal issues: Artificial intelligence, privacy, and data.

Some of the issues discussed in this publication are cross-disciplinary in nature, and interact differently with each type of intellectual property right.

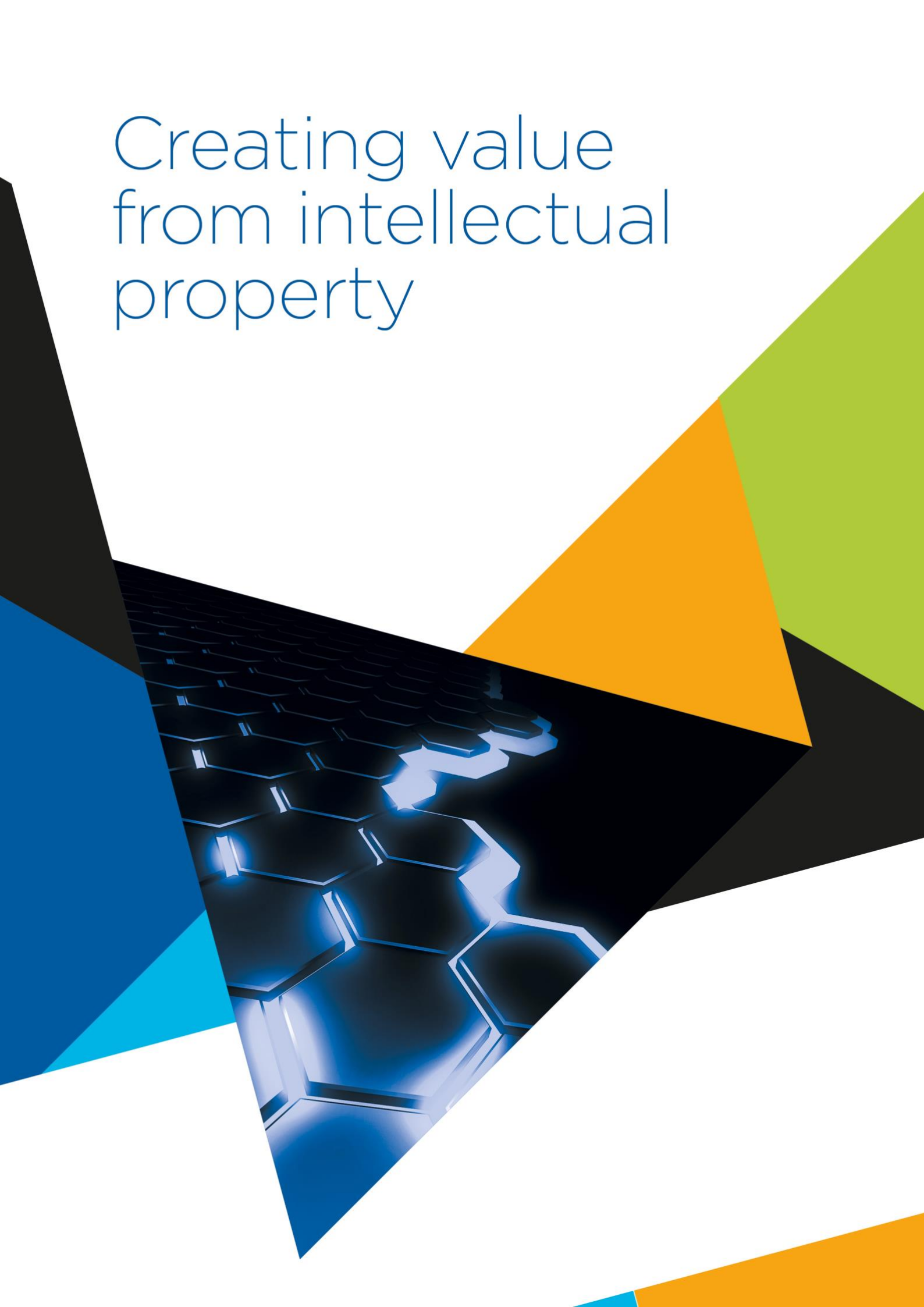
Artificial intelligence (AI) is one of these issues. AI is often treated as a discipline of its own more than as a specific technology. As a fast-evolving field of technology, the definition of AI is still a subject of debate. For the purposes of this publication, AI is generally defined as "narrow AI", comprising techniques and applications programmed to

perform individual tasks[2]. This Intellectual Property Roadmap mentions AI in sections B.I. Patents, B.III. Copyright, and B.IX. Emerging forms of intellectual property.

Privacy law and data are also mentioned in several chapters. These topics are highly relevant to questions of enforcement of intellectual property rights, protection of databases, and to all debates concerning domain names and internet regulation. The intangible nature of both data and intellectual property assets, as well as their interactions with privacy law, is a recurring theme in this publication.

[2] WIPO, Draft Issues Paper on Intellectual Property Policy and Artificial Intelligence, WIPO/IP/AI/2/GE/20/1, 21 may 2020.

Creating value from intellectual property



A. Creating value from intellectual property

I. MANAGING INTELLECTUAL PROPERTY ASSETS

BACKGROUND

The management of intellectual property (IP) assets is important for businesses. In order to achieve a good return from their investment in creative activity (ranging from research to packaging design and advertising) businesses need, in a strategic way: (i) to acquire IP, (ii) to monitor IP of competitors (so as to reduce the risk of being sued or the need to pay for licences when they launch new products or services), and (iii) to secure their IP interests when engaging with suppliers, customers, and collaborators. A business may in some cases make significant revenue from licensing IP. A business's IP signals value to investors and may attract significant investment from third parties, especially in the form of seed finance for start-ups.

Large corporations in developed economies have historically put great effort into their IP strategy. Unfortunately, some small and medium enterprises (SMEs) — and indeed larger businesses in some countries with less experience on IP — may lack some of the fundamental understanding of IP law which is a precondition of strategic management of IP.

CURRENT LANDSCAPE

Intellectual property law, like all commercial law, has to be linked with the strategic commercial objectives of each business. It is an unusually complex area of law; the term "intellectual property" is itself deceptive, as there is no uniformity of the various rights covered by the phrase. Patents, trademarks, copyright, the law of confidential information (trade secrets, know-how), and other IP law have differing public policy justifications and widely divergent characteristics. Accordingly, no business can have an IP strategy that is uniform, unless the business is exclusively concerned with just one of these forms of protection for intellectual creation.

At the top level, businesses (once they have appreciated the above) may need to make decisions on the following:

- *Patenting*. The key points for managers to understand are (i) that patenting is expensive and (ii) that, because of the novelty requirements in patent law, a decision on whether or not to file a first, "priority" patent application has to be made as soon as possible after the technical research has been done, and for certain industry sectors long before its prospects of commercial success can be accurately assessed. Furthermore, an expensive decision on the full range of countries to be sought must be made, in general, within 30 months of the priority filing date[3], also usually before the prospects of commercial success can be accurately assessed. This means that a statistical approach has to be adopted and that some of the money spent on patenting will therefore prove to be wasted, and will need to be recovered through the products that prove to be commercially successful.
- *Branding and associated brand protection through trademark law and otherwise*. A key choice is between monolithic branding — one corporate brand, supplemented by descriptive names or codes — and branding primarily by individual product. For instance, Virgin and BMW adopt the first approach with Virgin Mobile, etc. and BMW 530i, etc.; while most manufacturers of alcoholic drinks and confectionery adopt the second approach with Smirnoff, etc. (Diageo) and KitKat, etc. (Nestlé). As with patenting, the choice of countries

[3] This timeline is for making the decision. Official deadlines are usually between 30 and 31 months from the date of priority.

where the brand will be protected needs careful consideration, though the cost per territory is lower than for patents.

- *Information security*. Access to technical and commercial information by illegal actors can cause serious damage to a business. This is now more likely than in the past because most information is recorded in electronic form rather than on paper. A high level of IT expertise is required if attacks by expert hackers are to be prevented. More elementary precautions are also important: rules on classifying and handling information are valuable, for instance employees can be instructed not to send over the public internet unencrypted information that has been classified as sensitive; and employee misbehaviour can be guarded against by measures such as segregating users of servers and blocking USB ports.
- *Engaging with suppliers, customers, and collaborators when technology, artwork, software, or data needs to be transferred from any party to another.* Relevant IP may be possessed by a party before an engagement commences (its "background IP") or be generated by the party during the engagement (its "foreground IP"). Each party must consider carefully what licences it can afford to grant to others — under its own background and foreground IP — and what licences it must obtain from others, and negotiate a contract accordingly. Employees must be careful not to transfer information to others that is not necessary for the project in question. Information that is transferred should be marked so as to indicate its origin and to remind recipients of the contractual restrictions on its use. Patenting background technology before it is disclosed is often very effective. Well-known best practices also include the following: (i) careful attention should be given to the IP terms even in a small-value — especially exploratory — contracts where a business gets another to generate IP, since, if the work is successful, the background and foreground IP may be of fundamental importance; and (ii) that calls for "open innovation" do not imply uncontrolled flows of technical data and non-patenting of inventions.
- *In some business sectors/territories, the response to patent assertion entities ("PAEs", also known as non-practising entities or "NPEs", and as "patent trolls") can be problematic.*
- *The extent to which (i) licensing out its IP can generate extra revenue without damaging the core business of making and selling products and services, and (ii) cross-licensing of patents is a means of achieving freedom to operate.* Typically, (i) will be relatively unimportant in the pharmaceuticals sector, and will be relatively important in the manufacture of products that are expensive or difficult to transport, and (ii) will be relatively important in the information and communications technology sector, especially in relation to standards (see section A.II.2.2).

To achieve their strategic goals, decision-makers in business need to:

- Understand the basics of IP law.
- Employ or consult professional legal advisers of high calibre who can engage with their particular business model and explain the appropriate legal options.

FUTURE PERSPECTIVES

Businesses in countries presently moving up the economic value chain will increasingly need to understand IP law and to manage IP.

Governments in many countries have sought to raise awareness of the role of IP, but often these endeavours have overly focused on registration of rights and have not sufficiently linked IP to business strategy.

The trading and valuation of IP are growing areas of activity that businesses should be aware of (see section A.III Valuation and monetisation of IP assets).

ICC CONTRIBUTIONS

ICC's Innovation and IP research series discusses the role of IP and IP management in the innovation process: for SMEs, in the context of open innovation, in relation to trade secrets, in technology transfer transactions, and incremental innovation.[4]

ICC actively promotes IP as a tool for business. Publications, events, and policy advocacy all form part of ICC's engagement to help businesses better use the IP system for growth and the well-being of society as a whole.[5]

II. LICENSING

1. General issues

BACKGROUND

As intellectual property (IP) rights continue to grow as a portion of a business's assets around the world, business deals involving the licensing of such rights — whether as a licensor or licensee — are also becoming more common. In some industries, such as entertainment and media, they are the core of the business activity and commerce. Licensing is also a key channel for the transfer of technology and know-how, and for the dissemination of creative works.

Despite its growth, however, IP licensing is fraught with perils that may not be obvious to businesses, especially where the licensing deals may involve IP rights in multiple jurisdictions or different types of rights. Different jurisdictions have different laws that must be taken into consideration for each individual licence, and different types of IP involve different laws that can also affect the terms of any licence under intellectual property rights.

CURRENT LANDSCAPE

As a general matter, principles of contract law should apply to IP licence agreements, including country-specific laws — such as the Uniform Commercial Code for IP licences governed under the laws of the United States — as well as international laws — such as the United Nations Convention on Contracts for the International Sale of Goods (CISG) — for IP licences between businesses in signatory countries. In addition, many IP-specific international laws, rules and regulations may apply, often indirectly or through national implementation, such as rules promulgated by WIPO, the Paris Convention, NAFTA, GATT, TRIPS, or regional laws such as the EU Trade Marks Directive (2015/2436) and the EU Trade Mark Regulation (2018/625). However, how those laws, rules and regulations apply may vary from jurisdiction to jurisdiction and could depend on whether the licence contract is to be implemented in a common law jurisdiction or civil law jurisdiction. Regardless of how individual laws are applied, if at all, the following are some considerations that any party or potential party to an IP licence may face and should carefully evaluate before entering into a final licence agreement.

4 See https://iccwbo.org/global-issues-trends/innovation-ip/innovation/
5 See https://iccwbo.org/global-issues-trends/innovation-ip/intellectual-property/

a) *General considerations*

- *Identification of the parties*: One seemingly obvious, but critically important, consideration for any IP licence is the identification of the parties to the agreement, especially where one party is an entity with a more complex corporate structure. Due diligence is critical to settle issues such as who owns the relevant IP rights, which entities will exercise the rights, which parties have registered relevant IP rights, and whether third parties — affiliated or not — have any rights that can affect the licence terms. Resolution of such issues up front ensures that the parties are able to grant the IP rights as intended, without interference and unintended consequences.
- *Governing law*: Most jurisdictions offer some leeway for choice-of-law provisions in allowing the parties to an IP licence to select which jurisdiction's laws should govern the agreement and the parties' obligations under the agreement. Nevertheless, parties must still be aware of any laws of the applicable jurisdiction that are mandatory and cannot be waived or circumvented by contract, such as local consumer protection, antitrust and unfair competition laws, as well as tax policies. Furthermore, the parties must confirm that the intended IP right is actually protectable within the relevant jurisdiction and find out what the rules are for its registration.
- *Scope of rights*: One of the key business terms of any IP licence is the extent to which the licensee may use the licensed IP right. The parties must determine whether a licensee is entitled to use the full extent of the invention or the entire category of goods and services denominated by a trademark, or only some subset of those rights. Will there be any territorial restrictions or rights to sub-license? Where the licensor intends to place some limits on the IP right being licensed, careful drafting of the grant of a licence is critical, especially because many restrictions raise antitrust and other anti-competition concerns in many jurisdictions. IP licence agreements between competitors are generally more heavily scrutinised than those between non-competitors, so careful descriptions of each of the parties' fields of operation and expertise may help any licence agreement withstand such scrutiny.
- *Representations and warranties*: The terms of an IP licence agreement should include specific representations and warranties, including specific representations and warranties directed to the licensed IP right(s), i.e. ownership, full scope of rights, etc., though such terms are no substitute for thorough due diligence before the agreement is executed. Related to such representations, the parties should negotiate any indemnification provisions and limitations of liability, as well as the duties and obligations to enforce and protect the IP right(s) and comply with any governmental regulations or registration requirements. The key goal in mind should be risk allocation at the outset rather than waiting for a dispute to arise.
- *Registration of the licence agreement*: Different jurisdictions have different rules about whether an IP licence agreement itself — separate from the actual IP right — must be registered, typically depending on the type of IP right at issue. Some jurisdictions may review some of the terms of the licence for compliance. There may also be particular benefits to registration. Licence agreements can, for example, require to be registered with the Patent and Trademark Office to be effective against third parties, allow for the remittance of royalties abroad, or allow for tax deduction of amounts paid as royalties, even if there is no legal requirement. Thus, the parties should consider whether the licence agreement should be registered, and who bears the responsibility for ensuring such registration.
- *Term and termination*: The parties should give significant consideration to the length of an IP licence agreement, and to provisions for the termination of the agreement, which can be complicated if not due to the expiration of the agreement or pursuant to defined terms. Do the parties wish to allow for termination at will, or only termination for cause? What will their respective obligations be after termination, including handling of confidential information and any sell-off periods? Local laws may also require specific notice periods, or require that the contract term never surpass the registration term of the IP asset. Negotiating these rights and

obligations up front can eliminate, or at least reduce, disputes that frequently arise upon termination of a licensing agreement.

b) *Patent and know-how specific considerations*

- *Scope of grant*: In addition to the field of use and territorial scope issues mentioned above, parties to a patent licence agreement may wish to further divide the scope of the licence into the various rights granted under the patent laws of the relevant jurisdiction. For example, US patent law, like many other jurisdictions, grant patent owners the exclusive right to make, use and sell the patented invention. A patent licensor may wish to grant one licensee only the exclusive right to make or manufacture the patented invention, while granting another licensee the exclusive right to distribute or sell the invention further down the stream of commerce, such as to retailers or end-users. In many cases, patent licence agreements will also cover secret technical information beyond the scope of the patented invention. Such know-how licence should in particular define the way to access and use the information, as well as disclosure and confidentiality obligations of the licensee and the duration of the licence.
- *Cross-licensing*: With some patented inventions, opportunities may exist for cross-licensing among different aspects of a broader field of that invention, where each party grants a patent licence to the other party, effectively allowing both parties to combine resources to exploit the full field of the patented technology. Cross-licensing arrangements may also relate to the creation of patent pools, where multiple patent owners pool together their related patents covering a certain field for licensing to one another and to others who wish to participate. The parties, however, must be cautious about whether cross-licences are exclusive or non-exclusive. Exclusive cross-licences raise a greater risk of antitrust or other anti-competitive scrutiny from government authorities or even challenges by other potential competitors excluded from the cross-licensing arrangement. Indeed, in some jurisdictions, exclusive cross-licensing by competitors is prohibited.
- *Tying*: Patent owners/licensors often attempt to tie the licence grant for a patented invention to tangential or related items not covered by the patent. Licensors also may try to tie negative obligations, namely requirements to refrain from making or selling items related to the invention. As with patent pools, tying is not necessarily anti-competitive or impermissible, but such arrangements often invite additional scrutiny and depend in large part upon the parties' relative market power. In some jurisdictions, negative tying is prohibited outright, regardless of market power.
- *Compulsory licences*: In some countries, a patent owner and potential licensor face the possibility of a compulsory licence being granted to the invention by a governmental authority, against the will of the owner. As a general matter, such compulsory licences will not be permitted for or granted to direct competitors. Nevertheless, a patent owner considering enforcement of its patents may wish to consider the risk of a compulsory licence when negotiating or litigating because a voluntary licence still gives the parties greater control over an ongoing relationship than a compulsory licence.
- *Know-how/trade secrets*: While legal doctrines differ on whether trade secrets qualify as "IP" (see the Trade Secrets section of this Roadmap for this matter), trade secrets licence agreements, in principle, follow the rules of IP licence agreements. In practice, patent and know-how licence agreements are often combined, where the licenced subject-matter is partly patented and partly protected as a trade secret. A unique — and obvious — feature of trade secrets is that their very existence depends on the preservation of the secrecy of the information in question. That has a legal aspect too in that, generally, trade secrets legal regimes award protection only if the information has been subjected to reasonable steps under the circumstances to keep it secret, by the person lawfully in control of the information, as stipulated in Art. 39 of the TRIPS Agreement. In the licensing context this means that, depending on the nature of the information to be shared under the licence agreement and the practical risk of unintended disclosure of the information, the licensor should

consider imposing on the licensee specific measures to preserve the secrecy of the information, and perhaps reserve a verification right. Where relevant under the circumstances the licensor may also consider to expressly prohibit the licensee to reverse engineer e.g. a machine that is made available under the license, bearing in mind that, unless agreed otherwise, reverse engineering is a permitted way to acquire a trade secret in most jurisdictions.

- *Transfer or licensing agreements arising from industry/university partnerships*: One way to foster innovation is to leverage technological collaboration between public research institutions and business so that government and academic research can be brought to the market by way of transfer or licensing of patents and related know-how. These partnerships are often encouraged and facilitated by legal frameworks that ensure the adequate IP protection and rights to exploit, license or transfer during the partnership.

c) *Trademark-specific considerations*

- *Writing requirements:* Different jurisdictions have different requirements about whether a trademark licence agreement must be in writing. For example, US law does not require any written agreement, whereas certain European countries require licence agreements covering registered marks to be in writing and signed by the licensor (not necessarily by the licensee), while licences to unregistered trademarks do not need to be written.
- *Quality control*: Although many jurisdictions have no express requirements regarding quality control provisions in a trademark licence agreement, licence agreements in some countries — such as the US — must include quality control rights to the licensor for the granting of the licence to be valid. Otherwise, the licensor runs a risk of losing rights to the trademark itself — not just the licence agreement — as a "naked" licence. In such a situation, both licensee and licensor can lose their rights to prevent unauthorised use of the trademark. Quality control provisions frequently require balancing the licensor's genuine need for control of its trademark with a licensee's desire to avoid overly intrusive micro-management by the owner. Moreover, the parties must give consideration to antitrust and anti-competition laws, as well as the potential for liability arising from defective products under the control of both parties.
- *Ownership and goodwill*: In many countries, a trademark symbolises the goodwill developed and maintained by the trademark owner, not the licensee. Nevertheless, the parties to a trademark licence should specify in the agreement who retains ownership of the trademark and benefits from the licensed use, especially if the licensed use of the trademark potentially expands the scope of goods or services expressly covered by the trademark's prior use or if the terms of the contract allow sublicensing of the IP asset.
- *Policing and enforcement*: Because the trademark owner (licensor) generally benefits from the goodwill and ownership, enforcement and policing obligations also fall to the licensor in most situations. The parties, however, may wish to reallocate those obligations and the cost thereof, especially in the case of an exclusive licence. In either case, negotiating for mandatory assistance by the other party is also critical, and often necessary to bringing any litigation or other action against a third party.
- *Use restrictions*: Unlike patent licences, trademark licences generally are less scrutinised as anti-competitive for restricting a licensee's use of the trademark to certain goods or services, especially in jurisdictions where quality control is required. Restrictions are often necessary, in fact, to prevent a licensee from misusing, or expanding the use of, a trademark in such a way as to create confusion, dilute the licensed trademark or otherwise render the mark unprotectable. Thus, such restrictions are in the public interest and therefore more acceptable from a competitive standpoint.
- *Termination*: Termination of trademark licence agreements can be more complex than other IP licence agreements. Even the most carefully drafted termination provisions may be overridden by courts or governmental authorities, particularly in bankruptcy or insolvency contexts, thereby depriving one of the

parties of its rights under the licence. In many jurisdictions, other than the US, licensees' interests are not protected by law, so licensees should consider anticipating this risk within the contract terms by taking alternative measures to protect their rights under the licence, and take the licensor's financial situation into account.

d) *Copyright-specific considerations*

- *Writing requirement*: As with patent and trademark licences, copyright licences have mixed requirements relating to whether the licence agreement must be in writing. Most jurisdictions require exclusive copyright licences to be in writing, typically signed by at least the licensor. Non-exclusive licences, on the other hand, typically need not be in writing and many jurisdictions recognise open and Creative Commons-style licences.[6] Few jurisdictions, if any, require copyright licences to be filed or registered with the relevant copyright office. The formalities involved also depend on whether the licence in question is a commercial contract or a unilateral contract as, for example, in the case of many Creative Commons licences.
- *Ownership*: As a general matter, the author or artist of a copyrighted work will retain ownership rights in the work, unless special circumstances — such as employment or permissible assignment — exist to convey title to another party. Parties should pay special attention to local laws and licence provisions concerning works commissioned or created in the course of employment, merchandising and the creation of other derivative works by a licensee, because different jurisdictions follow different rules. The parties generally can alter default ownership rules provided they carefully consider and draft the licence language, though most jurisdictions — but not the US — recognise "moral rights" that afford certain protections to authors and creators and cannot be waived. Additionally, the implications of joint ownership of a copyright-protected work need to be considered since some jurisdictions require accounting and sharing of profits and/or consent of the other joint owners to assign or enforce the jointly owned copyright.
- *Royalty sharing*: In some jurisdictions, the copyright owner is entitled to receive any and all royalties derived from a copyright licence or sales of copyrighted works, regardless of the contributing authors. In other jurisdictions, there is a presumption that royalties will be shared among all authors — even if there is a single owner of the copyright — unless specified otherwise. Similarly, many jurisdictions recognise a form of the "first sale doctrine" (exhaustion of rights) in which a sale of a physical copy of a copyrighted work (an authorised copy) eliminates any further ability to control distribution or subsequent sales of that copy of the authorised work.

FUTURE PERSPECTIVES

As noted above, many of the issues flagged differ from jurisdiction to jurisdiction, and also vary enormously depending on the type of IP asset, industry and type of business or other parties concerned. National jurisdictions may make changes from time to time to their own rules of practice with respect to IP rights, registration requirements and ownership obligations which can affect licensing, e.g. the implementation across the EU of Directive (EU) 2016/943 on the protection of trade secrets against their unlawful acquisition, use and disclosure, and the entry into force of the US Defend Trade Secrets Act,[7] or the America Invents Act in the US (2012).[8] Perhaps even more importantly, changes to other areas of the law, such as antitrust law and other competition regulations, may impact IP licensing in important ways. Knowledge of local laws is therefore critical for international IP licensing agreements and periodic

6 See creativecommons.org/.
7 See section B.VIII on Trade Secrets / Confidential business information.
8 See section B.I. on Patents.

review of previously agreed IP licences may prove valuable to ensure compliance with current (and future) laws and regulations.

ICC CONTRIBUTIONS

ICC has prepared a research paper, *The Dynamics of Global Technology and Knowledge Flows*, on channels for technology diffusion and dissemination, including licensing, as part of its research series on the role of IP in innovation.[9] ICC has also developed an information booklet on IP licensing as well as several model contracts relating to licensing, including on technology transfer,[10] trademark licensing[11] and franchising.[12] The normative effects and limitations of Directive (EU) 2016/943 and the US Defend Trade Secrets Act are discussed in a 2019 ICC study.[13]

2. Specific situations

2.1. Collective administration and licensing of copyrights

BACKGROUND

Collective management of copyright can benefit rightsholders, users, and consumers by facilitating the efficient licensing of copyrighted works with minimal transaction costs, thus enabling new business models to use and distribute copyrighted works across platforms. In suitable cases, it is advantageous to both rightsholders and users to license copyrighted works collectively, provided that such collective administration of copyrights takes place within a framework that provides transparency, allows pricing at rates that would be freely negotiated in the marketplace, and grants rightsholders control over when and how to license their rights collectively.

The national nature of copyright requires that international businesses obtain licences in each relevant territory. In appropriate cases, collective management can facilitate such licensing in each territory, and cooperation between collectives through reciprocal agreements can further facilitate international licensing.

CURRENT LANDSCAPE

New media and technology continue to create novel and innovative ways for rightsholders to distribute and exploit their works, in particular in online and mobile services, thus creating new licensing opportunities. Rightsholders and users seek efficient and comprehensive licensing for different uses that enables the delivery of copyrighted works to consumers seamlessly and at proper price points, to the benefit of rightsholders, users and consumers.

Collectives are licensing within such new business models and cooperating internationally to harmonise databases and develop reciprocal arrangements to facilitate transnational licensing of copyrighted works.

Governments are also seeking to foster transnational licensing and transparency in collectives, while recognising the territorial nature of copyright and the prerogative of rightsholders to determine when it is appropriate to exploit exclusive rights directly or collectively. For example, the EU Directive on Collective Rights Management (CRM), which

9 See iccwbo.org/global-issues-trends/innovation-ip/innovation/.
10 See iccwbo.org/resources-for-business/model-contracts-clauses/technology-transfer/.
11 See iccwbo.org/resources-for-business/model-contracts-clauses/trademark-licensing/.
12 See iccwbo.org/resources-for-business/model-contracts-clauses/franchising/.
13 See https://iccwbo.org/publication/trade-secrets-report/.

entered into force in April 2014, guarantees that rightsholders control the management of their rights and establishes EU-wide standards to ensure the proper functioning of the management of copyright and related rights by collective management organisations. It provides that collective rights must be licensed on the economic value of the use of the rights in trade, that is, on a willing buyer-willing seller basis. It requires users to provide usage reports on an accurate and timely basis. Finally, it also establishes rules for multi-territorial licensing of authors' rights in musical works for online use.

Although the CRM Directive remains a leading international precedent, the impact of Brexit must be considered, wherein from 1 January 2021, the European Economic Area Collective management organisations (CMO) are not required by the EU Directive to represent UK rightsholders or to represent the catalogues of UK CMOs for online licensing of musical rights.

FUTURE PERSPECTIVES

Innovative online and mobile business models made possible by evolving technology will continue to foster new opportunities for licensing copyright, which in appropriate instances can be done most efficiently on a collective basis. The international nature of many such business models continues to increase the importance of transnational cooperation between collectives and multi-territorial licensing, wherever possible. An appropriate supervision of the legal framework should be ensured, especially on copyrightable works generated by online users (UGC) or AI (artificial intelligence).

2.2. Patents and standards

BACKGROUND

Standards help enable the interoperability of technologies, products and services through the development of technical specifications in formal or informal Standards Development Organisations (SDOs). Some of the most ubiquitous standards used today are in the telecommunications field, including the UMTS (3G), Long Term Evolution (4G), 5G and Wi-Fi standards. Both businesses and consumers have come to rely on such standards in their day-to-day activities.

To enable the incorporation of the most innovative and efficient technology in a standard under development, members of an SDO are encouraged to contribute their best technologies for consideration by the SDO for inclusion in the standard. It is generally recognised that to achieve the desired objective, contributors must be able to obtain a return on their R&D investments that is at least sufficient to maintain investment incentives, taking failed projects into account. This is usually achieved through the licensing of the use of the contributor's patented technology to which the contribution relates. However, such licensing must also be balanced with the need to facilitate broad implementation of the standard under terms and conditions for the underlying intellectual property (IP) that are (fair), reasonable and non-discriminatory ((F)RAND). Accordingly, SDOs generally develop IP policies that seek to balance the interests of all of their members, patent owners, equipment manufacturers and service providers, as well as implementers.

To ensure a wide availability of standardised technologies, while maintaining incentives for innovation, several approaches are commonly pursued. For example, most standards bodies seek the disclosure of the existence of

potentially essential patents[14] and request that the patent holders declare their willingness to offer licences on (F)RAND terms and conditions. Patent holders and potential licensees are then free to negotiate detailed licensing terms which would often be customised to address the specific needs of both parties.

CURRENT LANDSCAPE

Various governmental and competition authorities around the world, including in the US, India, Japan and Korea, have given some guidance, or are in the process of doing so, on the activities of SDOs and the licensing of standard essential patents (SEPs).

In Europe, the European Commission (EC), in its 2011 Guidelines on Horizontal Cooperation Agreements, provides guidance to SDOs as to whether their activities may be compatible with EU competition rules,[15] providing safe harbour principles. Competition law has also been used by the European Commission to address concerns relating to the exercise of IP rights in the standards-setting context, most notably in decisions in 2014 relating to Samsung's and Motorola's pursuit of injunctive relief for alleged infringement of their SEPs.

The Court of Justice of the European Union (CJEU), in the Huawei vs. ZTE case,[16] considered when it may be an abuse for an SEP holder to seek an injunction against an infringer. In its decision the Court introduced a safe harbour framework for the pre-judicial negotiations. It established certain steps for both the SEP holder and an alleged infringer (potential licensee) to follow. It made it clear that if the alleged infringer does not follow the steps under the decision, and the SEP holder meets all of its steps for offering a licence under (F)RAND terms, the patent holder will not be considered to be in breach of EU competition law by seeking an injunction. More recently, in May 2020, Germany's highest court followed the CJEU decision,[17] giving greater clarity on the behaviour of both parties when negotiating a licence over SEPs.

Following the CJEU decision the European Commission released a Communication in November 2017[18] noting that this case provided useful additional guidance for stakeholders. The EC Communication also set out principles for a balanced, smooth and predictable framework for SEPs, with the objectives of both incentivising the development and inclusion of technologies in standards and ensuring wide dissemination of standardised technologies. In order to do so, it advocated three important aspects: (i) a more transparent environment for SEPs; (ii) common licensing principles; and (iii) a more balanced and predictable enforcement environment. Following this Communication, the EC set up an expert group to consider these aspects.

Outside the EU, a number of court decisions have been dealing with issues such as injunctions and (F)RAND terms and conditions for licensing standard essential patents. Court decisions in the US, China, India and Japan have determined what should constitute a (F)RAND rate for particular standard essential patents. In China, due to the increasing number of litigations, guidelines were issued by the Beijing High People's Court in 2017 and by the High People's Court of Guangdong Province in 2018, to help courts decide if injunctive relief should be granted in cases involving SEPs. The guidelines also define parameters to be taken into account to determine FRAND royalties. In 2018, the Japan Patent Office also issued a guide to facilitate SEP negotiations between rights holders and users of a

14 An essential patent is typically considered to be a patent that is infringed by the use of a standard.
15 Guidelines on the Applicability of Article 101 of the Treaty on the Functioning of the European Union to Horizontal Co-operation Agreements. See eur-lex.europa.eu/legal-content/EN/ALL/?uri=CELEX%3A52011XC0114(04).
16 Judgment dated 16 July 2015, C-170-13.
17 *Sisvel v Haier*, German Federal Court of Justice, 5 May 2020, KZR 36/17.
18 Communication from the Commission To The European Parliament, The Council And The European Economic And Social Committee - Setting out the EU approach to Standard Essential Patents See https://ec.europa.eu/docsroom/documents/26583.

standard.[19] In Brazil, preliminary injunctions have been granted in the first two cases involving SEPs (Vringo vs. ZTE and Ericsson vs. TCL), but the issue is not yet settled.

In 2019, the U.S. Patent & Trademark Office (USPTO), the National Institute of Standards and Technology (NIST), and the U.S. Department of Justice, Antitrust Division (DOJ), jointly issued a policy statement related to remedies for infringement of standards essential patents subject to voluntary (F)RAND commitments,[20] in which they have stated that "All remedies available under national law, including injunctive relief and adequate damages, should be available for infringement of standards-essential patents subject to a F/RAND commitment". This statement was intended to clarify a previous statement made jointly by the USPTO and the DOJ.

Besides the availability of injunctive relief for SEPs, industry participants have been discussing for a number of years various topics relating to the patent policies of some SDOs, including transparency, patent disclosure obligations and the definition of (F)RAND under those policies. As for the issue of injunctive relief, these topics are highly controversial as they directly impact the commercial positions of patent holders and the users of standards-compliant products and services.

In recent years arbitration has been used — including at the ICC's International Court of Arbitration — to determine (F)RAND terms and conditions that cannot be agreed through negotiation by the respective parties. Such arbitrations can avoid the need to bring costly and lengthy court actions around the world to resolve licensing disputes between the SEP holder and the user of the standard where both parties are unable to agree the appropriate (F)RAND terms and conditions. As SEP holders often have a large number of such patents, arbitration has also the advantage of allowing determinations relating to the whole global patent portfolio.

FUTURE PERSPECTIVES

In April 2016 the European Commission released a Communication on its Information and Communications Technology (ICT) Standardisation Priorities for the Digital Single Market. The document highlighted the importance of standardisation to the digital economy and to the future development of a digital single market, noting that "areas such as eHealth, smart energy, intelligent transport systems and connected and automated vehicles, including trains, advanced manufacturing, smart homes and cities and smart farming will significantly benefit from the proposed prioritisation of standards".[21] The European Commission also published in 2017 a Communication on the EU's approach to SEPs. Several actions were outlined in that Communication. One was a pilot project "with a view to facilitating the introduction of an appropriate [essentiality] scrutiny mechanism". This project has since concluded, and its results are due in September 2020. The Commission also set up an SEP expert group in 2018 for the purpose of monitoring licensing practices and conducted a study on the relationship between "open source" and standards. This study was released in November 2019 making various recommendations.[22] In addition to these actions, the European Commission is conducting a review of its competition law "Horizontal Cooperation Agreement" guidelines, which are due to be revised in 2022. The current Guidelines cover "Standardisation Agreements", which includes guidance on SDO governance and the availability of related IPR to ensure fair access to the use of standards. During this period the Guidelines will go through an evaluation phase to determine if any changes are needed, which will then be followed up by an evidence-based impact assessment stage.

19 Guide to Licensing Negotiations Involving Standard Essential Patents, JPO, June 5, 2018. jpo.go.jp/e/support/general/sep_portal/.
20 Policy Statement on Remedies for Standards-Essential Patents Subject to voluntary F/RAND Commitments. See https://justice.gov/atr/page/file/1228016/download .
21 See https://ec.europa.eu/digital-single-market/en/news/communication-ict-standardisation-priorities-digital-single-market
22 JRC Science for Policy Report, "The relationship between open source software and standard setting", 2019.

Outside the EU, a decision from the UK Supreme Court is expected on whether an English court can grant a UK-wide injunction, based on a UK patent, if a standard user fails to accept a global portfolio licence determined by the court to be (F)RAND. Also, due to the geo-political importance of 5G and other standards related technologies to national industrial policies, various countries' regulatory bodies, such as the US Department of Justice and the Japan Patent Office, are monitoring, for example, the governance of SDOs and/or the licensing of patents, both bilaterally and through patent pools.

III. VALUATION AND MONETISATION OF INTELLECTUAL PROPERTY ASSETS

BACKGROUND

Intellectual property (IP) rights are widely recognised as valuable assets and frequently play an important role in business strategy and overall corporate value. Businesses assess the value of their IP assets for many purposes, such as to obtain financing, to make informed investment and marketing decisions, to exploit IP through licensing, sale, and other means of trading, e.g. in the form of securities, as well as to fulfil company reporting requirements and assessment for taxation.

Transactions involving IP rights have become increasingly common. This also reflects the growing importance of IP in the overall valuation of companies and the market as a whole. According to studies on the subject, intangible assets (of which a substantial part consists of intellectual property) represented only some 17% of the market value of the S&P 500 companies in 1975, whereas by 2015, that figure had grown to 87%.[23] According to the 2019 analysis conducted by the European Patent Office (EPO) and European Union Intellectual Property Office (EUIPO), industries that make intensive use of IP rights (IPRs) generate around 45% of GDP (EUR 6.6 trillion) in the European Union.[24]

CURRENT LANDSCAPE

Besides industry practice and negotiation in the context of bilateral agreements, different methods are applied for valuing IP. These are, among others, relief from royalty, discounted cash flow, historic or replacement or replication costs, real options, and Monte Carlo analysis. Professionals specialising in IP valuation, especially of brands and patents, use a variety of valuation methodologies. In some industries, valuation may be based on licensing agreements which often determine or are closely linked to asset production, e.g. in entertainment and media industries. New international accounting standards may lead to brands being recognised in balance sheets in more countries and, therefore, to other financial uses of IP. With respect to acquisitions, there can be different accounting treatments based on the acquisition price and historical cost depending on how matters such as goodwill are viewed under applicable local accounting policies. Due to the unique nature of IP, the most suitable method for valuation is typically selected on a case-by-case basis depending on the type of IP asset and industry. A combination of methods is sometimes used in an effort to show a fair range of values for a particular IP asset. Therefore, an approach which does not rely on a single universal method for valuation is needed to identify and quantify the economic benefits that IP assets are likely to generate, reflect return on investment (e.g. the risk, cost of capital or failed projects) and ultimately determine the likely value generation from those economic benefits.

[23] See Ocean Tomo 300™ Patent Index (2015 update), https://oceantomo.com/blog/2015/03-05-ocean-tomo-2015-intangible-asset-market-value/.

[24] See Intellectual property rights strongly benefit the European economy, EPO-EUIPO study finds: https://epo.org/news-events/news/2019/20190925.html.

Market-based valuation agreed between a willing buyer and a willing seller is the essence of licensing in market economies. General proxies for market-based approaches to valuation, which are relevant in some industries, include objective ratings models offered in the US, Europe and Japan, live multi-lot IP auctions, stock equity indexes and Exchange Traded Funds based on the value of corporate IP (NYSE: OTP and NYSE: OTR). A spectrum of IP-related financial products enables investor and company participation in the ownership of IP rights.

When valuing IP, it is also important to consider the scope and objective of the valuation. Valuing a single patent is different from valuing a patent portfolio covering a certain technology or the whole patent portfolio of an enterprise. In the case of technology transfer — particularly for early stage technologies — the main purpose of a valuation is strategic, rather than formal. In the event that standard-essential patents are subject to a monetary valuation, fair, reasonable and non-discriminatory (FRAND) terms are to be considered in the valuation modelling. Valuing know-how may be particularly challenging. The increasing volatility of the value of IP assets poses challenges irrespective of the purpose of the valuation.

In conducting due diligence studies on IP, businesses and the financial community need to recognise that the value of IP assets cannot be determined without proper legal analysis. Such studies provide more reliable information about the financial value of the IP, as well as information useful in setting a direction and strategy for the business. Other automatic techniques, such as citation analysis, provide at best a rough guide to IP value and may be quite misleading.

Accounting rules relating to cost can cause assets developed internally to appear to be worth less than their real market value or potential return on investment, which in turn lowers the company's market value. Current accounting standards follow the rule of recording business items at their price in a commercial transaction. In principle these items cannot be placed on a balance sheet because there could be a risk of double accounting, as the tangible costs of developing intangible assets could already have been accounted for. Intergovernmental organisations such as the World Intellectual Property Organization (WIPO), the OECD and the United Nations Economic Commission for Europe (UNECE) organise seminars and compile resources on this issue. The United Nations Commission on International Trade Law (UNCITRAL) has included IP assets in the scope of its Legislative Guide on Secured Transactions.[25] This guide makes recommendations as to how country laws can be harmonised internationally to cut across legal restrictions on the availability of low-cost finance and credit.

Several regional and international initiatives have been undertaken to standardise valuation mechanisms. There are a number of organisations attempting to develop valuation standards, such as the US Financial Accounting Standards (FASB), the International Valuation Standards Committee (IVSC), the German Institute of Standardization (DIN), the International Financial Accounting Standards Board (IFASB), the International Organization for Standardization (ISO) and the OECD.

In 2013, the *Final Report from the Expert Group on Intellectual Property Valuation* by the European Commission (EC) was published.[26] This report represents a set of rules for companies to better value intangible assets in accounting terms and increase opportunities to get better value out of IP assets and leverage financing. In 2015, the Organisation for Economic Co-operation and Development (OECD) issued its final report on transfer pricing under Actions 8-10 of its Action Plan on Base Erosion and Profit Shifting (BEPS) related to intangible assets.[27] In 2018 OECD issued two

25 UNCITRAL Legislative Guide on Secured Transactions — Supplement on Security Rights in Intellectual Property (2011), https://uncitral.org/pdf/english/texts/security-lg/e/10-57126_Ebook_Suppl_SR_IP.pdf.

26 See Final Report from the Expert Group on Intellectual Property Valuation (2013) at https://ec.europa.eu/research/innovation-union/pdf/Expert_Group_Report_on_Intellectual_Property_Valuation_IP_web_2.pdf.

27 See https://oecd.org/tax/beps/beps-actions.htm.

additional guides: "Guidance for Tax Administrations on the Application of the Approach to Hard-to-Value Intangible"[28] and "Revised Guidance on the Application of the Transactional Profit Split Method".[29] In 2011, the German Institute of Standardization (DIN) published its Norm 77100 Patent valuation — General Principles for Monetary Patent Valuation.[30] The China Appraisal Society also published its "Standards for the Appraisal of Assets -- Intangible Assets" and other guidelines relevant to valuation of

intellectual properties.[31] Furthermore, the International Organization for Standardisation issued the ISO 10668, essential to procedures for monetary brand valuation. More recently, ISO 20671 was issued in 2019 dealing with brand evaluation from a marketing and consumer perspective, especially for the measurement of brand strength, brand performance, and financial results. This standard follows but does not replace the ISO standard 10668, and it was inspired by the Austrian standard ONR 16800 Method for the evaluation of the intangible asset brand.[32]

FUTURE PERSPECTIVES

Patent monetisation continues to thrive and is being promoted by institutions such as the European Commission, notably as it relates to dormant IP assets of SMEs. On the other hand, there is an increase in the activity of patent assertion entities (which acquire, license and enforce patent rights) as well as of patent agglomeration entities (which acquire patent rights and license them to their members). The growing interest and value in monetising patents and IP rights has also been seen in litigation. In China, the Intellectual Property litigation increased by 44.16% from 2018 to 2019.[33] The increasing trend in the IP rights/patent litigation is a sign of potential increase in monetary valuation activities.

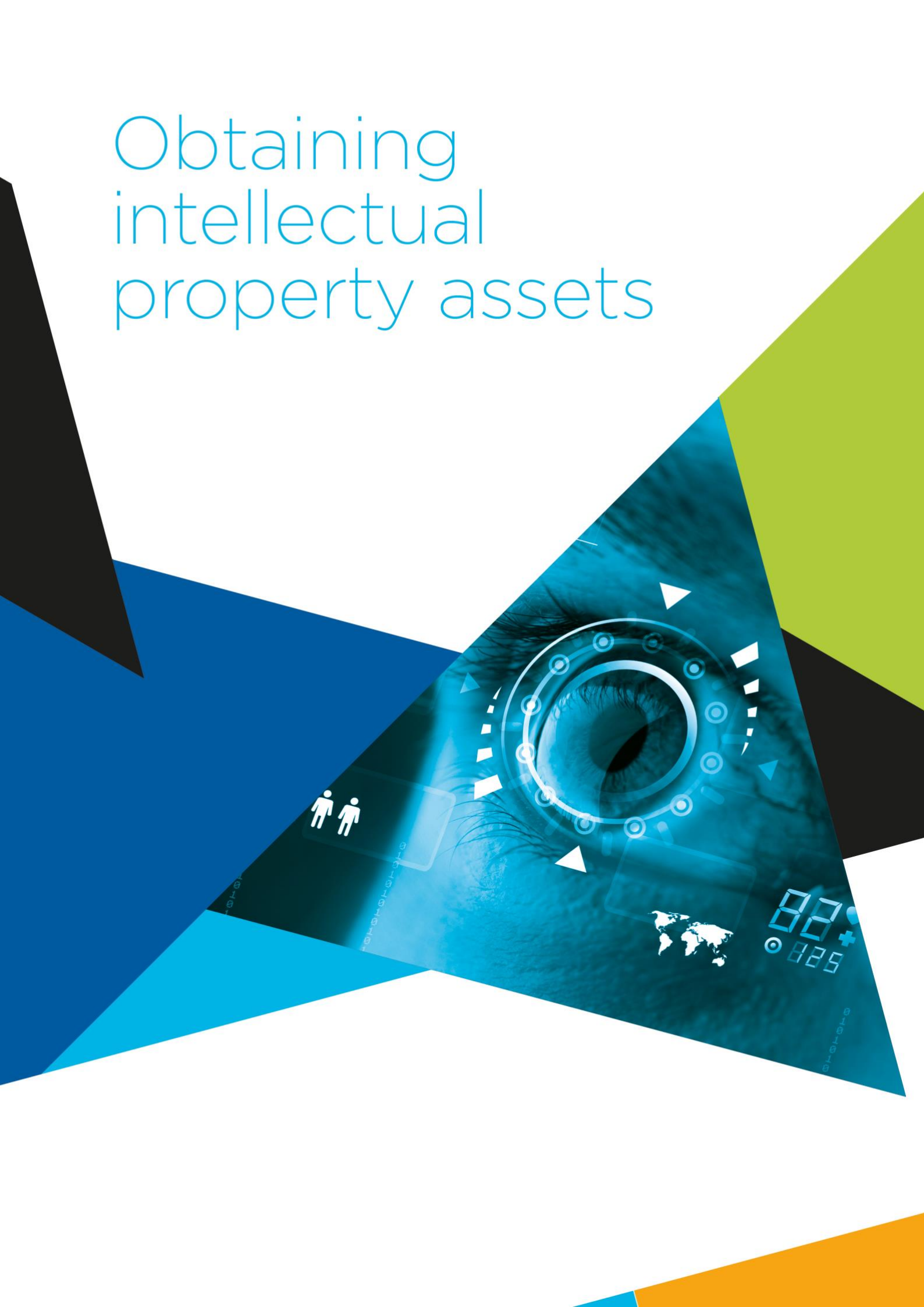
An increasing number of governments have established programmes to encourage their enterprises to exploit their IP rights and to help companies raise funds based on such assets. The valuation of IP rights is important for enterprises in this context. The monetisation activities of operating companies are on the rise. This is due to the fact that, as the perception of value to be obtained from idle IP assets increases, the stigma of asserting that value decreases and there is a growing need to obtain IP rights to fill portfolio gaps for cross-licensing and counterclaim assertion. Recent activity in the patent marketplace has shown that the value of a particular patent can be affected by a variety of contextual factors, ranging from the value of the underlying technology to the value that the patent adds to the existing portfolio of companies in a given industry.

ICC CONTRIBUTION

ICC published in 2019 the "ICC Handbook on Valuation of Intellectual Property Assets"[34] which provides a practical overview of the main aspects in IP valuation and serves as a common knowledge base for the different parties in the valuation process.

28 See https://oecd.org/tax/transfer-pricing/guidance-for-tax-administrations-on-the-application-of-the-approach-to-hard-to-value-intangibles-BEPS-action-8.pdf .
29 See https://oecd.org/tax/transfer-pricing/revised-guidance-on-the-application-of-the-transactional-profit-split-method-beps-action-10.htm .
30 See *Patentbewertung — Grundsätze der monetären Patentbewertung* (2011) at https://www.beuth.de/de
31 China Appraisal Society (2019) Standards of Appraisal, Available at: http://www.cas.org.cn/pgbz/pgzc/index.htm.
32 See https://www.iso.org/obp/ui/#iso:std:iso:20671:ed-1:v1:en.
33 The Supreme People's Court of the People's Republic of China (2020) Intellectual Property Protection by Chinese Courts in 2019, Available at: https://www.chinacourt.org/article/detail/2020/04/id/5049570.shtml [Accessed 10th June, 2020].
34 See https://iccwbo.org/publication/icc-handbook-valuation-intellectual-property-assets/.

Obtaining intellectual property assets



B. Obtaining intellectual property assets

I. PATENTS

1. Patent office cooperation and substantive patent law harmonisation

BACKGROUND

As business, trade and the impact of technology have become increasingly global, awareness of the value of IP assets such as patents has grown. This has led to a steady increase since the mid-1990s in the number of patent applications filed worldwide with a consecutive year-by-year increase since 2009. The need for increased efficiency for all parties concerned underlines as well the need for facilitated worksharing between patent offices. In this context, worksharing means that patent offices share information about search strategies, search results and examination results for applications related to the same invention, and use that information in connection with search and examination work done on such applications. Patent offices engaged in such worksharing will retain the ultimate responsibility of deciding for themselves whether a patent should be granted or not.
The Patent Cooperation Treaty (PCT), a World Intellectual Property Organization (WIPO) treaty dating back to 1970, was designed to achieve an improved balance between the efficiency of offices and deliberated decision-making of applications. The PCT system has been a great success, with 153 contracting states as of July 2020. Through a single application, patent protection can be applied for in all PCT member states. The PCT provides a single high-quality search and examination in the international phase, and postpones the major costs associated with seeking multinational patent protections and allows patent applicants more time to decide whether to validate the application in the desired countries or regions. The WIPO PCT Working Group has the task of improving the PCT system.

The five major patent offices in the world,[35] CNIPA (China), EPO (European Patent Office), JPO (Japan), KIPO (Korea), and USPTO (US), collectively known as IP5, cooperate since 2008 for worksharing purposes in a number of areas in the context of patent search and examination.

Another development in worksharing between patent offices is what is known as Patent Prosecution Highways (PPHs). These cooperative arrangements allow offices to make use of the examination and search work previously done by other participating offices thereby reducing the time necessary for the examination process. The first PPH was launched as a pilot program between the USPTO and the JPO in 2006, and the number of PPH-implementing offices has since increased to as many as 54 of today. [36]

CURRENT LANDSCAPE

The increased awareness of the value of intellectual capital such as patents has contributed to record levels of patent applications filed. In 2018, the total number of invention patent applications filed worldwide reached 3.3 million, a 5.2% increase over 2017.[37] The main countries contributing to this growth were China, the United States and Japan,

35 Collectively handling about 80% of the patent applications worldwide and about 95% of the applications filed under the PCT (See https://www.fiveipoffices.org/about).
36 For an overview of these agreements, see: https://wipo.int/pct/en/filing/pct_pph.html .
37 See https://wipo.int/pressroom/en/articles/2019/article_0012.html .

with the Chinese patent office receiving 1.54 million patent applications that amounts to 46.4% of the global total in 2018. This development has resulted in increased pressure on patent offices with regard to their backlogs.

In parallel, the topic of patent quality is increasingly discussed at the national as well as the international level, including within IP5.

The development of a new patent classification system, common to the IP5 offices, is one of the main projects of IP5, as well as the harmonisation of patent law. Under the name Global Dossier, the IP5 Offices provide file wrapper data in a standardised format allowing the viewing of all IP5 file wrapper documents from any one of the IP5 Office's websites. From 1 July 2018 to 1 July 2020, the IP5 Offices conducted a pilot project called Collaborative Search and Examination (CS&E) to test a collaborative approach to international searches under the PCT, featuring an applicant-driven approach, a balanced workload distribution, and a common set of quality and operational standards. In addition to CS&E, under the PCT framework, bilateral CS&E pilots were conducted, such as between the USPTO and JPO as well as between CNIPA and KIPO. In early 2020, IP5 held the inaugural meeting of their joint Task Force on New Emerging Technologies (NET) and Artificial Intelligence (AI) set up to explore the legal, technical and policy aspects of NETs and AI, their impact on the patent system and on operations at the IP5 offices.

To promote and facilitate progress on key issues under consideration at WIPO, and in particular to move forward on substantive patent law harmonisation, the Group B+[38] was established in 2005. Since 2014 a Group B+ sub-group is working on non-prejudicial disclosures/grace period, conflicting applications, and prior users' rights, based on the May 2014 report by the Tegernsee Group.[39] It has also published a paper in June 2015 setting out objectives and principles guiding the harmonisation of substantive patent law.[40]

The Patent Prosecution Highways (PPH) network continues to expand. By July 2020, 54 patent offices have taken part in PPH agreements resulting in nearly one thousand PPH arrangements.[41] A patent applicant, whose patent claims are determined to be allowable or patentable in the office of first filing, can request, under a PPH agreement, for the corresponding application filed in another office to be accorded fast-track patent examination in the second office, provided certain conditions are met. The office of second filing can then make use of the search and examination results of the office of first filing, and the applicant may, as a result, be able to benefit from faster processing of a corresponding application filed in the second office. This facilitates the processing of patent applications by the offices participating in PPHs, resulting in savings both for the offices involved and for the applicants.

All of these projects — including improvements to the PCT system, PPHs, and the work of the IP5 offices — show very encouraging signs of harmonisation and a strong interest among patent offices that engage in search and examination of patent applications to improve the conditions for cooperation on both multilateral and bilateral levels.

38 Composed of Australia, Canada, Japan, New Zealand, South Korea, the United States, European Union member states, the European Commission, EPO member states, and the EPO.

39 Composed of heads of offices and experts from the patent offices of Denmark, France, Germany, Japan, the UK, the US and the EPO and working since 2011.

40 See https://ic.gc.ca/eic/site/cipointernet-internetopic.nsf/eng/wr04008.html

41 See jpo.go.jp/e/toppage/pph-portal/network.html.

FUTURE PERSPECTIVES

While noticeable progress has been made, the problem with backlogs at the major patent offices is expected to continue. Focusing on possible remedies while maintaining patent quality will remain an important topic for patent offices and patent applicants as well as for third parties and for society at large.

As a major user of the PCT system, business has supported the system and encourages the efforts in WIPO to enhance it. In particular, business will continue to follow and support efforts towards improvement of the PCT system so as to make it an effective instrument for worksharing of patent searches and examination. While Patent Prosecution Highways are also positive developments, both in their own right and as means for the improvement of the PCT system, high quality patent searches and examination in the context of such worksharing systems are fundamentally important. Business will continue to follow and support the development of PPHs to ensure their effectiveness, sustainability and consistency with the PCT system, among other things. Moreover, the work of the IP5 offices on their Foundation Projects is an important and positive development and merits close monitoring by business.

While the continued blockage of substantive patent law harmonisation discussions in the WIPO Standing Committee on Patents (SCP) is of concern, the work and studies undertaken in the SCP, as well as in the WIPO PCT Working Group, deserve to be actively followed. Business should take an active part in the general debate on the balance of the patent system and explain its positive role in supporting innovation and economic development.

Governments should take steps to strengthen the PCT system, enhance the quality of work done by national offices under the system and encourage its use by applicants. Business also encourages work sharing efforts consistent with the PCT system, such as those represented by PPHs, as well as other initiatives to make progress towards substantive patent law harmonisation.

ICC CONTRIBUTIONS

ICC attends the SCP sessions and has made statements and/or submitted papers on the topics of attorney-client privilege, exceptions and limitations to patent rights, technology transfer and standards and patents. ICC will continue to support the use and strengthening of the PCT and will also follow the work of the IP5 offices on worksharing. Moreover, ICC will also continue to follow the evolution of other worksharing initiatives, including the Patent Prosecution Highways (PPHs) that have been put in place between many patent offices.

2. Patent quality

BACKGROUND

The increasing numbers of patent applications filed worldwide in recent years has led to large backlogs of applications awaiting examination and decision as to grant. In parallel, concerns have been raised that the quality of patents granted has declined and that this may have shifted the balance between the interests of rightsholders, on the one hand, and the public interest on the other, putting the proper functioning of the patent system at risk.

CURRENT LANDSCAPE

As a result, the issue of patent quality is being studied and action is being taken at different levels. At the patent office level, patent quality is a major theme in many countries, both in the national context as well as in the context of

cooperation between the IP5 patent offices.[42] In the IP5's work, patent quality is one of the so-called foundation projects. The work at these technical levels is focused on elements such as patent examination procedures, worksharing between patent offices and quality control systems. The WIPO Standing Committee on the Law of Patents (SCP) also has patent quality as one of its study topics.

Patent quality is also studied from other angles. For example, the effects of low quality patents on the role of patents as incentives for innovation and technological development may be studied from an economic perspective, while the extent of invalidation of patents in legal proceedings can be studied from a legal viewpoint. The Organisation for Economic Development (OECD) is working on how to measure patent quality and has published a study on the subject.[43]

The issue of the quality of patents has found its way into international treaties, such as the Trans-Pacific Partnership (TPP) agreement,[44] which includes provisions on patent cooperation and worksharing between the patent offices of the signatory countries and the commitment to improve procedures for civil and criminal enforcement.[45]

Many countries provide mechanisms for evaluating patents, such as opposition or post-grant invalidation procedures that can be initiated by anyone on grounds of the patent not having been granted according to essential requirements. Post-grant invalidation has become an important tool for improving patent quality in the US with its post-grant review system. In Europe, the Unified Patent Court will have competence on post-grant invalidation of Unitary Patents (UPs) and other European patents (EPs) bound by the provisions on the Unified Patent Court. The Chinese court system has also made efforts to ensure patent quality by issuing rules regarding claim construction, which provide important guidance to applicants.[46]

FUTURE PERSPECTIVES

Maintaining an adequate level of quality in granted patents is in the interest of all stakeholders. It is important for business to follow and engage in this work in different contexts.

3. The work on the patent system in Europe

BACKGROUND

In Europe, the lack of a unitary title and the absence of an integrated, specialised and unified jurisdiction for patent-related disputes continued to be the main subject-matter for discussion between the European Commission, EU member states, the European Patent Office (EPO) and stakeholders. An Agreement on a Unified Patent Court (UPC Agreement) and the EU Regulations on the Unitary Patent ("Unitary Patent system")[47] was reached for those two issues in 2012. Unitary effect means that the Unitary Patent (UP) shall provide uniform protection and have equal effect in all the states participating in the Unitary Patent system (UP member states).

42 China, Japan, Korea, the US and the European Patent Office.
43 See OECD Science, Technology and Industry Working Papers 2013/03 — 6 June 2013.
44 Continued as the Comprehensive and Progressive Agreement for Trans-Pacific Partnership (CPTPP) after the withdrawal of the United States under the Trump administration.
45 See TPP, Article 18.14.
46 See Several Issues Concerning the Application of Law in the Trial of Patent Infringement Dispute Cases (II) .
47 Regulation (EU) No 1257/2012 of 17 December 2012 implementing enhanced cooperation in the area of the creation of unitary patent protection, and Regulation (EU) No 1260/2012 of 17 December 2012 implementing enhanced cooperation in the area of the creation of unitary patent protection with regard to the applicable translation arrangements.

Language — a politically sensitive issue — turned out to be one of the key problems, to which an acceptable solution was eventually found. As no agreement between all the EU member states could be reached on the translation arrangements, the EU Council decided in March 2011 that the UP Regulation and the Unitary Patents Translation Arrangements (also called UPTA Regulation) should be handled under a so-called Enhanced Cooperation Procedure provided in the EU Treaties. Of the (then) 27 EU member states, only Italy and Spain did not join this Enhanced Cooperation and brought an action against this procedure to the Court of Justice of the European Union (CJEU), which was ultimately dismissed in April 2013. Spain launched two further actions, which were also dismissed by the CJEU. Italy has in the meantime decided to join the UP Regulation and, thus, the unitary patent system.

CURRENT LANDSCAPE

In December 2012, the European Parliament voted positively on the EU Council's compromise proposals for the two draft regulations (Unitary Patent and its Language Arrangements). The regulations entered into force on 20 January 2013, but they will only apply from the date of entry into force of the UPC Agreement.

The UPC Agreement in its current form needs to be ratified by at least 13 states to enter into force. At the beginning of 2020 the UPC Agreement had been ratified by a sufficient number of member states, except Germany, since a Constitutional Complaint was pending before its Federal Constitutional Court against the German law approving the UPC Agreement. In March 2020, the court declared the law null as it had not been approved by the German parliament (Bundestag) with the two-thirds majority required according to the court. The United Kingdom (UK), while somewhat surprisingly having formally ratified the Agreement under Prime Minister May in 2019, officially withdrew its ratification under Prime Minister Johnson in July 2020. Hence, the entry into force of the system is still unclear.

Besides the above, the EPO entered so called validation agreements with Cambodia, Moldova, Morocco, and Tunisia providing owners of patents granted under the EPC the option to further extend their validity to these countries. A further agreement, which is yet to enter into force as of September 2020, was signed with Georgia in 2019.

FUTURE PERSPECTIVES

According to government officials, the German government strives to remedy the formal deficiency in the ratification process before the general elections to be held in the third quarter of 2021. The fact that the UK will not participate in the UPC means there must at least be a new round of negotiations to find a replacement for London, which was supposed to host one of the divisions of the UPC. While some stakeholders take the view that the UPC could start with the other two divisions (Paris and Munich) provisionally taking over the tasks of that division, a solution has not yet been found by the time of this publication.

Once the UP Regulation is applicable, there will be no separate granting procedure for a Unitary Patent. Rather, a UP can be obtained in a validation procedure after grant of a European Patent by the EPO according to the EPC. This validation will be similar to current individual validations of granted European Patents in EPC member states, and will automatically be valid in all UP member states without translations being required. Conventional individual validation of the European Patent will still be available, in particular, for the EPC member states not participating in the UP. However, once validation of a UP is selected, conventional individual validation in a UP Member State will be excluded and vice versa. The UP can only be limited, transferred, revoked or lapse with effect for all the UP member states. A UP may be licensed with effect for the whole or part of the territories of the UP member states. Renewal fees shall be

paid to the EPO and have been set at the level of the combined renewal fees due in the four countries most frequently picked for validation at the time of their setting.[48]

The UPTA Regulation provides that during a transitional period — which will end no later than 12 years from the date of application of the Regulation — additional translations must be filed upon validation of the UP. Where the language of the proceedings of the European Patent is French or German, a full translation of the specification into English must be provided, whereas where English is the language of the proceedings, a full translation of the specification into an official language of one of the UP member states must be provided. These translations will be for information only and have no legal effect.

The UPC Agreement, once in force, provides for a specialised patent court having exclusive jurisdiction concerning the infringement and validity of individually validated national parts of European Patents and of UPs. However, for a transitional period of at least seven years — from the date the Agreement enters into force — European Patents and pending European Patent applications may be exempted from this provision by filing a corresponding declaration (so-called opt out).

The UPC will comprise a largely decentralised Court of First Instance, a Court of Appeal and a Registry. The Court of First Instance will be composed of a central division — located in Paris with two sections in Munich and the city then replacing London — and several local and regional divisions in the UP member states. The Court of Appeal will be located in Luxembourg. The central division of the Court of First Instance will be the exclusive forum for invalidity claims. However, invalidity may also be raised as a counterclaim in infringement proceedings before local or regional divisions. If opposition and related appeal proceedings are still pending before the EPO, the UPC proceedings will be stayed.

The language of the proceedings before the local and regional divisions will be the official language at the seat of the division, but other choices of language will be available under certain conditions. The language before the central division will be the language of the proceedings of the European Patent. Appeals will normally be heard in the language used at the first instance. All divisions will form an integral part of the UPC, with uniform procedures; the divisions will be specialised and distinct bodies, but will be linked to the CJEU and tasked with providing interpretation and application of EU law and transitional agreements.

The EPO will strive to enter validation agreements with further countries.

Stakeholders, as in the past, will continue to welcome and follow the continued work in the EU on the UP system and the validation agreements of the EPO.

ICC CONTRIBUTIONS

ICC will continue to follow the work on the UPC, and address potential issues. As in the past, ICC will continue to file submissions on these topics with the competent instances.

[48] 2015: Germany, France, United Kingdom and the Netherlands.

4. Language considerations

BACKGROUND

Language is often a sensitive issue. From a strictly economic perspective, the benefit of a single language for patent procedures is self-evident, not only to intellectual property (IP) rightsholders but also to businesses seeking to enter foreign markets without infringing third party IP rights. However, the choice of language has important implications for national identity, culture and sovereignty. The political sensitivity of this issue is demonstrated by the debate that has been taking place for many years over the European Commission's proposal for a unitary patent regime in the EU.

CURRENT LANDSCAPE

At present, many countries allow the filing of patent applications using documents in a language other than an official language of the filing office. While typically a translation into the respective official language has to be provided within certain time limits, this option has greatly facilitated the handling of filings for applicants.

A further advance made for IP rightsholders in Europe was the Agreement on the Application of Article 65 on the Grant of European Patents (the London Agreement) which entered into force in 2008. This reduced the translation requirements for granted European Patents upon their validation in the individual member states of the European Patent Convention. While the contracting states with an official language that is also an official language of the European Patent Office — including France, Germany and the United Kingdom — have now completely waived translation requirements for validation, the other contracting states require translations of the claims into their official language and translation of the specifications into another official language of the EPO (English in most cases). The London Agreement, however, reserves the right for its contracting states to require translation of the full specification in the context of patent litigation. This Agreement can be considered to be a milestone in considerably reducing validation costs for European Patents.

The progress in the development of machine translation tools made available, among others, by patent offices in Europe (EPO), Japan (JPO), Korea (KIPO) and China (CNIPA), as well as by WIPO, has brought along several advantages. Machine translation facilitates fast and comparatively low-cost first-sight analysis of foreign language patent documents, either for prior art assessment or preventive infringement assessment of third party patents, the latter being a key issue for the market entry in countries with strong patent activity. Furthermore, machine translation promotes worksharing among patent offices and helps improve examination quality.

FUTURE PERSPECTIVES

The ongoing development of more powerful machine translation tools will further promote easy and low-cost access to comprehensive patent information, which may gradually reduce the significance of the language issue in the future. Patent offices, such as the world's five largest IP offices (the IP5), will continue to actively drive this process, as the linguistic *corpus* of bi- or even multilingual exact translations available at these patent offices — e.g. from the translations of priority documents, etc. — is a highly valuable basis for achieving further progress.

ICC CONTRIBUTIONS

ICC will continue to encourage initiatives aimed at reducing translation costs in patent prosecution and enforcement while preserving legal certainty for stakeholders involved. Furthermore, as in the past (see ICC paper *The Need for*

Further Accessions to the London Agreement of June 2009), ICC will encourage governments who have not yet done so to join the London Agreement as soon as possible.

5. Patentability of Artificial Intelligence-related inventions

BACKGROUND

Artificial intelligence (AI) is increasingly driving important developments in technology and business, from autonomous vehicles to medical diagnoses to advanced manufacturing. AI has become even more important with the fast development of 5G, big data analysis, the Internet of Things (IoT), etc. and shifting from purely theoretical research to commercial applications. Accordingly, the patentability of AI-related inventions has become a major issue for governments and industries. As mentioned in the Intellectual Property Basics section, for the purposes of this publication, AI is generally defined as "narrow AI", comprising techniques and applications programmed to perform individual tasks[49].

CURRENT LANDSCAPE

According to an AI report published by WIPO in 2019, since artificial intelligence emerged in the 1950s, innovators and researchers have filed applications for nearly 340,000 AI-related inventions and over half of the identified inventions have been published since 2013.[50] AI-related inventions mostly utilise algorithms in analysing data and providing decisions or predictions, which challenges both patent law and practice and introduces many issues including patent eligibility, assessing inventiveness, adequacy of disclosure, and inventorship, etc.

In 2019, the IP5 Offices decided to advance their cooperation in the areas of new emerging technologies (NET) and artificial intelligence and agreed to set up an IP5 task force to explore ways to promote legal certainty, establish clear guidance and support users in protecting their NET/AI-related innovations globally.[51] WIPO is also leading a "Conversation on IP and AI", bringing together member states and other stakeholders to discuss the impact of AI on IP, with a view to collectively formulate questions that policymakers need to ask. The first session was held in September 2019 and the second and third sessions are scheduled for 2020.[52]

Some of the major national or regional patent offices have established clear rules in examining AI-related inventions. For example, the EPO and CNIPA each added a new section to their Guidelines for Examination regarding how to decide on the patent eligibility and patentability of AI inventions in 2018[53] and 2019,[54] respectively. The USPTO refined its test regarding the patent eligibility of computer implemented inventions in January 2019 which provides clearer guidance for patentable subject matter of AI-related inventions. The JPO added 10 case examples regarding AI-related inventions in its "Examination Handbook for Patent and Utility Model" in March 2019, assisting the public to have a clearer understanding of the description and inventive step requirements for AI-related inventions.[55]

In addition to patentability requirements for AI-related inventions, the debate regarding the inventorship of AI-created inventions also draws a lot of attention. One example is the DABUS case. Two patent applications for inventions created by an artificial intelligence called DABUS were filed in 2018 to 2019 with the EPO, UKIPO and USPTO, but

49 WIPO, Draft Issues Paper on Intellectual Property Policy and Artificial Intelligence, WIPO/IP/AI/2/GE/20/1, 21 may 2020.
50 See page 13, "WIPO Technology Trends 2019- Artificial Intelligence", https://www.wipo.int/about-ip/en/artificial_intelligence.
51 See https://www.fiveipoffices.org/news/20200117.
52 See https://www.wipo.int/about-ip/en/artificial_intelligence/policy.html.
53 See https://www.epo.org/law-practice/legal-texts/html/guidelines/e/g_ii_3_3_1.htm.
54 See http://www.cnipa.gov.cn/zfgg/1144989.htm
55 See https://www.jpo.go.jp/e/system/patent/gaiyo/ai/index.html.

were rejected as of December 2019. The reason for rejection by these patent offices is that current patent law does not allow for machines to be named as inventors, only natural persons can be named as inventors. The DABUS case challenges the current patent law system and provokes thoughtful consideration of how to adapt the patent law system for the development of future technologies.

FUTURE PERSPECTIVES

AI will continue to be a hot topic in the coming years. On the patent examination side, with more and more specific rules and examples issued by the patent offices, the standards for patentability of AI-related inventions will become clear and predictable. On the patent enforcement side, infringement comparisons and evidence for proving infringement will be critical. The current patent law system will also have to face challenges with the advance of AI technology, such as redefining inventorship.

6. Patentability of new uses

BACKGROUND

A new use for a known and eventually patented invention can be not only of commercial significance to the inventor of the new application, but also of societal importance. Hence, there are strong arguments for granting appropriate protection for such so-called second-use inventions.

CURRENT LANDSCAPE

Many countries provide for second-use patents, although the permitted claim format may vary. A number of bilateral free trade agreements expressly call for the patentability of all inventions, while the more recent Trans-Pacific Partnership agreement[56] requires signatories to provide patents for either new uses of a known product, new methods of using a known product, or new processes of using a known product.

In the Andean Community countries, uses may not be patented, whether already known or new, and Argentina is also following this criterion. The Andean Court of Justice (ACJ) has interpreted Article 27 of the Agreement on Trade Related Aspects of Intellectual Property Rights (TRIPS) as only requiring its members to grant protection for inventions that are related to products, compounds, or processes exclusively. The ACJ further took the view that uses are a new category of invention different from those covered by TRIPS, so that protection for such uses does not have to be granted under TRIPS. The ACJ also held that uses are lacking industrial applicability.

The Indian Patents Act, in its Section 3, lists among non-patentable inventions the mere discovery of any new property or new use for a known substance as well as the mere use of a known process, machine or apparatus.[57] While excluding only a certain claims format, the Enlarged Board of Appeals of the European Patent Office — in its decision G 2/08 issued in 2010 — explicitly confirmed a very broad approach to the patentability of such second uses under the current version of the European Patent Convention. The importance of second medical use claims has also been emphasised by a number of recent cases in Germany, the Netherlands, and the UK.

[56] See TPP, Article 18.37.
[57] "unless such known process results in a new product or employs at least one new reactant" (Section 3d).

FUTURE PERSPECTIVES

Business needs to convince competent authorities, such as governments, the World Trade Organization (WTO) and WIPO, that a second use is more than a mere discovery and represents innovation with industrial applicability, which merits full protection provided that it fulfils the other statutory criteria for patentability, novelty and inventive step, and is therefore in line with the requirements of Article 27 of the TRIPS Agreement.

II. DESIGNS

BACKGROUND

Design laws purport to protect the specific outward appearance of a product. Designs are a protected intellectual property (IP) right acknowledged as such in the 1886 Paris Convention. The 1925 Hague System — last updated by the 1999 Geneva Act — set up a centralised filing system through the World Intellectual Property Organization (WIPO) for the contracting parties (91 countries as of June 2020), The Hague System has been growing, especially since 2014, further to the accession of Cambodia, Japan, North Korea, South Korea, the US, Israel, the United Kingdom, Canada and Mexico. Among the countries next expected to join is China.

CURRENT LANDSCAPE

There is still a significant disparity of design regimes at the international level — the Agreement on Trade-Related Aspects of Intellectual Property Rights (TRIPS) devotes only two articles, articles 25 and 26, to the protection of industrial designs which sets a minimum standard of protection for new or original designs for at least 10 years. The 13th edition of the Locarno classification applicable in 2021 contains 32 classes and 237 sub-classes, covering more than 5,000 indications of products classified, facilitating registration and searches.

The attractiveness of design protection has notably increased as is reflected in the more than 8% increase of total designs filed in 2019 and by the modernisation of many national design laws. Still, national design laws differ from one country to another on many aspects, such as:

- Examination or absence of examination of the novelty/originality criteria at registration stage; Protection afforded to the whole, or parts of a product.
- Term of protection, which varies from 10 years to 15 to 25 years. For instance, in the EU and Mexico the term is 5 years renewable 5 times, in Japan the term is extended to 25 years since April 1, 2020, whilst the term of design patents has been recently extended to 15 years in the USA as will likely be the case as well in China in 2020.
- Coexistence of different design regimes — design patents (China, US), industrial designs, and designs — including registered and unregistered designs.
- The interaction between design protection and other forms of protection such as copyright, trademarks, patents and utility models, and trade dress.
- Criteria for assessment of the validity and infringement — such as novelty and individual character, functionality and multiplicity of forms, visibility requirement, overall impression, the viewpoint of the reference person (the so-called informed user in the EU), the impact of aesthetic features and decoration, which are all challenging concepts for which interpretation varies from country to country.

Furthermore, the concerns and stakes involved in the protection of designs are highly dependent on the features of the relevant industry sector. For instance, the automobile industry faces the technical function hurdle and antitrust objections to design protection for spare parts, while the mobile device industry has been drawn into battles over design protection for minimal geometric shapes for mobile phones and digital tablets. The spread of 3D printing across sectors, the boom of digital designs and the deployment of artificial intelligence underscore the need for cross border protection.

The draft Design Law Treaty, prepared by WIPO, aims to simplify and standardise the registration-related formalities of designs. The main proposed changes to the design system relate to the methods and number of representations of a design, the number of designs in a single application, a grace period of 6-12 months from public disclosure, a secrecy period after filing, and the international standardisation of information to submit in a design application.

In spite of the general support of the draft Treaty by all delegations at WIPO, the convening of a diplomatic conference to adopt it is still pending in 2020 on the resolution of one substantial issue raised by the African group at WIPO in 2014 which purports to introduce in the Treaty a requirement of disclosure, in design applications, of the origin or source of traditional cultural expressions, traditional knowledge or biological/genetic resources utilised or incorporated in the industrial design.

The European Community Design regime is one of the most harmonised legal frameworks in design law. Whilst the 1998 Design Directive substantially harmonises national design laws of the EU member states, the 2001 Design Regulation has established a Community registered design right lasting up to 25 years, administered by the European Union Intellectual Property Office (EUIPO). The same Regulation also established a Community unregistered design right, lasting for 3 years following disclosure in the EU.

A design owner may thus seek design protection at EU level by registering with EUIPO a design that is new and has an individual character, for a maximum 25 years or may only enjoy a limited protection against copying of its unregistered design for 3 years if the conditions are satisfied. Since 2010, the Court of Justice of the European Union (CJEU) has clarified the meaning of several design concepts, such as product at issue, degree of freedom of the designer, informed user, overall impression.

The EU Design Regulation is currently being overhauled. A large public consultation ended in 2019 and the draft revised Regulation should address several issues such as: (i) the definition of “design” and the treatment of non-visible features; (ii) the clarification of concepts such as: “Designs dictated by technical function”; (iii) the modernisation of the procedural rules for design registration and searches.

Many countries have also overhauled their national design laws in the last two years, for instance. Canada, Mexico, Israel, Turkey, China, Singapore, Korea, Japan, and Australia just launched in 2020 the Design Review Project. Noticeably several Asian countries have addressed the handling of digital designs and questions stemming from the digitisation of the economy.

CURRENT LANDSCAPE

The WIPO Standing Committee on the Law of Trademarks, Industrial Designs and Geographical Indications (SCT) has been reviewing since 2015 the regime of protection afforded to Graphical User Interfaces (GUIs), icons and typeface designs. Following a WIPO questionnaire circulated in 2016 and a publication on design protection of GUIs by the ICC IP Commission in 2018,[58] an additional questionnaire was sent by the SCT on 3 main issues (i) the need of a link

[58] See iccwbo.org/publication/design-protection-graphical-user-interfaces-guis/.

between a GUI and an article or product; (ii) methods of representation adopted by the Offices,(iii) questions on exclusion, examination, infringement and priority. At this stage, answers showed that a link between a GUI/icon design and an article is not required by the majority of respondents (40 member states and 2 IPOs).[59]

Another important question is that of the cumulation of designs and other IP rights. Most countries allow for a cumulative IP protection for products which meet the specific requirements for each IP regime, but purely functional features of a product are usually excluded when assessing the benefit of design, copyright, or trademark protection. The cumulative protection of IPRs for a design object is a broadly acknowledged opportunity to extend the term of an IP protection but it may lead to complex analysis when seeking enforcement.

This coexistence of several IPRs has been finetuned recently in Europe by the Court of Justice of the European Union. Both the EU Directive and Design Regulation allow for the protection of design by copyright. In the recent landmark "Cofemel" decision,[60] the CJUE held that a design can only be granted copyright protection if it is original — being the author's own individual creation — and expressed in a manner which makes it identifiable with sufficient precision and objectivity. In other words, the CJEU affirmed that "originality" is the key harmonised concept for assessment of copyright-protected works in the EU.

The CJUE applied this copyrightability test in a 2020 case involving the shape of a formerly patented foldable bicycle. The Court applied the originality test to the "shape of the [Brompton] bicycle which is at least in part necessary to obtain a functional result " yet may be a creative work "*reflecting the personality of the author*", thus raising however some concern on the degree of originality of "not purely functional features" which the UK referring court will have to assess.[61]

In the US, a design patent protects "new, original and ornamental design for an article of manufacture*".* As US copyright law does not protect utilitarian features of an article, as interpreted in the landmark 2017 SCOTUS case of Star Athletica, LLC vs. Varsity Brands, Inc., the cumulative protection of copyright and design patent is difficult to obtain, especially for clothing items.

Many designs are also protected as registered trademarks. Therefore, the protection of a design by several IPRS requires to distinguish features protectable by design, copyright, and trademark rights from unprotectable "purely functional features", which may be a difficult exercise.

Most countries deny indeed design and/or copyright protection for purely functional features of a product. This functionality test remains very tricky in spite of efforts of jurisdictions to clarify its implementation.

In the EU, the CJUE in its landmark DOCERAM decision in 2018[62] analysed Article 8(1) of the Design Regulation which excludes from EU design protection "features of appearance of a product which are solely dictated by its technical function". The Court rejected the "multiplicity of forms theory" adopted by several European courts pursuant to which where several designs can fulfil the same function, the chosen design cannot be "solely dictated by function". The CJUE set a new functionality test requiring to find out whether the technical function was the only factor which

59 The USA and Japan filed on 23 September 2019 a recommendation advocating for: (i) the registration of new or original GUI designs, (ii) without consideration or limitation to the operating status of the electronic device, nor to the amount of time the design is visually available, or how the GUI was installed on a product and (iii) affording protection against use in multiple screen displays environments without need to register the design in each environment. China also relaxed in 2020 its patent rules to facilitate the grant of a design patent for a product design involving a GUI: the link to a hardware product remains through an indication of the main use of the GUI (static or animated) and the product to which it is applied for and in case of screen display, it is possible to mention a long list of all products concerned.

60 CJUE - C-683/17, September 17, 2019, Cofemel — G Star Raw CV.

61 CJUE - C-833/18, June 11, 2020 , Brompton Bicycle Ltd v Chedech/Get2Get.

62 CJUE - C-395/16 March 8, 2018 Doceram GmbH v CeramTech GmbH.

determined the concerned feature and to refer to all relevant objective circumstances to answer this question (and not only to refer to the designer or the user's perception).

In terms of procedure, there is a need for procedural consistency across borders on this area. Registration of designs is subject to substantive examination only in some countries (the USA, Mexico, and Japan, for instance) whilst no such examination is carried out in most countries. Difficulties often arise when design applications are extended abroad through the Hague system, because of different national requirements. In particular, the handling of increasing designs applications claiming the benefit of grace periods and/or priority claims is often disrupted and delayed. In the general effort of harmonisation, the ID5 (a group of 5 IPOs focusing on industrial designs) collaborate for common approaches.[63] The EUIPO also pilots convergence programs on trademarks and designs which gather stakeholders and IPOs.[64]

There is also a need for further facilitating searches of designs. Searching prior designs is often a pitfall, despite recent improvements of tools developed by WIPO and national and regional offices. With the advance of AI technology, WIPO has developed an image search tool to find prior registered similar marks.[65] A similar search tool is expected to be available in the near future for designs. WIPO also launched in 2020 the WIPOPROOF service which generates tamper-proof evidence that a digital file existed at a specific point in time and which will enable the tracking of successive design filings.

In Europe, EUIPO, supported by national IP Offices, also designed several tools such as Design class, helping to find the suitable product indication in the Harmonized Database (HDBPI) and Design view, a multilingual search tool of designs from 72 IPOs, allowing comparison of trademarks and designs. Other offices have also embarked on modernisation programs, with special distinction to innovative approaches by the EPO, Chile, Singapore, and Spain IPOs in 2019.[66]

FUTURE PERSPECTIVES

The adoption of the WIPO Design Law Treaty remains a priority objective. At the national level, in spite of a recent upgrade of national design laws in countries such as Canada, Israel, Japan, and Malaysia, the level of harmonisation is still low. Furthermore, the materialisation of Brexit will affect the filing strategy of the stakeholders in the UE and in Great Britain in spite of a general initial and temporary scheme of duplication of EU design registrations in the UK.[67]

The area of infringement of designs and relevant remedy has not reached full maturity, yet some progress has been made. In the landmark US patent case of Apple vs. Samsung, on smartphones, the US Supreme Court interpreted an old article of federal law saying that the infringer of a design patent on an article of manufacture is liable for the total profits and held that an "article of manufacture" encompasses both a product sold to a consumer and a component of that product, whether sold separately or not. The case went back to the Northern District Court of California which adopted a protocol with four factors to compute the amount of damages.[68] The jury ruled that Samsung was to pay several hundred millions to Apple and the case was finally settled. However, the issue of whether the damages should

63 Notably, the ID 5 group (EUIPO,JPO, KIPO, CNIPA, USPTO) recently reviewed (i) the offices' practices of priority rights, (ii) if internet information is admissible disclosure of designs and (iii) the impact of 3D printing on designs. See http://id-five.org/.

64 Notably since 2014, 3 convergence programs produced guidelines for the graphical representation of designs for registration purposes (CP6), the creation of a database of harmonised product indications (CP7) and the criteria for assessing disclosure of designs on the internet (CP 10), all work products available on EUIPO's website.

65 See https://www.wipo.int/pressroom/en/articles/2019/article_0005.html.

66 See https://worldtrademarkreview.com/governmentpolicy/eu-chile-singapore-and-spain-ip-offices-named-most-innovative-world

67 UKIPO published a "Guidance for businesses holding registered Community designs and international trade marks and designs after the end of the transition period": https://gov.uk/guidance/changes-to-eu-and-international-designs-and-trade-mark-protection-after-the-transition-period.

68 (i) see Apple Inc. v. Samsung Elecs.Co. No11-CV-01846-LHK (N.D.Cal.Oct.22, 2017).

take into account the loss of profits on the sale of the entire product or only on parts of the product implementing the protected design features, is not definitely settled. In China, the sanctions for infringement of a design patent have steadily increased in the recent years. They take into account (i) the claimant's actual loss; (ii) the infringer's profits; (iii) a multiple (usually between one and three) of royalties; (iv) statutory damages, the value of which is at the court's discretion but usually range between CNY10,000 and CNY1 million.

The question of design rights and the repair clause will continue to evolve. A repair clause is provided in many designs regulations and its scope is regularly challenged, especially in the automotive sector concerning the replacement of spare parts. The courts have generally interpreted narrowly the scope of the repair clause. For instance, in the EU, with joined decisions of the CJUE in 2017 in cases brought by Audi and Porsche against Acacia, an Italian manufacturer of wheel rims.[69] The Court held (i) that the repair clause only applies to replacement component parts of a complex product that is visually identical to the original parts and (ii) producers and sellers of spare parts must inform the end users that the spare part is protected by a design right and may only be used to replace the defective part. In the USA, the spare parts issue is also highly disputed.[70] The repair clause remains a sensitive issue on the agenda of rule makers.

The spreading of 3D printing technology concerns designs on two levels. First, a 3D printer prints a real object upon receiving instructions to execute a Computer-Aided Design (CAD) file of said product created with a 3D modelling software or from a 3D scan. Second, the 3D printer manufactures the product by depositing materials layer by layer — hence the term "additive manufacturing" which, however, is no longer the sole 3D printing technique — to obtain a product intended to be the exact replica of the original 3D model as contained in the CAD file. Designs are, therefore, the matrix element of the 3D printing process as well as the resulting embodiment in a final 3D printed product. 3D printing technology is used in many manufacturing industries, especially in aeronautics, automotive, medical, metals production sectors. It impacts design processes in all fields, from jewellery to housing construction, architecture, crafts, and entertainment. The current design-related issues raised by 3D printing include:

- The status of CAD/scan files generated by software, artificial intelligence, or by a combination of earlier designs is key to assess at which point authorship/ownership can be claimed or lost.
- The traceability and enforcement of licences of CAD files as partnerships develop between service providers, manufacturers of 3D printers and companies holding portfolios of designs.
- The scale of infringement resulting from generalised unlicensed 3D printing of consumer products.[71]

3D Printing has implications for most types of IPRs, however it has been the subject of not much litigation so far. The EU has published in April 2020 a Study on the IP implications of industrial 3D printing.[72] A preliminary important assessment is that a CAD file would not be *per se* eligible for protection under EU Design law whereas a design encompassed by a CAD file may be eligible.

Artificial intelligence (AI) and designs is an interesting new area of evolution. Artificial Intelligence (AI) related innovations have triggered a lot of discussions. WIPO is currently leading a Conversation on IP and AI bringing together member states and other stakeholders, purporting to formulate the questions that policymakers need to

69 C-397/16 and C435/16 of 20 December 2017

70 Auto. Body Parts Ass'n v. Ford Glob. Techs., LLC, 930 F. 3d 1314 - Court of Appeals, Federal Circuit 2019. In this case, the Federal Circuit defined the right to repair, as "the right of use transferred to a purchaser by an authorized sale which includes the right to repair the patented article". The Court rejected its application because "the designs for Ford's hood and headlamp are covered by distinct patents, and to make and use those designs without Ford's authorization is to infringe".

71 It may be that movements of consumers promoting "do it yourself" or the right to repair using 3D Printing, will affect the current landscape, especially after witnessing the efficiency of 3DPrinting to make medical equipment during COVID 19.

72 See https://op.europa.eu/en/publication-detail/-/publication/e193a586-7f8c-11ea-aea8-01aa75ed71a1.

ask.[73] Although some important patent offices have established rules in examining AI related inventions,[74] up to now there is no special standard established in examining AI-related designs. The issues paper released by WIPO postulates that AI-assisted designs might be considered a variant of computer-aided design and might be treated in the same way, i.e., as protectable designs. In the case of AI-generated designs, questions and considerations are similar to those that arise with respect to AI-generated inventions or creative works[75] and are more complex.

Designs are now perceived as a substantial business tool and IP right. Considering the increasing role and focus on designs worldwide, the satisfactory protection of designs requires progress in harmonisation of several above-mentioned aspects. In the current context of fast technological advances and of concerns to promote a circular economy, the perception and role of design rights may evolve in the near future.

III. COPYRIGHT

BACKGROUND

The protection of copyright and related rights takes place within a framework of complex legal, economic, and social issues. New ways of facilitating inexpensive and virtually instantaneous reproduction, distribution, performance, and display of works and other subject matter have created great opportunities and challenges for rightsholders, distributors and consumers. New technology has increased opportunities for a broad number of players (new and traditional), ranging from commercial content providers — e.g., producers and publishers of copyrighted material — to the IT, telecommunication and consumer electronic industries, as well as private persons, to name a few. The evolution of digital networks in general, and digital commerce and communications in particular, continues to transform the ways in which creative works and information are used and experienced. This raises the need for copyright and related rights protection and licensing of such rights to respond to the new challenges and opportunities created by evolving digital distribution methods.

CURRENT LANDSCAPE

The initial international framework for copyright in the digital environment was created in the 1996 World Intellectual Property Organization (WIPO) Treaties on Copyright (WCT) and on Performances and Phonograms (WPPT) (collectively the WIPO Internet Treaties), which entered into force in 2002 and have over 100 contracting parties.

Governments have begun to update the approach taken in the WIPO Internet Treaties. Since those Treaties were negotiated in 1996, the evolution of digital distribution methods and digital commerce have strained the nearly quarter century-old conceptions of key actors such as digital intermediaries, prompting the European Union (EU) to enact the 2019 Directive on Copyright in the Digital Single Market (DSM Directive) and the US Copyright Office to call for reforms to the 1998 Digital Millennium Copyright Act (DMCA). Governments have also looked to innovative enforcement tools such as website blocking to address the unique extraterritorial challenges of digital copyright.

In addition to the WIPO Internet Treaties, WIPO is the forum for discussions on updating the protection for copyright and related rights as well as for discussions regarding exceptions and limitations. In June 2012, the WIPO Beijing

73 See https://wipo.int/about-ip/en/artificial_intelligence/policy.html.

74 See epo.org/law-practice/legal-texts/html/guidelines/e/g_ii_3_3_1.htm; cnipa.gov.cn/zfgg/1144989.htm; and https://www.jpo.go.jp/e/system/patent/gaiyo/ai/index.html.

75 The main questions summarised by WIPO for review are: (i) should the law permit or require that design protection be accorded to a new AI-generated design that has individual character; (ii) Do specific legal provisions need to be introduced to govern the ownership of AI-generated designs; (iii) Should the use of the data subsisting in registered designs without authorisation for machine learning constitute an infringement of the design right? (iv) Should AI-generated unregistered designs be treated analogously to AI-generated registered designs?.

Treaty on Audiovisual Performers (BTAP) was successfully concluded, updating the rights of audiovisual performers for the digital environment. In June 2013, the WIPO Marrakesh Treaty was successfully concluded, setting forth agreement on certain limitations and exceptions for the benefit of the blind, visually impaired, and otherwise print disabled.

FUTURE PERSPECTIVES

The economic contribution of copyright-dependent industries is significant, and often not fully credited. It is important that national decision-makers and opinion leaders increase their awareness of the economic importance of copyright, and the broad set of industries that depend on its protection and sufficient licensing opportunities of their rights for their viability. Consequently, WIPO continues working with member governments from each region of the world to analyse the impact of copyright-dependent industries on their respective national economies.

To fully realise the potential of the digital environment to the benefit of all parties while respecting underlying rights to copyright, business will intensify its work towards the common interest of promoting the protection of copyright and legal offers of protected goods/works in digital commerce.

Business should make use of all opportunities available to communicate its concerns to lawmakers to provide for a legal framework that encourages creativity in the information society. At a minimum, the implementation of the WIPO Internet Treaties — which take into account the legitimate interests of all stakeholders involved while fostering creativity and investment in the relevant industry sectors — should be encouraged and monitored as a baseline to fulfilling these stated goals. Business should further communicate to lawmakers the importance of updating laws intended to protect digital copyright to address evolving digital delivery methods and business models.

Business should continue to seek the appropriate application of existing copyright legislation to enforce the rights granted to rightsholders, while taking into consideration the eligible interests of service providers. At the same time, business should seek consensus on how copyright enforcement and licensing for legal offers can be made more efficient and effective and less costly in the face of new forms of infringement, in compliance with the WIPO Internet Treaties and subsequent multilateral agreements addressing the evolving digital landscape, such as the EU Copyright, E-Commerce and DSM Directives. Continued research at national and international levels to identify the contribution of copyright-related activities to the national and global economies and means of addressing evolving challenges for protecting digital copyright would be welcome.

Governments should update copyright protection in substance by implementing the WIPO Internet Treaties and embracing forward-facing legislative solutions to address subsequent changes in the digital landscape. In terms of well-balanced enforcement mechanisms, they should at a minimum implement the terms of the Agreement on Trade-Related Aspects of Intellectual Property Rights (TRIPS). The goal must be to establish a balanced and effective framework of accountability that respects international obligations, provides incentives for increased inter-industry cooperation to deter and respond to infringement, promotes responsible business practices, does not impose unreasonable burdens on intermediaries, fosters legal offers by promoting licensing structures for such offers and preserves an appropriate role for courts.

Any legislation that deals with the applicability of copyright infringement liability rules should examine carefully how these rules apply to all stakeholders in the digital networked environment, as part of ensuring the overall effectiveness of the copyright protection framework.

Any framework that provides for limitations on liability for service providers should be restricted to damages and other monetary relief. Injunctive relief and other forms of equitable relief should be available, subject to the evolving laws governing such relief.

1. Digital Intermediary and Platform Responsibility

BACKGROUND

The WIPO Internet Treaties and legislation based on them such as the US DMCA created liability exceptions for Internet intermediaries such as Internet Service Providers (ISPs) based on a common carrier principle that intermediaries could not be expected to know and police all the traffic over their networks. As online platforms[76] have developed over the intervening quarter century, new business models have arisen, such as digital platforms based on monetising hosted copyrighted content, often posted by end users. While the DMCA created a mechanism for rightsholders to require hosting platforms to remove infringing content ("notice and takedown"), some rightsholders have found these methods of self-policing inadequate citing the exponentially growing scale of infringing materials, and the difficulty in keeping up with content that can be easily reposted once removed. Digital platforms and intermediaries contend that they cannot be expected to determine whether content posted by an end user is infringing, given both the volume of content in question, and the complexities of copyright law.

Some rights holders find that digital platforms differ from passive carrier ISP networks, as they often actively promote and/or monetise content shared by end users, and argue that for this reason they should not be covered by "safe harbour" agreements.

CURRENT LANDSCAPE

Governments and policy makers around the world are looking to update the approach taken in the 1996 WIPO Internet Treaties to address the realities of digital intermediaries and digital platforms.

In May 2020, the United States Copyright Office completed a four and a half year public study of the safe harbour provisions and notice-and-takedown system of the US DMCA, which has served as the model for WIPO Internet Treaty implementing statutes in jurisdictions around the world. The Copyright Office highlighted that at the time of adoption of the WIPO Internet Treaties, "it may have been difficult to anticipate the online world as we now know it, where each day users upload hundreds of millions of photos, videos, and other items, and service providers receive over a million notices of alleged infringement. These developments, as well as technological and business model changes that have occurred over the years, resulted in changes to the internet ecosystem".[77] The Copyright Office concluded that "the US safe harbour system today is unbalanced" against rightsholders. The Office recommended changes to the system "in order to better balance the rights and responsibilities of online service providers and rightsholders in the creative industries".

In response to these identified challenges, courts and lawmakers have begun to develop theories of intermediary liability or accountability that provide either damages or injunctive relief to rightsholders. Starting from the assumption that Internet intermediaries, which can facilitate access to illegal content, are often a key avenue to address online

[76] Online platforms cover a wide range of activities including online marketplaces, social media, creative content outlets, app stores, price comparison websites, platforms for the collaborative economy as well as search engines. They increase consumer choice, improve efficiency and competitiveness of industry and can enhance civil participation in society.

[77] See https://www.copyright.gov/policy/section512/.

infringement, the 2001 EU Copyright Directive has provided a foundation for copyright owners to obtain injunctive relief against intermediaries whose services are used by third-parties to infringe copyright. Italian courts have found that digital platforms cannot qualify for safe harbours if they engage in activities such as indexing, filtering, promoting, or monetising content; and have confirmed that they must take steps to ensure that infringing content is not re-uploaded. Italian administrative law has also been amended to create a "stay down" obligation. Where courts have not found digital platforms directly liable for damages for user-posted infringement on them, they have in certain cases nonetheless required digital platforms to take reasonable steps to remove legally protected works and to prevent subsequent infringements, such as the German principle of "Störer" liability.

The EU DSM Directive, adopted 7 June 2019, is intended to "modernise copyright rules" to make them "fit for the digital era."[78] It includes an Article recognising intermediary responsibility, compelling "online content sharing service providers", such as social networks or video-sharing sites, to take "effective and proportionate" measures to combat the distribution of copyrighted works.[79] The European Commission describes the provisions as intended to "tackle the so-called 'value gap' between the creators and the online platforms", by reinforcing the position of creators and right holders to negotiate and be remunerated for the online use of their content by user-uploaded-content platforms. If the platforms are unable to conclude licensing agreements with rights holders, they must take concrete actions to avoid liability, including making best efforts to ensure the unavailability of unauthorised content, acting expeditiously to remove it, and making best efforts to prevent future uploads of it. Member states must implement these provisions by 7 June 2021.

Online intermediaries and platforms have reacted to these developments with a number of measures. In particular, significant efforts have been made on enhanced report processing, improved response times, and the implementation of automated reviews. Artificial intelligence will also have a role to play in improving the accuracy of filters and automated review systems. Important policy questions will be raised by the costs that these measures impose on online intermediaries, which can often only be deployed by the largest actors in this market, and by the balance required between content monitoring technologies, freedom of expression, and the prohibition of a general monitoring obligation for intermediaries. At the moment of publication of this Roadmap, these issues are being discussed at the EU level in the context of the Digital Services Act, and at the legislative level in the United States.

FUTURE PERSPECTIVES

It seems likely that courts will continue to develop theories of liability or equitable relief to address infringement on digital platforms, based upon common or civil law principles of indirect or contributory infringement or vicarious or secondary liability. Governments around the world are looking to modernise their digital copyright laws to address evolutions in digital delivery systems and business models. The implementation of the DSM Directive by the 27 EU member states should provide one source of legislative precedents for governments considering issues of digital platform and intermediary accountability.

It will be crucial to engage with business and specifically with online platforms and intermediaries on these debates. Issues of counterfeiting and piracy can better be solved with their active participation in policy discussions, and exploring legal as well as technological solutions to these challenges. The European Commission has found that industry cooperation can lead to progress in addressing issues of online piracy and counterfeiting.[80] However, the fact

78 European Commission, EU negotiators reach a breakthrough to modernize copyright rules," 13 February 2019, https://ec.europa.eu/digital-single-market/en/news/eu-negotiators-reach-breakthrough-modernise-copyright-rules.
79 Article 17 and associated recitals.
80 See https://ec.europa.eu/growth/content/new-commission-reports-show-industry-cooperation-has-led-progress-tackling-online_en

remains that counterfeiting and piracy continue to increase. ICC will continue to engage with all economic sectors to find effective solutions, as well as representing the positions of the business community in policy forums.

2. Website Blocking

BACKGROUND

The ability to access infringing copyrighted material located anywhere in the world via the Internet makes extraterritoriality a particular concern for copyright industries. Infringing services shut down in one jurisdiction often simply change their hosted location, in an attempt to evade the reach of rightsholders. As a result, the legal enforcement mechanism of website blocking[81] is valuable to copyright industries, while IPSs have called for a balanced approach that takes into account safe harbour protections as well as the costs of enforcement. Where infringing services have proven beyond the territorial reach of rightsholders, they have increasingly turned to website blocking orders, requiring ISPs to block access to infringing sites.

CURRENT LANDSCAPE

Over the last decade, over 40 countries have either adopted and implemented, or are legally obligated to adopt and implement, measures to ensure that ISPs take steps to disable access to copyright infringing sites, including throughout the EU (where website blocking is available under Article 8(3) of the Copyright Directive), the UK, Australia, India, and South Korea.

To date ISPs in over 30 countries have been ordered to block users' access to thousands of infringing sites. In general, courts that have imposed website blocking orders have ordered ISPs to implement the orders in the form of DNS and IP blocking. Blocks have also been ordered on mobile network operators in countries around the world, including Argentina, Belgium, Finland, India, Ireland, Italy, Malaysia, and South Korea. Courts in a number of jurisdictions, including India, Italy, and Singapore, have issued dynamic website blocking orders, to address piracy sites that engage in domain jumping or create mirror sites to evade blocking orders.

Broader forms of injunctive relief have been obtained by rightsholders in the EU and Australia, including de-indexing orders against search engines and injunctions against hosting providers and domain name registrars/registries.

Website blocking orders have evolved to address new methods of digital infringement. For example, the current leading piracy threat to the music industry is "stream ripping": converting online, on-demand streams into downloadable files that can be stored on users' devices. The practice is a major concern to rightsholders because it undermines the market for services that require subscriptions for offline play. Courts and administrative agencies in countries around the world have begun to issue website blocking orders with respect to stream ripping sites, including in Australia, Denmark, India, Italy, Russia, and Spain.

81 See section C. on Enforcement and Dispute resolution.

FUTURE PERSPECTIVES

Given the transglobal nature of copyright infringement, website blocking will remain an important enforcement tool for copyright-holders. It will be important to jointly work with ISPs on how to better respond to constantly evolving piracy methods such as stream ripping and evasive tactics such as domain hopping and mirror sites.

3. Artificial Intelligence (AI)

BACKGROUND

Artificial intelligence (AI) presents the potential for use of technology to learn from, recommend, or even create copyrighted works. Machine-learning algorithms detect patterns and learn how to make predictions and recommendations by processing data and experiences, without needing explicit programming instruction. These algorithms are also able to evolve, adapting in response to new data and experiences to improve efficacy over time. Deep learning is a more expansive type of machine learning that can process a wider range of data resources, as interconnected layers of software-based calculators known as “neurons” form a neural network, allowing it to ‘learn’.

AI raises copyright issues because AI processes may depend upon the “input” of protected works or subject matter, from which they consequently derive their purpose and value. New AI-created works may strain existing conceptions of adaptations and derivative works. In the future AI, may one day also create new works without direct human intervention, thus challenging traditional conceptions of authorship, but that debate remains theoretical at the moment.

CURRENT LANDSCAPE

Organisations such as WIPO, the EU, and the USPTO and US Copyright Office are undertaking studies to determine whether, and if so how, existing copyright frameworks need to be amended to address the challenges posed by AI.

Given the nascent and evolving state of AI in the copyright field, the precise challenges that AI applications may pose to existing copyright concepts remains to be seen. Meanwhile, copyright provides a flexible framework in which marketplace solutions can be tailored to accommodate uses of existing copyrighted works in AI applications.

FUTURE PERSPECTIVES

Whether, and if so how, the growth of AI requires modifications to existing copyright frameworks require remains to be seen. Legislators, businesses, and experts have been cautious in how they approach the regulation of a still developing technology. In the meantime, existing copyright laws provide a robust and flexible licensing mechanisms for the use of copyrighted works in AI applications. Rightsholder industries will look to ensure that existing copyrighted material used in the process of creating new works is properly accounted for and licensed, and will look to the contractual mechanisms of the marketplace to flexibly and efficiently accommodate new uses.

4. Moral rights

BACKGROUND

Moral rights, which are established at the international level in the Berne Convention,[82] entitle authors to prevent use without attribution or distortion of their work. They are independent of economic rights.

CURRENT LANDSCAPE

Creators and performing artists seek reassurance that their moral rights are respected, especially by third parties, and that their works and performances are not unduly manipulated in the digital-networked environment. The Beijing Treaty on Audiovisual Performances (BTAP) included an obligation on signatory countries to protect the moral rights of audiovisual performers.[83]

The US Copyright Office released a report on moral rights in April 2019, concluding that the U.S. moral rights framework continues to provide important protections, although recommending possible legislative improvements, including expanding recourse for removal or alteration of copyright management information.

FUTURE PERSPECTIVES

Business is working towards practical rules that allow for the efficient exploitation of works according to customary business practices, including the creation of derivative works, which will ultimately benefit producers, performers, and authors.

Governments should take a reasonable approach to the issue of moral rights in a way that would prevent, in particular, the distortion of works and performances by third parties, while not undercutting the economic foundation and customary practices of the industry upon whose success both performers and authors depend, as well as the new opportunities for innovative licensing of adaptations of works which have arisen in some industries.

5. Protection of audiovisual performers

BACKGROUND

Audiovisual performers have been seeking an update of their rights at an international level since negotiations began for the WIPO Internet Treaties.

CURRENT LANDSCAPE

The Beijing Treaty on Audiovisual Performances (BTAP) was concluded in June 2012 and has been signed by over 90 countries, providing actors and performers in audiovisual works with minimum economic and moral rights in their performances. The Treaty entered into force for contracting parties on 28 April 2020, and is currently in force in over 30 countries.

82 Berne Convention for the Protection of Literary and Artistic Works; see Article 6bis.
83 See Article 5.

FUTURE PERSPECTIVES

The BTAP will continue to enter into force as more of its signatories continue to ratify and accede to it. With increased ratification/accession, the BTAP is well positioned to solidify the existing international legal protective framework for audiovisual performers. Business actively participated in the negotiations leading up the conclusion of the BTAP. Ratification will allow for the orderly exploitation of audiovisual productions to the benefit of all parties involved in creating and distributing such works. Governments should ratify and implement the BTAP, recognising the particular needs of filmmaking and distribution and the huge investments involved.

6. Access to published works for persons who are blind, visually impaired, or otherwise print disabled

BACKGROUND

In an effort to increase the availability of published materials in formats accessible to the blind, visually impaired or otherwise print disabled, WIPO member states in June 2013 adopted the *Marrakesh Treaty to Facilitate Access to Published Works for Persons who are Blind, Visually Impaired or otherwise Print Disabled*[84] to increase access and enhance efficient cooperation among member states. The goal was to encourage harmonised laws and efficient cross-border exchanges of protected works, while taking into account the impact on rightsholders.

CURRENT LANDSCAPE

The Marrakesh Treaty entered into force on 30 September 2016 and is currently in force in over 60 countries. The treaty requires contracting parties to adopt limitations and exceptions to national copyright protection for the reproduction, distribution and making available of published works in accessible formats. The treaty harmonises these limitations and exceptions across borders to allow organisations serving the blind, visually impaired or print disabled to exchange published works. To prevent misuse, cross-border exchange is limited to special cases that do not unreasonably prejudice rightsholders' interests nor interfere with the normal exploitation of published works.

FUTURE PERSPECTIVES

Several countries are taking initiatives to implement the Marrakesh Treaty at the national level, and ratifications and accessions to the treaty have continued since its entry into force.

7. Orphan works

BACKGROUND

The issue of "orphan works" describes the situation where the owner of a copyrighted work cannot be identified and located by someone who wishes to make use of the work in a manner that requires permission of the copyright owner. The inability to identify and locate a copyright owner may inhibit the use of such work where copyright law requires

[84] See http://www.wipo.int/meetings/en/doc_details.jsp?doc_id=241683.

permission from the owner for such use, since the prospective user may not wish to proceed with the use in the absence of permission from the owner, given the risk of potential copyright liability.

CURRENT LANDSCAPE

Several jurisdictions, including Canada, the UK and the EU, have examined the issue of orphan works and enacted certain legislative solutions that attempt to balance the interests of the prospective user and the unidentified owner in a way that the orphan status of the work does not constitute a bar to its further use. The US has also examined this issue but has not enacted legislation. On their side, businesses have developed copyright information registries and rightsholder databases to facilitate transactions between rightsholders and prospective users.

A uniform approach has not emerged, with countries choosing to follow either an approach that involves pre-clearance and licensing of such works, or one that deals with the limitation of certain remedies in the event that a rightsholder is identified. Canada and the UK follow the former approach, providing solutions that rely on the granting of non-exclusive licences, with a fee paid to and held by the authorising body until such time as the rightsholder appears. Whatever the approach, prospective users are required to show they have conducted a "diligent search" to identify and locate the owner.

While the US has not enacted legislation, the US Copyright Office in June 2015 supported a legislative framework that would limit remedies available to resurfaced owners of orphan works if the user of the orphan works could show that it had, prior to use, performed a good faith, diligent search to identify and locate the owner without success. This approach was designed to be a defence to a claim of copyright infringement, and its application would, therefore, be dependent on the factual circumstances of particular instances.

In October 2012, the EU approved a directive applicable to certain types of orphan works: (i) books, articles and other writings; (ii) certain audiovisual works the collections of film heritage institutions; and (iii) cinematographic works produced by public service broadcast organisations before 31 December 2002, all of which must be first published or broadcast in a member state. The Directive 2012/28/EU provides for member state legislation to enable the use of orphan works by libraries, educational establishments or museums, archives, film or audio heritage institutions and public service broadcasting organisations that are located in member states and that have public service missions. The exception requires a diligent search, and uses are subject to the Berne Convention three-step test and must be consistent with the public service mission of the relevant entity.

FUTURE PERSPECTIVES

Innovative database initiatives, including joint international undertakings, should help to address the issue of orphan works by facilitating greater location of rightsholders, and use of digital identifiers such as metadata should minimise creation of new orphan works. Several countries continue to explore solutions to address remaining orphan works where rightsholders cannot be identified.

IV. TRADEMARKS

The more intensive use of trademarks on the Internet for different purposes — including for e-commerce, by search engines, and on social networks — has imposed new challenges for business. Whereas these new platforms provide trademark owners with faster and more efficient means to promote and advertise their trademarks, such owners have taken on new responsibilities and faced new challenges to protect their trademarks and enforce their rights.

While the Internet allows for faster communication and can make a previously unknown trademark famous within a very short time frame, it can at the same time disrupt the reputation of a mark or a business within a couple of hours.

In this new scenario, trademark owners have been forced to change their marketing strategies, develop new ways of communicating with existing and potential consumers, invest more money and effort to monitor trademark infringement and identify the infringer, if that's the case. If identification of trademark infringers in traditional offline commerce has always been difficult, it has become even more challenging to track them in the online world and on different Internet platforms.

These emerging challenges and developments have raised new topics for discussion among governments, legislators, and stakeholders. Some of the most relevant ones are mentioned below.

1. Harmonisation and streamlining of trademark rules and procedures

BACKGROUND

There is no doubt that the harmonisation of rules and procedures makes trademark protection simpler and more efficient, less costly and more easily manageable by business.

CURRENT LANDSCAPE

A very important tool for the global protection of trademarks is the Madrid Agreement (1891, amended several times), and particularly the Madrid Protocol (1989), which allows for protection of a mark in a large number of countries by obtaining an international registration which has effect in each of the designated countries. The main advantage of the Madrid system is the ability to file a single trademark application with WIPO instead of filing a separate application and following domestic procedural rules in each country where protection is sought. Other advantages include: filing in a single language (English, French or Spanish); an online facility for central payment of renewal fees for international registrations, using a credit card or a WIPO account; a single application for recording a change of name or address, which can be extended to all the designated countries; and a single renewal date and request. In view of these advantages, many countries have joined the Madrid system — which in September 2020 counted 55 members to the Madrid Agreement and 106 members to the Madrid Protocol — with many others expected to join in the near future.

In the procedural area, the Singapore Treaty on the Law of Trademarks (2006) built on the Trademark Law Treaty (1994) enlarged its scope. As of July 2020, the Trademark Law Treaty and the Singapore Treaty had 54 and 51 contracting parties respectively.

Another initiative towards harmonisation and improvement of trademark procedures is TM5, a network consisting of the five main trademark Offices: the European Union Intellectual Property Office (EUIPO), JPO (Japan), KIPO (Korea), CNIPA (China), and USPTO (US). TM5 aims to promote collaboration between the offices and to improve their trademark systems through the exchange of information and experiences.

FUTURE PERSPECTIVES

A successful example of harmonisation of trademark rules and procedures is the European Union Trademark system that, after 20 years, continues to be a vital tool for businesses worldwide. The European Union Trademark has been substantially amended several times. This system was reformed and a new regulation — Regulation No. 2015/2424 — entered into force on 23 March 2016. The new regulation introduced a number of changes which impact EU

trademark holders and creates a more modern and streamlined system. It was codified by Regulation (EU) 2017/1001 (entered into force on 1 October 2017) and supplemented by Commission Delegated Regulation (EU) 2018/625 and Commission Implementing Regulation 2018/626. The main changes of these regulations were the introduction of EU certification trademarks (for example CE marking), the elimination of the requirement of graphical representation for European Union Trademarks and other procedural changes.

As part of the reform, a new Trademark Directive (Directive 2015/2436) also came into force. The implementation of the new Directive on a national level had to occur within three years until 2019 (for some other specific changes within seven years, until 2023). The goal of the reform was to foster innovation and economic growth by making trademark registration systems all over the EU more accessible and efficient for businesses by reducing costs and complexity, and increasing speed, predictability, and legal security. These adjustments dovetail with efforts to ensure coexistence and complementarity between the EU's and its member states' trademark systems.

2. Famous / well-known marks

BACKGROUND

Since well-known marks are especially vulnerable to abuse, it has long been recognised in the Paris Convention, and reaffirmed in TRIPS, that special protection is needed for such marks. However, enhanced protection through concepts broader than mere trademark infringement may be needed, e.g. through rules of unfair competition, dilution, or indication of connection.

CURRENT LANDSCAPE

In 2006, the US enacted the Trademark Dilution Revision Act, according to which the owner of a famous mark may apply to the relevant court for an order prohibiting continuing or anticipated use likely to cause dilution by blurring or tarnishing of the famous mark, regardless of likely confusion or economic injury.

Countries like Argentina, Brazil, and Paraguay provide trademark owners, especially of well-known marks, with the possibility of enrolling their marks in a special, although sometimes informal, database used by the customs authorities to fight piracy.

Other countries, such as Japan, allow for a defensive registration for dissimilar goods or services of the well-known mark.

In China, trademark owners can request the China National Intellectual Property Administration (CNIPA) or courts of law to recognise a mark as well-known under the principles of passive protection, necessity check and case-by-case recognition. Registered well-known trademarks may be granted cross-class protection. The term "well-known mark" should not be used on goods, packages, or containers of goods, or in advertising, exhibition or any other business activities.

The WIPO Joint Recommendation Concerning Provisions on the Protection of Well-Known Marks, adopted in September 1999, provides welcome guidance to both trademark holders and competent authorities concerning the criteria for determining what constitutes a well-known mark. They operate as non-binding guidelines to the application of the Paris Convention and TRIPS. As the Recommendation does not provide guidance on specific implementation measures, national measures to implement the Recommendation and their legal effects vary from country to country

and can range from establishing an official register (sometimes open only to domestic brands) to having informal lists maintained by the national authorities.

FUTURE PERSPECTIVES

There should be a continuous effort to protect well-known marks by means of adequate legislation and, above all, by combating parasitical behaviour and counterfeiting. The WIPO Joint Recommendation could be a helpful tool in any future discussions on establishing an international system for recording and recognising rights in well-known trademarks.

3. Searches

BACKGROUND

The lack of tools to make comprehensive, worldwide searches through online means for all forms of trademarks creates uncertainty for companies wishing to register their marks, as they are unable to verify if such marks are already registered by other organisations.

CURRENT LANDSCAPE

During the past years, the compilation by the European Union Intellectual Property Office (EUIPO) of an online dictionary of terms related to the classification set out in the Nice Agreement has been established and the number of cooperating IP offices has grown. This global classification tool — TMclass — includes access to dozens of national and regional IP offices, including EUIPO, OAPI and WIPO. TMclass is a free online tool based on the Nice Classification system that helps users correctly classify goods and services when filing a trademark. It allows users to search for terms in any of the 40 languages available. TMclass can also be used to verify lists of terms and to check if they are accepted in the participating IP offices. Additionally, the tool translates equivalent terms for goods and services into all available languages.

While the classification within the EU member states is harmonised, other IP offices' classification is searchable on the TMclass site, in order for the applicant to be able to compare accepted terms. The IP offices of the ASEAN countries have also created a free similar online classification tool, ASEAN TMclass, in cooperation with EUIPO.

When searching for earlier trademarks, TMview, developed by EUIPO, is an important platform, covering 71 national and regional IP offices (including ARIPO, WIPO and EUIPO) as of July 2020. WIPO has launched its own ambitious and freely accessible project for global trademark searches, known as the Global Brand Database. The Global Brand Database includes trademarks, appellations of origin, emblems, international registrations under the Madrid system and links to the trademark databases of contracting parties.

However, lack of harmonised classification, clarity and precision may still lead not only to unreliable results in searches but also to mistakes in the examination of trademark availability on relative grounds. Additionally, trademark searches for non-word trademarks remain undeveloped as many national IP offices lack sufficient technical means — imposing another challenge on interested parties.

FUTURE PERSPECTIVES

There is an increasing tendency for trademark databases to be integrated for searching purposes, facilitated by new technologies and the gradual modernisation (unfortunately often slow) of IP offices worldwide. The participation of more countries in the Global Brand Database and TMview would be welcome, as these databases can be useful and cost-efficient tools, especially for companies with operations in multiple countries. Brexit on the other hand, is also expected to introduce changes on trademarks' regulations, upon the expiration of the transitional period ending on 31 December 2020.

4. Restrictions on the use of trademarks on packaging

BACKGROUND

Packaging and labelling play an important role, together with brands, to identify the source or origin of products and provide critical information to consumers, particularly at the point of sale, including when sale takes place online. Product packaging typically contains brand names and logos, as well as information on the identity of the manufacturer or distributor, whereas labelling provides information on product contents, quality, quantity, etc.

Over the years, there has been an increasing tendency for government authorities of various countries to regulate the use of brands on labelling and packaging in a number of sectors and countries. These measures are being applied to a broad range of products and sectors in a growing number of countries around the world, often predicated on achieving specific public policy objectives.

CURRENT LANDSCAPE

Labelling and packaging measures can directly or indirectly restrict the use of branding elements or require an outright ban of trademarks and commercial denominations. Measures which specifically restrict the use of particular branding features can range from partial to total bans on the use of logos, brand names, designs, colours, images, or words, and may proscribe the use of specific colours or font sizes. They can also include bans on trademarks or other distinguishing signs associated with certain types of products being used on other types of products. At the extreme end of the spectrum, some countries have introduced a total prohibition on the use of all branding elements except the trademark name in plain font.

Other measures can indirectly restrict or obscure the use of branding features by requiring the inclusion of mandatory elements in a specified size and/or style which reduce the visibility or available space for branding. Examples are requirements for mandatory text to be disproportionately large or dominant in relation to the brand name — for the inclusion of specific and visually dominant design features — and for the mandatory display of warning notices, symbols or images which are disproportionately large or visually dominant in relation to the brand name and/or the overall space available for branding.

FUTURE PERSPECTIVES

Labelling and packaging regulation plays an important role in protecting the health and safety of consumers. However, reducing the ability of manufacturers to distinguish their products through the use of branding and to provide other product information has broad implications in a wide range of policy areas, which are governed by national regulation as well as a large web of different international agreements, standards, codes, principles and best practices.

Unnecessarily restrictive measures broadly distort competition and can have negative consequences for consumer protection, innovation, intellectual property (IP) rights, and trade. Coordination among different government departments and a holistic approach are, therefore, crucial to ensure policy coherence, and also to avoid potential problems due to the multiplicity of different labelling and packaging measures on the same product. Regulatory approaches should be consistent with competition, trade and investment-facilitating principles and should not restrict trade, IP rights, competition, or investment more than necessary to achieve a legitimate public policy objective.

As governments consider the pertinence of labelling and packaging measures, care should be taken to ensure their compatibility with relevant international agreements and standards. These include multilateral agreements in the areas of international trade (e.g. World Trade Organization (WTO) Agreement, including Agreements on Technical Barriers to Trade and on the Application of Sanitary and Phytosanitary Measures), intellectual property (e.g. WTO TRIPS; WIPO treaties), food standards (e.g. WHO and FAO CODEX Alimentarius) and many others.

ICC CONTRIBUTIONS

The *ICC Discussion Paper on Labelling and Packaging Measures Impacting on Brand Assets*[85] was published in 2017, providing information on global legislative initiatives and analysing their impact on IP rights, marketing, consumer protection, competition, trade, and innovation.

5. Non-traditional marks

BACKGROUND

Non-traditional or non-conventional marks are those that differ from the usual concept of a mark, that is, the word, design, logo, letter or combination of letters and signs that distinguish the products and services originating from different undertakings.

The development and globalisation of commerce has increased competition among businesses and, for this reason, many have tried to make their products or services more sophisticated, seeking creative ways of communicating their message to the public, attracting consumers' attention and distinguishing their offerings from those of their competitors. This phenomenon has led to changes in the appearance of marks, the shape and packaging of products and the way services are offered. This is easily perceived by comparing the evolution of the aesthetic shape of perfume flasks and food recipients, for example. Services have also had to adapt to the new reality, and good examples are delivery services, entertainment services and electronic commerce.

Protection is moving from registering names, to protecting designs and even to product features which at times identify a product, and which would traditionally have been subject of design, copyright or even patent protection. Marks themselves have also evolved as a result of modern communication tools and information technologies such as mobile devices, websites, apps, electronic messaging, and electronic cards. Originally conceived as a name on a label, marks have changed dramatically over the decades and are now presented in the most varied ways with regard to form and styling: sound, olfactory, taste and tactile marks; tri-dimensional marks; holograms; movement or animated marks; liquid trademarks; look and feel of computer programs and apps, graphical user interfaces (GUIs), multimedia marks; pattern marks, colour marks, position marks, gesture marks, textures and architectural marks, restaurant décor, or even artistic works.

[85] See https://iccwbo.org/publication/icc-discussion-paper-labelling-packaging-measures-impacting-brand-assets/.

In spite of the more recent developments, non-traditional marks are not new. One of the first registrations dates back to the 1950s, when the National Broadcasting Company registered the sound of chimes in the US for broadcasting radio programmes.

CURRENT LANDSCAPE

Non-conventional marks exist worldwide, but not all countries allow them to be registered for the following typical reasons: the legal definition of a mark varies from country to country and, in many cases, the definition does not fit or embody the concept of a non-conventional mark or, in some cases, a country imposes a requirement of graphical/visual representation and publication that cannot be easily met.

The need to find adequate ways of representing and docketing non-traditional marks, without excessively burdening national offices and allowing the public in general to identify them is a key issue that may hinder the registration of non-conventional signs.

Article 15 of TRIPS establishes that "members may require, as a condition of registration, that signs be visually perceptible", so member countries have the choice — but not the obligation — of including the visual perception of a sign as a requirement for registration in their national laws. In this regard, it is also provided for in Article 15 of TRIPS that where signs are not inherently capable of distinguishing the relevant goods or services, members may make registrability depend on distinctiveness acquired through use. The Treaty of Singapore on Trademarks (WIPO) allows (even though it does not impose) for the registration of non-conventional marks such as holograms, scent marks, sound marks, motion marks and three-dimensional ("3D") marks.

In countries where the law does not require that a sign must be visually perceptible to be registered as a mark, non-traditional marks are usually accepted. In jurisdictions where the law only accepts the registration of signs that can be represented graphically, registering some types of non-traditional signs, such as olfactory marks, can pose severe challenges. Whenever the possibility of registration does not exist, conflicts involving non-traditional marks may often be solved through unfair competition rules.

The main problem with respect to non-traditional marks is the lack of widespread standards and uniform criteria for their protection and representation, the lack of technological means to register and store such marks, and the difficulty in analysing and solving conflicts between such signs and producing evidence of use in some cases.

A welcome development was the deletion of the requirement of graphical representability for EU trademarks by the new European Union Trade Mark Regulation (EUTM), which entered into force in March 2016. The EUTM permits a sign to be represented in any appropriate form using generally available technology, and thus not necessarily graphic means, as long as the representation is clear, precise, self-contained, easily accessible, intelligible, durable, and objective.

FUTURE PERSPECTIVES

Despite the above-mentioned difficulties, the number of registrations for non-traditional marks has grown and is expected to grow even more in many parts of the world. This is a result of new marketing strategies — which promote stronger interaction between marks and the public — and of legislative changes and case law that adopt a broader trademark concept or interpret existing concepts in a more comprehensive way so as to embody these unique types of marks.

V. DOMAIN NAMES

1. Evolution of the domain name landscape

BACKGROUND

The Internet is not one network, but a network of networks. To connect to the Internet, every device or object requires a unique identifier. These exist in two forms — a number, i.e. the Internet Protocol address (IP address), and, to make it easier to use, a domain name. Each IP address corresponds to a domain name which is made up of a set of characters or letters. The domain names are the Internet addresses of websites or email addresses. The Domain Name System (DNS) helps make the Internet more accessible by allowing users to type in a domain name instead of an IP address, e.g. 'www.belgium.be' rather than '193.191.245.244'.

Each domain name includes a top-level domain (TLD), i.e. the two or more letters that follow the dot. TLDs — also referred to as extensions — are grouped into two categories: generic top-level domain (gTLDs) (1276 in total including 23 legacy gTLDs like .com and .info), as well as two-letter country code top-level domains (ccTLDs) such as .us, .ca, .uk and .eu, identifying a country or territory (238 in total).

A registry operator manages the TLD and maintains the registry database including the domain names registered therein. There are over 367 million registered domain names, of which 43% are registered in ccTLDs, 49% in legacy gTLDs (of which 43,5% in .com and .net), and only 8% in new gTLDs.[86]

The Internet Corporation for Assigned Names and Numbers (ICANN), a not-for-profit public-benefit corporation established in California in 1998, oversees the DNS. ICANN's primary mission is to coordinate, at the highest level, the Internet's systems of unique identifiers globally, and, in particular, to ensure the stable and secure operation of the Internet's unique identifier system, which is the DNS.

Prior to ICANN, the functions of the Internet Assigned Numbers Authority (IANA), which technically coordinates the unique identifiers to manage the DNS, was managed by a United States (US) government agency. The privatisation process of the DNS concluded on 1 October 2016, when the US government transitioned its historic stewardship role of the IANA functions to the global multistakeholder community as represented by ICANN, headquartered in the US but with offices globally.

When a party wants to register a domain name in a gTLD, it enters into a registration agreement with an accredited domain name registrar or authorised reseller. For ccTLDs, the registry operator may allow direct registrations via the registry itself. It is the registrar's job to check the availability of a domain name with the relevant registry and then execute the registration transaction with the registry operator. The registration process has hardly changed over the past few decades.

In 2013, ICANN also adopted a new Registrar Accreditation Agreement that contains stricter rules for registrars to increase the accuracy of WHOIS records and regulate the use of privacy and proxy services. New gTLD operators are only allowed to license domain names through registrars (or their resellers) which comply with the terms and conditions of this most recent agreement.

[86] Domain Name Industry Brief (Verisign): www.verisign.com/en_US/domain-names/dnib/index.xhtml; New gTLD Overview (nTLDStats): ntldstats.com/tld.

CURRENT LANDSCAPE

There are currently two important topics that require attention: WHOIS & Privacy Implications, and DNS Abuse.

WHOIS & Privacy — The WHOIS system, created in the late 1990s, was a global public directory designed to identify the owners of domain names so others could seek them out to resolve technical issues related to the domain name, resolve IP disputes regarding domain names, and conduct cyber-security investigations to mitigate fraud and abuse over the Internet. The usefulness of the WHOIS system was significantly impaired in May 2018 after ICANN, working to comply with the European Union's General Data Protection Regulation (GDPR), updated its WHOIS policy through a new temporary policy known as the "Temporary Specification" or "Temp Spec". While this specification was meant to bring WHOIS into compliance with GDPR, in reality, it may have restricted access to WHOIS significantly more than what was required for GDPR compliance. This seems to be the case, particularly given that the GDPR itself calls for the balancing of the legitimate interests of third parties with the protection of privacy. Calls have been made for ICANN's policy development to have a measured approach to GDPR implementation.

For example, the Temp Spec redacted information of legal entities (as well as the data of natural persons), applied WHOIS outside the European Union jurisdiction, and significantly curtailed both the purposes for which WHOIS could be accessed and the entities that could seek access. This effectively stopped any automated or high-volume usage of WHOIS that previously was available for critical Internet infrastructure needs, e-crime investigations, and threat intelligence.

In order to seek access to the redacted data, requestors must send in fully documented requests citing the applicable GDPR rules, and providing evidence of trademarks or other rights that justify access. This manual process takes weeks for a response, which has effectively diminished the utility of WHOIS to quickly investigate and respond to cybersecurity threats and other types of domain name abuse. Some registries and registrars routinely deny or ignore fully documented access requests based on legitimate purposes consistent with GDPR. Even data protection authorities (DPAs) in the European Union jurisdiction — arbiters of how GDPR is applied — have had their WHOIS requests denied. This is a significant development for those who rely on WHOIS data. Unfortunately, since the adoption of the Temp Spec in 2018, ICANN has issued little guidance or taken effective enforcement measures to make sure legitimate requestors receive timely responses.

ICANN establishes binding policy through the use of policy development processes (PDPs). To develop a long-term solution for WHOIS access, ICANN commissioned an *expedited* policy development process (or EPDP — effectively, a time-limited version of the PDP) to replace the Temporary Specification and create a new WHOIS system. Through the EPDP, the ICANN community is meant to collaborate to arrive at a consensus based WHOIS access solution, one that complies with GDPR. The EPDP conducted its work in two phases. Phase 1 focused on bringing ICANN policy into compliance with the GDPR, while Phase 2 is directing the outline of a standardised system for access and disclosure (SSAD) of WHOIS data. The ICANN Board adopted the majority of the EPDP Phase 1 Final Report recommendations in May 2019.[87] On 10 August 2020, the EPDP Phase 2 Final Report was published, making policy recommendations for the handling of WHOIS data. Those recommendations will be taken up by the GNSO Council. Once ratified by ICANN's board, a policy becomes binding on contracted parties and must be adhered to after the implementation phase has been completed.

DNS Abuse — Abuse of the Internet's domain name system (DNS) takes place in a wide variety of ways. Generally speaking, "abuse" refers to the use of the DNS for illegal or illegitimate reasons. DNS Abuse is composed of five broad categories of harmful activity insofar as they intersect with the DNS: malware, botnets, phishing, pharming, and spam

87 See https://gnso.icann.org/sites/default/files/file/field-file-attach/epdp-phase-2-temp-spec-gtld-registration-data-31jul20-en.pdf.

(when it serves as a delivery mechanism for the other forms of DNS Abuse). Registrars and registries must act upon these categories of DNS Abuse. They are required by their agreements with ICANN to maintain abuse contacts (and preferably a webform) to receive abuse complaints and to promptly investigate allegations of DNS Abuse in good faith.

In addition, there has been a voluntary effort among approximately 48 registries and registrars that have signed the Framework to Address Abuse.[88] They have committed to disrupt DNS Abuse when identified within their registrations and they encourage others to do the same. While registries and registrars are unable to target the "abusive parts" of a domain name or a particular page on that domain, they can disable a domain name in limited circumstances. Therefore, disabling a domain name is as powerful as it is imprecise, especially when the DNS Abuse occurs on a broader platform, forum, marketplace, or other domain shared by large audiences.

The subject of DNS abuse has been in and out of ICANN discussions since the advent of ICANN itself. Recently, however, abuse has been raised as a more urgent matter because of increasing rates of abuse and the need to address it, particularly in light of the limitations on access to registrant data (imposed by GDPR) that curtail or stall the ability to swiftly and holistically address abuse.

Recent data highlights that DNS abuse is a significant and growing problem:

- The global cost of cybercrime is rising, and reached an estimated $600 billion in 2018, according to the Center for Strategic and International Studies, in partnership with McAfee.
- Business Email Compromise scheme has surpassed $20B in global loss exposure since the FBI began tracking it in Oct 2013. Each passing year has had loss exposure roughly equal to all prior years combined.
- This scheme also frequently employs domain name registration of look-alike domains, used to send phishing emails.
- Between June 2016 and July 2019, global dollar exposure of impacted parties: $26,201,775,589.
- The total number of phishing sites — often perpetrated under brand-related domain names — detected by APWG in the third quarter of 2019 was 266,387. This was up 46 percent from the 182,465 seen in Q2, and almost double the 138,328 seen in Q4 2018.
- Global insurance giant AIG reports that phishing attacks have now outpaced ransomware as the most frequent instances of fraud.
- According to WebRoot, only 65% of URLs can be categorised as "trustworthy". The remaining 9.45 billion are categorised from low- to high-risk.
- Four new malware models are created every second, according to AVTest.

The abuse problem is further illustrated in sharp relief in the context of the COVID-19 crisis. In the domain name sector, security researchers have documented a spike in the number of coronavirus-related domains[89] — more than 100,000 registered in March 2020 alone — with attacks sourced from those registrations growing in conjunction with the disease's spread. An estimated half were identified as sources of malware or other harms.[90] This increase in

88 See http://dnsabuseframework.org/.
89 See https://unit42.paloaltonetworks.com/covid19-cyber-threats/.
90 See https://blog.checkpoint.com/2020/03/05/update-coronavirus-themed-domains-50-more-likely-to-be-malicious-than-other-domains/.

coronavirus related abuse prompted New York's attorney general to ask registrars what they're doing to protect the online public from cybercriminals.[91]

In recognition of these trends, ICANN convened a series of stakeholder discussions at its recent conferences (2019-2020). For several years, a majority of the stakeholder groups in ICANN (even many of the world's governments) have pleaded with ICANN's Board, staff, and community to do something about DNS abuse — at a minimum, to ramp up WHOIS compliance efforts and enforce existing contractual requirements related to DNS abuse. While a recent voluntary effort by some registrars against COVID-related domains[92] is a positive step, it's clear that voluntary efforts are only part of the solution since those registrars or registries with excessively high rates of DNS abuse that harbour bad actors are unlikely to join these voluntary efforts. As a result, intellectual property stakeholders are advocating for greater enforcement of existing contracts, coupled with enhanced contractual commitments so that ICANN can ensure that all registrars and registries participate in DNS abuse mitigation activities.

FUTURE PERSPECTIVES

ICANN's GNSO Council evaluated the experiences of the 2012 new gTLD Program and identified areas for future GNSO policy development. In January 2016, the GNSO Council chartered a Policy Development Procedures Working Group (PDP WG) to call upon the community's collective experiences from the 2012 round to determine what, if any, changes may need to be made to the existing recommendations that led to the new gTLD program. The PDP WG began its work in February 2016 and conducted deliberations using five separate Work Tracks: Work Track 1 - Overall Process/Support/Outreach, Work Track 2 - Legal/Regulatory, Work Track 3 - String Contention/Objections & Disputes, Work Track 4 - Internationalised Domain Names/Technical & Operations, and Work Track 5: Geographic Names at the Top Level.

In the Summer of 2020, after years of review and analysis, the PDP WG focused on reviewing draft final recommendations on a topic-by-topic basis. In the Autumn of 2020, the Working Group completed the process with the opening of a public comment period on the draft Final Report. The Working Group will thereupon submit its final recommendations for approval by the GNSO Council. Following Council approval, it will be up to the ICANN Board to endorse the recommendations with a view to allowing a new gTLD round and allow more gTLDs in the root.

ICC CONTRIBUTIONS

ICC has developed an information booklet on the domain name system and the new gTLD program.[93] ICC is a member of the Business Constituency of the Generic Names Supporting Organization — a community within ICANN. ICC membership spans the diversity of the ICANN communities from ISPs, IP rightsholders, broad business interests as well as the registrars so its main organisational input focuses on governance of ICANN and where it sits in the wider context of Internet governance issues.

91 See https://ag.ny.gov/sites/default/files/3.19.20_letter_concerning_godaddy_and_coronavirus.pdf.
92 See https://rrsg.org/wp-content/uploads/2020/03/Registrar-approaches-to-the-COVID-19-Crisis.pdf.
93 See *Domain names and new generic top-level domains*, store.iccwbo.org/gtld.

2. Challenges for new gTLD registries and brand holders

BACKGROUND

Abusive domain name registrations and the anonymity that can be maintained on the Internet through the use of privacy services, proxy services and fake identities, make traditional mechanisms for resolving conflicts between trademark holders and domain name holders cumbersome. In 1999, ICANN adopted the Uniform Domain Name Dispute Resolution Policy (UDRP) proposed by the World Intellectual Property Organization (WIPO), which is designed to discourage and efficiently resolve disputes over the abusive registration and use of trademarks as domain names under gTLDs at a global level. Since the adoption of the UDRP, many registries of ccTLDs and sponsored TLDs have adopted policies similar to the UDRP and implemented additional rights protection mechanisms.

CURRENT LANDSCAPE

Cybersquatting can be fought in court on the basis of existing trademark legislation or specific anti-cybersquatting laws, e.g. the US Anticybersquatting Consumer Protection Act of 1999. However, the vast majority of domain name disputes are handled through alternative dispute resolution (ADR), in accordance with the UDRP or UDRP-inspired policies for ccTLDs or certain gTLDs.

In ADR cases, rightsholders can obtain the transfer of the domain name, even if the domain name registration details are not accurate. For non-ADR disputes, the accessibility and accuracy of domain name registration details remain of significant concern to rightsholders. They can rely on information that is made available through WHOIS records, a database that includes current registrant contact details. Agreements between ICANN and both registries and registrars include provisions on the requirements for registration data and accessibility of this data. However, this does not prevent many WHOIS databases from containing inaccurate data or the use of proxy and privacy services that are often used to shield illegal activity on the Internet.

More recently introduced TLDs adopted additional rights protection mechanisms (RPMs), such as eligibility requirements (e.g. .post) or sunrise phases during which trademark holders were able to pre-register or block domain names prior to the general availability of domain name registrations.

With the adoption of the new gTLD program in 2012, ICANN, in close consultation with the trademark community, has introduced mandatory RPMs that must be implemented as a minimum by all registry operators of new gTLDs. ICANN's UDRP must be observed by all new gTLD operators. In addition, ICANN has introduced the Trademark Clearinghouse (TMCH), the Uniform Rapid Suspension system (URS) and a Trademark Post-Delegation Dispute Resolution Procedure (PDDRP). These protection mechanisms work as follows:

- *Trademark Clearinghouse (TMCH)*: Trademark holders may register their trademarks in the Trademark Clearinghouse, which is a database of validated trademark information. The launch of every gTLD must be preceded by a Sunrise Period, during which a trademark holder registered in the TMCH database may register a domain name identical to his or her trademark. The Trademark Clearinghouse also sends notices to the trademark holder in the event of a third party applying for a domain name identical to his trademark. Likewise, the applicant receives a notice informing him or her of the potential conflict with the holder's rights.
- *Uniform Rapid Suspension system (URS)*: The URS complements the UDRP and provides an even faster and less expensive process for resolving clear-cut cases of infringement, but the only remedy available is a temporary suspension of an abusive domain name.

- *Trademark Post-Delegation Dispute Resolution Procedure (PDDRP)*: A rightsholder can bring a complaint under the PDDRP if he or she believes himself or herself to be harmed by the conduct of a registry operator which is actively engaging in or contributing to infringing behaviour.

Many brand owners are disappointed with the efficiency of these RPMs. Indeed, one example was the operator of .sucks which was charging a premium for brands registered in the Trademark Clearinghouse, which seemingly abused the Clearinghouse system.

Even though trademark holders registered more than 40,000 trademarks with the TMCH, it offers only limited protection against abusive registrations. First, it only covers domain name applications which are identical to the registered trademark. However, most of the abuse cases concern domain names which are confusingly similar but not identical, or which combine the trademark with a generic term. This renders the TMCH protection fruitless in most cases. Additionally, the TMCH only sends notices but does not block the abusive registration.[94]

The URS is meant to be a complementary mechanism to the UDRP for cases of clear-cut trademark infringement. It is administered primarily by the National Arbitration Forum (FORUM), the Asian Domain Name Dispute Resolution Centre (ADNDRC), and by MFSD Srl. It is a quick and rather inexpensive procedure. UDRP filing fees start at around US$1,350, while URS filing fees may start as low as US$375; the UDRP procedure takes a couple of months to conclude, whereas the URS will take only 21 days or less. However, as the only remedy is a temporary suspension of the abusive domain name, the URS has been only of limited use to trademark holders.

Until August 2020, about 1,150 URS decisions had been issued. 93% of the decisions ruled in favour of the complainants, while in the remaining 7%, the registrant would maintain control of the domain. In a landmark case of 21 December 2016, a National Arbitration Forum (NAF) panellist rendered a decision suspending 474 domain names found to infringe trademarks.[95] So far, no Post-Delegation Dispute Resolution Procedure (PDDRP) case has been initiated.

With the introduction of the new gTLDs, the number of Uniform Domain Name Dispute Resolution Policy (UDRP) procedures has increased to over 45,000 cases administered by WIPO alone since 1999. However, the percentage of cases involving new gTLDs is still quite low, i.e. 11.5% of all WIPO UDRP cases in 2019.

Furthermore, title holders of Geographical Indications ('GIs') are concerned that so far a GI title is not deemed a valid title to present a claim before the UDRP. Some advances have been made, for example the acceptance of GI titles under the ADR procedure for the Czechian ccTLD .cz[96] but cases such as Champagne vs. Vickers[97] or the Rioja vs. Hostmaster[98] show that there is a long way to go on protecting GIs in domain names, perhaps by broadly accepting GIs as a valid title to present claims.

FUTURE PERSPECTIVES

ICANN has launched a Rights Protection Mechanisms Review, which is intended to identify areas where additional policy development or implementation improvements might be beneficial. The RPMs Review includes evaluation of data as well as input about key protection mechanisms such as the Trademark Clearinghouse, Uniform Rapid Suspension system and Post-Delegation Dispute Resolution Procedures.

94 The TMCH added a new blocking service in 2018, but this service is limited to domain names registered under 43 specific TLDs.
95 Ashley Furniture Industries v Fahri Hadikusuma, www.adrforum.com/domaindecisions/1703352D.htm.
96 See https://www.wipo.int/edocs/mdocs/sct/en/sct_is_geo_ge_19/sct_is_geo_ge_19_p3.pdf.
97 See https://www.wipo.int/edocs/mdocs/sct/en/sct_is_geo_ge_19/sct_is_geo_ge_19_p3.pdf.
98 See https://www.wipo.int/amc/en/domains/search/text.jsp?case=D2018-0168.

A Phase 1 Initial Report was published in March 2020.[99] Following its analysis of public comments received on this Initial Report, the Working Group will develop its final recommendations in a Final Report to be sent to the GNSO Council for review and approval. Phase 2 will be next, and will focus on the review of the UDRP.

VI. GEOGRAPHICAL INDICATIONS

BACKGROUND

The strategic importance of geographical indications (GIs) as a valuable marketing tool has become more evident with the escalation of demand for quality and typical products originating from a particular region.

Although many countries have developed effective legislation to protect GIs, there is still a lack of harmonisation. A single term can be protected in different ways depending on the country: as a collective mark, a certification mark, an appellation of origin (AO), an indication of source or, broadly, as a GI. In some countries the system and rules applicable to a GI vary in accordance with the product protected.

In the European Union, for example, different Regulations deal with foodstuff, wines, and spirits, but there is no harmonised protection system in relation to non-agricultural GI products. Some EU member states provide for a national legislation on non-agricultural GI products, but it appears that most member states protect such GI products through the trademark system or competition law. Furthermore, non-agricultural GIs can be registered through the "Lisbon Agreement for the Protection of Appellations of Origin and their International Registration" (Lisbon Agreement), which counts the EU among its contracting parties. The EUIPO's Study on the Protection and Control of Geographical Indications for Agricultural Products in the EU member states[100] provides for a general overview on the control and protection systems for GIs implemented in the EU member states. The study has shown that all the member states are considered to provide for a control system, but the effectiveness of such system is different among member states. In relation to the controls before the products are placed on the market, they are often delegated to private and/or public Control Bodies. As regards the general organisation of the surveillance on the market, usually there is one central administration in charge of controls but in some member states different administrations are responsible based on the product sectors.

In China, a *sui generis* system for goods, handicrafts and traditional Chinese medicines coexists with a trademark system and a *sui generis* system for agri-products.

In some countries, both trademarks and GIs can be used to protect terms indicating the geographic origin of products. However, producers are not usually aware of the advantages and specificities of the two types of rights.

Whereas trademark protection implies generally easier and more cost-efficient registration procedures, the GI system offers producer groups clear advantages, notably in the breadth of protection, where the link between the geographical name and the product relies on consumer's existing knowledge of agricultural, culinary and cultural traditions.

99 See https://gnso.icann.org/sites/default/files/file/field-file-attach/rpm-phase-1-initial-18mar20-en.pdf.

100 See https://euipo.europa.eu/tunnel-web/secure/webdav/guest/document_library/observatory/documents/reports/Enforcement_of_GIs/EUIPO_Geographical_Indications_full_report_en.pdf.

CURRENT LANDSCAPE

The year of 2020 has been marked by a pandemic and subsequent lockdown around the world. This has already severely impacted GIs, due to the decrease of the demand for GI-protected products, causing waste due to closed restaurants and bars or impossibility to transport the goods and, in the worst scenario, the impossibility of producing again.

Linked to the pandemic as well, we have seen Geographical Indications struggling to harvest timely their raw material or, in general, being able to comply with the product specifications under the Regulations of each GI, so much that some GIs from France and Italy have already made temporary amendments to their products specifications.

However, it cannot go unacknowledged that discussions on a multilateral register for wine and spirits have been going on since 2001 under the Doha agenda, but little progress has been made since the first draft was produced in 2011 because WTO members remain divided as to the scope and substance of the negotiations. There have also been different positions as to whether this issue should be dealt with separately or jointly with two other issues, namely the possible extension of the higher level of GI protection for wines and spirits, currently provided in Article 23 of TRIPS, to other products, and the discussions about the relationship between The Agreement on Trade-Related Aspects of Intellectual Property Rights (TRIPS) and the Convention on Biological Diversity (CBD).

The latest report of the TRIPS Council, circulated in December 2015, shows that the situation has not improved, that the divide on the reforms to adopt persists, and that discussions on the multilateral register do not seem to be a priority for WTO members at this moment.

On other fronts, GIs holders continue to face problems, such as counterfeit goods — GI holders keep asking for better enforcement and protection of GIs — and the lack or weak protection of GIs in the domain names realm, particularly after the introduction of new generic top-level domains (gTLDs).

Although no specific criteria or *sui generis* objection procedure has been provided to protect GIs when they are used as gTLD strings, ICANN, as part of its new generic top-level domain programme, incorporated several dispute resolution procedures that gave rightsholders the opportunity to challenge the introduction or registration of new gTLD strings. GIs which are registered as a certification mark, collective mark, or otherwise as a trademark or service mark are likewise eligible according to the Trademark Clearinghouse Guidelines.

The procedures provided for in the Uniform Dispute Resolution Policy and in the Trademark Clearinghouse Guidelines generally require the complainant to provide evidence of their rights to the trademark. However, whereas panellists in domain names disputes admit that GIs are not by themselves a valid legal title to claim protection against gTLD abusive registrations, their consensus view is that some geographical terms can be protected under the UDRP. For that to happen, the complainant must show that it has rights over the term and that the term is being used as a distinctive sign for goods or services different to those that are described by or related to the geographical meaning of the term (secondary meaning). However, it has proven difficult for GIs holders that have not obtained a relevant trademark registration to show unregistered trademark rights over their geographical terms on the basis of secondary meaning.

On the other hand, there has been some progress with regard to the Lisbon Agreement, originally adopted in 1958, which deals specifically with AOs, counts 30 contracting parties. After having been revised in 1967 and 1979, the Agreement was revised again to make it attractive for countries with all types of legal systems, resulting in the Geneva Act adopted in May 2015. The Geneva Act entered into force on February 25th 2020.

The most important innovations introduced by the Geneva Act are: the extension of international protection and registration so as to comprise not only Appellations of Origin (AOs) but also GIs; the permission that has been granted to international organisations to access the Lisbon system; the option for beneficiaries to file their GIs and AOs directly rather than solely through national authorities; safeguards for prior trademarks and personal names, denomination of plant varieties and animal breeds; safeguards against GIs or AOs becoming generic; and the possibility for a contracting party to charge an individual fee to cover the costs of examination of an international registration.

Furthermore, in the last three years, some bilateral/multilateral treaties regarding GIs have been signed between the European Union (EU) and Iceland, EU and Singapore, EU and Japan, EU and Armenia, EU and Canada, and EU and China. All of these treaties are under a different status regarding enforcement. It is relevant to mention that Mexico and the EU have completed their negotiations related to their new trade agreement, and from which it is worth highlighting the broad protection for GIs, since it expressly includes the duty to protect GIs, even when translations and "delocalisers" are used to disclose the real origin of the product such as "style", "type" and so on.

One of the most ambitious of these agreements is the EU-Mercosur Trade Agreement, concluded on June 28, 2019. It dedicates a chapter on intellectual property rights, including geographical indications.[101] Some of the signatory countries like Brazil, Uruguay and Paraguay are taking preparatory measures to comply with the Agreement provisions.

FUTURE PERSPECTIVES

The need to improve the protection of goods and, eventually, services (with the exception of wine and spirits) through GIs is increasing, especially in developing countries as they see GIs as a means of adding value to their goods and services and of getting the economic and social benefits that result from it. In parallel, as the Internet and consequently domain names gain importance each day, clearer rules would help GIs holders to protect and enforce their rights more easily and effectively.

ICC CONTRIBUTIONS

ICC has issued past statements in the context of WTO negotiations on GIs, and continues to participate in the proceedings of the WIPO Standing Committee on the Law of Trademarks, Industrial Designs and Geographical Indications.

VII. PLANT BREEDERS' RIGHTS (PBR)

BACKGROUND

According to Article 27(3)(b) of the TRIPS Agreement, all WTO members shall provide for the protection of plant varieties, either by patents, or by an effective *sui generis* system or by any combination thereof. IP systems around the world have opted for different solutions. In the majority of countries where IP protection is available for plant varieties, a *sui generis* system has been followed. However, there are some countries where plant varieties can be protected by a combination of patents and *sui generis* IP rights.[102] To date, the most common *sui generis* IP protection available for plant varieties as such is offered by the International Convention for the Protection of New Varieties of Plants (UPOV

101 See http://trade.ec.europa.eu/doclib/press/index.cfm?id=2048.
102 In the US, for example.

Convention). This *sui generis* IP protection is granted to plant varieties which are new, distinct, uniform and stable (so-called DUS criteria).

The first version of the UPOV Convention was adopted in 1961 and has been revised three times, in 1972, 1978 and 1991. Today, all UPOV members adhere either to the 1978 or to the 1991 version of the Convention.[103] The main difference between the two is that the earlier version provides a lower level of protection to the rights holder:

- The 1978 Act does not oblige countries to provide protection for all *genera* and species, meaning that breeders of some species do not have any protection.
- The protection offered by the 1978 Act covers only the production for purposes of commercial marketing, the offering for sale and the marketing of the propagating material of the protected variety; whereas the scope of protection offered by the 1991 Act covers production or reproduction, conditioning for the purpose of propagation, offering for sale, selling or other marketing, exporting, importing and stocking of all propagating material. Additionally, the protection under the 1978 Act does not extend either to the harvested material or to the products made directly from the harvested material.[104]
- The 1978 Act is understood to allow unlimited use of the harvested material for further propagation by farmers — the so-called "farm saved seed exemption" or "farmer's privilege" — whereas the 1991 Act makes the farmer's privilege conditional upon explicit domestic legislation which however needs to be within reasonable limits and must safeguard the legitimate interests of the breeder.[105]
- According to the 1978 Act the scope of protection does not cover so-called "essentially derived varieties" (EDVs), whereas under the 1991 Act, the scope of protection on the protected variety extends also to such EDVs.
- The minimum period of protection provided for in the 1978 Act is 18 years for trees and vines and 15 years for other varieties; whereas in the 1991 Act trees and vines are protected for 25 years and other varieties for 20 years. The duration of the term of protection begins at the moment protection is granted.

Plant variety protection (PVP) laws having a lower standard than the UPOV 1991 Convention provide weaker protection and, therefore, often act as a disincentive for businesses to enter the market. Additionally, in many countries the laws governing the enforcement of IP rights are often not made explicitly applicable to plant breeder's rights, meaning that, even if a plant variety protection title is granted, its value will be limited if the right cannot be properly enforced.

UPOV's current membership stands at 76 and is gradually expanding as more members subscribe to the 1991 Act.[106] Multilateral or bilateral free trade agreements also encourage this trend, often by requiring signatories to be or to become members of UPOV 1991. As a recent example, the free trade agreement between the United States, Mexico, and Canada (USMCA), which entered into force on July 1, 2020, requires the establishment of regulations on plant varieties and that the parties ratify UPOV 1991.

FUTURE PERSPECTIVES

The UPOV Council regularly discusses and adopts so-called Explanatory Notes on the various provisions of the UPOV Convention with the view of facilitating implementation at the national level by UPOV members, while at the same time

103 Among the 76 UPOV members, 59 are bound by the 1991 Act and 17 by the 1978 Act.
104 In the 1991 Act the protection extends also to acts done with the harvested material of a protected variety under certain conditions, and there is also a possibility for UPOV members to provide protection on the products directly obtained from harvested material.
105 It is to be noted though that the farm saved seed exception is an optional exception under UPOV 1991, subject to national law.
106 See www.upov.int/export/sites/upov/members/en/pdf/pub423.pdf.

avoiding a heterogeneous interpretation of the key concepts across different UPOV members. These Explanatory Notes also serve as a source of information contributing to a better understanding of the scope of protection by breeders. Furthermore, these Explanatory Notes can be referred to in court proceedings involving disputes on aspects of plant breeder's rights.

Currently there is a discussion ongoing at UPOV level on the revision of the Explanatory Note on EDVs, a topic which was raised by breeders. The currently applicable Explanatory Note, adopted in 2016, provides for a rather narrow interpretation which would not fit most recent developments in breeding, such as varieties developed by gene editing techniques. A revision is therefore necessary.

Business engages in the above highlighted discussions. Further on, business continues highlighting shortcomings in PVR laws, to seek to encourage UPOV members to adhere to the 1991 Act of the Convention and to encourage countries to join UPOV. Business also continues increasing its efforts to educate governments about the special needs and features of IP protection for plant innovations. Governments of UPOV member countries should continue to encourage countries that are not yet members to join. These governments should also encourage UPOV member countries to update their own laws to UPOV 1991 standards and to promote the proper enforcement of plant breeder's rights.

VIII. TRADE SECRETS / CONFIDENTIAL BUSINESS INFORMATION

BACKGROUND AND INTRODUCTION

The information economy is driven by data and its extracted form, knowledge. While patenting remains in wide use as a way to incentivise and appropriate specific inventions, companies increasingly turn to secrecy to protect a wide variety of information that supports competitive advantage, from business strategies and financial and marketing data, to secret processes, formulas and other technologies. As trade secrets have become more prevalent and more valuable, they are also increasingly vulnerable. This is in part because they are stored and communicated in digital networks, with hundreds or thousands of devices in the hands of individual users; and in part because globalisation requires sharing sensitive data with development partners and across distant supply chains.

The scope of legal protection for trade secrets and confidential business information is generally quite broad. Article 39 of the 1995 TRIPS Agreement requires member states of the WTO to ensure effective protection to "undisclosed information" of a person or business so long as it is not generally known or readily accessible, derives "commercial value" from its secrecy, and has been the subject of "reasonable steps under the circumstances" to maintain it as a secret. In practice, however, the actual scope of protection and enforcement in individual countries has varied substantially. This variation was the subject of a comprehensive OECD study in 2014.[107] Relatedly, the European Commission considered the matter, resulting in the adoption in 2016 of the EU Trade Secrets Directive, aimed at harmonising and strengthening laws among the member states.[108] Additionally, the EU Directive on the protection of persons who report breaches of Union law protects persons who report such breaches.[109] Thus, where certain conditions are met, disclosures of trade secrets are to be considered allowed by Union law. Trade secrets comprised of data of natural persons can in principle also be subject to data protection and therefore fall within the scope of

107 See https://www.oecd-ilibrary.org/trade/uncovering-trade-secrets-an-empirical-assessment-of-economic-implications-of-protection-for-undisclosed-data_5jxzl5w3j3s6-en.

108 Directive (EU) 2016/943 of the European Parliament and of the Council of 8 June 2016 on the protection of undisclosed know-how and business information (trade secrets) against their unlawful acquisition, use and disclosure (https://ec.europa.eu/growth/industry/policy/intellectual-property/trade-secrets_en)

109 Directive (EU) 2019/1937 of the European Parliament and of the Council of 23 October 2019 on the protection of persons who report breaches of Union law (https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:32019L1937&from=EN).

Regulation (EU) 2016/679 on the protection of natural persons with regard to the processing of personal data and on the free movement of such data (GDPR).[110] Contemporaneously with the adoption of the EU Trade Secrets Directive, the US enacted the Defend Trade Secrets Act,[111] which for the first time provided a federal civil remedy for misappropriation.

Clearly, industry has been successful in recent efforts to promote the improvement and harmonisation of trade secret regimes. Besides the EU and US, there have been notable changes to the trade secret laws of mainland China, Chinese Taipei, Japan, and South Korea. However, the extent of practical remedies for trade secret misappropriation remains a subject of local laws and practice, and enforcement can be difficult. Moreover, preventing loss of secrecy, or contamination by unwanted information from outside the organisation, requires the careful attention of management, and more specifically the adoption by companies of security policies and training standards to match their exposure to risk.

Some countries still face a lack of specific protective legislation and a lack of awareness by administrative and judicial authorities. In those cases, trade secret holders need to rely on multiple rules and statutes to protect confidential information and trade secrets (e.g.: unfair competition and criminal provisions; breach of confidence claims; labour laws).

COMPARISON TO OTHER IP RIGHTS

Unlike registrable industrial property rights (patents, utility models, trademarks, and designs) trade secrets are typically protected without any procedural formalities. Time-stamping services allow users to create an evidentiary proof of the existence of data at a certain time,[112] but by themselves do not address the full range of challenges concerning trade secret management.

For protection as a trade secret, patent-type novelty, industrial applicability or usefulness, or inventive step are not required. Trade secrets do not need to fulfil any originality requirement such as that applicable to copyright. And trade secrets may even be made up of components in the public domain which, if combined in ways not "known to or readily ascertainable by" the relevant public, can provide a competitive advantage and render the information valuable and proprietary.

While publicity is mandatory or can be of great benefit for trademarks and patents or copyrights, public disclosure inevitably leads to the loss of trade secret protection. On the other hand, trade secrets can be protected for as long as their secrecy is preserved, *i.e.* an unlimited period of time, whereas registered rights (except for trademarks, which can be renewed periodically and indefinitely, but are subject to a genuine use requirement) and copyrighted works are protected for a limited period of time only.

Trade secret protection is often a preferred alternative for products and processes that are difficult to reverse engineer, or that are not patentable but provide enterprises with a competitive advantage, or when patent protection is slow to obtain or appears as too costly. The processes of identifying, managing, and preserving the secrecy of information that makes a trade secret can also be expensive and time consuming. Still, small and medium-sized enterprises tend to rely more on secrecy than on patenting.

110 Regulation (EU) 2016/679 of the European Parliament and of the Council of 27 April 2016 on the protection of natural persons with regard to the processing of personal data and on the free movement of such data, and repealing Directive 95/46/EC (https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:32016R0679&from=en).

111 See https://www.law.cornell.edu/uscode/text/18/1836.

112 For WIPO's offering see: https://www.wipo.int/wipoproof/en/.

Trade secret protection does not prevent independent discovery by another person of the same information and thus, unlike registered intellectual property rights or copyright, cannot confer exclusive ownership to the trade secret holder. While, for this reason, legal doctrines differ on whether trade secrets should be qualified as intellectual property rights, the practical relevance of this controversy is limited in that trade secret enforcement regimes (measures, procedures and remedies) are often identical or quite similar to those applicable to other IP rights.

MANAGEMENT OF TRADE SECRETS

Because trade secret rights are not bestowed by government fiat, they depend very much on the private efforts of the individual enterprise to maintain their integrity. This aspect of secrecy is reflected in the "reasonable steps" requirement of the TRIPS Agreement as well as in the practical reality that information, once entrusted to an individual or another entity, may migrate beyond the control of the organisation that created or discovered it. Given the essentially insecure nature of digital storage and communication systems, as well as the inherent fallibility of humans who use them, constant vigilance is required to ensure that these data assets remain under control. But because most organisations cannot afford to provide maximum protection to every bit of sensitive information, sensible management requires discernment and establishing priorities.

In effect, "reasonable steps under the circumstances" requires that a company make at least a high level assessment of the categories of valuable information under its control, and that it then conduct some sort of risk analysis, in which it identifies the existing threats to information security and assesses the cost-effectiveness of measures to mitigate those threats. In practice, courts expect that organisations will establish policies and procedures designed to communicate the importance of confidentiality, use contractual protections as appropriate, limit access to those with a need to know, take and update the necessary cybersecurity measures and continuously adapt their efforts to the changing nature of their assets and the threats that they face. Despite headlines about hacking, these threats come primarily from inside the organisation, largely as a result of misunderstanding or careless behaviour. Therefore, particular attention should be placed on the hiring, training, and departure of employees, and on the careful management of third-party relationships in which sensitive information must be shared.

ENFORCEMENT OF TRADE SECRETS

There is a reasonable level of consistency across the globe with regard to the definition of trade secrets (fuelled e.g. by Art. 39 TRIPS), exceptions from protection and defences against the allegation of misappropriation (e.g. reverse engineering; independent development; employee mobility; other conflicting constitutional rights), and the practical handling and management of trade secrets (reasonable measures for the preservation of secrecy). Even remedies (cessation, seizure, damages) are similar, irrespective of the varieties of legal and procedural systems. But enforcement as such, *i.e.* legal action against any unlawful acquisition, use or disclosure of trade secrets, is fundamentally determined by individual judicial and procedural peculiarities that vary from country to country. Commonly, enforcement requires that the trade secret holder initiate legal proceedings against the (alleged) infringer, establish the existence of, and its rights in, the trade secret, the misappropriation of the trade secret, and demand certain remedies.

In cases where evidence is typically in the hands of the defendant, access to and assembling evidence are the most difficult steps in the process of enforcement. Again, this is a matter where the rules differ from country to country, and these rules require the claimant's careful examination. Where available in the first place — and they are not available everywhere — these rules intend to strike a balance between the interest of the claimant to gain access to evidence and the legitimate interests of the alleged infringer to maintain the secrecy of its own valuable information.

Procedural rules also differ with respect to the role of experts and, more generally, the admissibility and use of expert evidence.

While some procedural regimes offer effective measures to preserve the secrecy of trade secrets in the course of legal proceedings (e.g. partial *in camera* or similar proceedings), others provide weaker or ineffective standards putting the trade secret at risk at the very moment its holder tries to enforce it. This and other possible complications should be a call for effective prevention. Agreements on the protection of trade secrets among business partners are just one of a variety of measures. The content of such agreements can (and should) be wider than just "non-disclosure", and include instruments that facilitate enforcement.

FUTURE PERSPECTIVES

Beyond the sensible improvements of the legal instruments affording trade secret protection in many countries in the world, businesses must continue to be educated about the importance of their assets and the reasonable steps they are required to take to have their trade secrets protected.

ICC CONTRIBUTIONS

In 2019, ICC issued a study discussing the normative effects and limitations of the EU Trade Secrets Directive and the US Defend Trade Secrets Act, and offering general guidance to businesses on identifying and managing information businesses wish to protect as trade secrets, access to evidence for misappropriation, and the enforcement of trade secret rights.[113]

IX. EMERGING FORMS OF INTELLECTUAL PROPERTY

1. Information products and data

BACKGROUND

The information society thrives on consumption, creation, circulation and transformation of data conveying actual or prospective information. Data have become an increasingly valuable economic resource challenging the capacity of the IP system to handle data-driven innovation. Indeed, the TRIPS Agreement only saw the protection of data in art 39-1 from an unfair competition perspective limited to some personal data, and test data in the pharma and agricultural sectors.

One of the first important initiatives of policymakers was the creation of a specific framework of protection for databases in the EU.[114] More recently, the availability of high-performance computing to store and analyse large amounts of data, as well as the possibility to remotely connect devices and machines equipped with sensors from almost every place (Internet of Things, IoT), has also raised questions relating to IP protection in a world of Big Data and Industry 4.0. Yet another aspect are new emerging technologies such as artificial intelligence (AI) which usually rely on big sets of training data but may also produce data of new quality providing valuable innovative insights. Whereas AI technology itself can be the subject of IP-protection by copyright (software), patents or trade secrets (see

113 See https://iccwbo.org/publication/trade-secrets-report/.
114 EU Directive 96/9/EC of 11 March 1996.

the respective chapters), policy questions arise on the protection and access to the input and output data in those AI technologies.

Indeed, the economic importance of databases became obvious in the mid-1990s when their status as key companions of software products changed to that of strategic economic assets in their own right. The preceding treaties such as the Berne or Paris Conventions had provided a special protection for compilations[115] beyond the general protection under copyright and against unfair competition.[116] However, in the 1990s, concerns arose — particularly in Europe — as to how to address the protection of the investments of makers/producers of databases developed by businesses whose contents were licensed, transferred, and used for R&D and business purposes.

A subsequent important trend was the focus on the economic potential offered by the use of personal data. Privacy law has been the main shield against misuse of personal data for a long time. However, personal data has also become highly valuable information that often constitutes a substantial material for the development of products and services. The EU has adopted the General Data Protection Regulation (GDPR), effective in May 2018, which is a comprehensive EU framework for handling of personal data and transferring it abroad. Legislation on personal data is a worldwide concern and many countries have legislated on this matter, including China with a Cybersecurity Law[117]. Presently, there are important discussions surrounding the role of privacy law, data protection, and questions about the possibility of ownership rights on personal data. These discussions are further complicated by the fact that it can be difficult to have a clear distinction between personal data (where data privacy rules apply) and non-personal, e.g. industrial data (where data privacy rules *prima facie* do not apply).

CURRENT LANDSCAPE

Today, databases cover a wide range of products such as directories, libraries, websites, web platforms, various listings of any kind, image banks, medical files, etc. Most countries rely on unfair competition, breach of contract, unlawful business interference, misappropriation and various grounds of tort law to protect database makers. A few jurisdictions, notably the EU provide for protection of unoriginal databases, through its 1996 Database Directive. In most countries, various forms of compilation, including databases, may also be copyrightable under the concept of "collection" used in the Berne convention.[118]

Article 10 of TRIPS obliges member countries to protect "compilations of data or other material, whether in machine readable or other form, which by reason of the selection or arrangement of their contents constitute intellectual creations" while the EU Directive's Article 1 defines a database as "a collection of independent works, data or other materials arranged in a systematic or methodical way and individually accessible by electronic or other means".

With respect to copyright protection, the Directive provides that any rights — such as copyright — subsisting in individual elements incorporated into the database should remain unaffected. It also provides that the author of the database should enjoy copyright protection over the database itself provided that, by reason of the selection or arrangements, it is sufficiently original to be qualified as the "author's own intellectual creation".

As such, the *sui generis* right is granted if the database maker can demonstrate a qualitatively and/or quantitatively substantial investment either in the obtaining, verification or presentation of the contents of the database. Investments in the creation of the underlying data do not count in order to achieve database right protection.[119] While obtaining or

115 Art. 10(2) TRIPS.
116 See Art. 10*bis* Paris Convention.
117 Pernot-Leplay, Emmanuel. "China's Approach on Data Privacy Law: A Third Way Between the US and the EU?." *Penn State Journal of Law & International Affairs* 8.1 (2020).
118 Article 2, Berne Convention for the Protection of Literary and Artistic Works (as amended on September 28, 1979).
119 See CJEU decision Football Dataco Ltd and Others v Yahoo! UK Ltd and Others, Case C-604/10.

collecting existing data may qualify as an investment under the Database Directive, it may be difficult to fulfil the strictly applied criteria of "substantial investment", especially if the collection is automated using standard hardware or software, or Internet tools.

The *sui generis* right has a term of 15 years either from creation date of from when the database was first made publicly available. It empowers the database-maker to prevent the extraction and/or re-use of the whole or qualitative and quantitative parts of the database content, with exceptions or limitations for private use and non-commercial scientific research. The CJEU has provided some guidance on the fundamental concepts of extraction and reutilisation[120] as well as on issues of the location of infringement and international jurisdiction.[121] In the landmark 2015 case Ryanair vs. PR Aviation[122] concerning the unauthorised extraction of flight data from a website (screenscraping), the CJEU held that, even if a database is neither protected by copyright nor by a *sui generis* right under the Directive, its owner is not prevented from laying down contractual limitations on its use by third parties, without prejudice to the applicable national law.[123]

Developments in Big Data Big have challenged the specific database "ownership" approach. For instance, data sets may exist without creating a database structure to use the data and/or without requiring a substantial investment in the organisation of the data.

In 2019, Japan brought into force new legal protection for big data by including specific provisions into the Unfair Competition Prevention Act. The new provisions can likely be regarded as the first legal protection of big data in the world.[124] The new law closes the protection gap between completely secret information that may be protected as trade secret on the one hand and published information that may be protected by copyright law. The new category of "Protected Data" means technical or business information accumulated and managed by electronic or magnetic means (e.g. restricted access by password protection) and accumulated considerably by electronic or magnetic means as information distributed to a limited circle for business reasons, but still not kept totally under secrecy. Such protection is expected to be useful to encourage businesses to share data with others in a safe environment, e.g. data collected from ship movements, combined with weather data are provided under password/account protection to a number of users who maintain the ships and to service providers in harbours. Controllers or providers of "protected data" can take legal actions to obtain injunctions and damages against any person who illegally acquired the "protected data", used them (e.g. by analysing or for R&D activities), or who just disclosed the data further in an unauthorised way; even persons having received such "protected data" from an infringer would need to show good-faith behaviour in order to avoid being held liable for unfair competition.[125]

Whilst the EU database framework has not been adopted worldwide, most countries protect databases and valuable data through contract and tort laws such as unfair competition.

The availability of high-performance computing to store and analyse large amounts of data, as well as the possibility to remotely connect devices and machines equipped with sensors from almost every place (Internet of Things, IoT) has raised questions relating to IP protection in the era of Industry 4.0. Simultaneously, other current issues involve the strategic localisation of valuable data, the security of data in the wake of *wannacry*-types of data hacking, and the

120 Cases C-545/07 and C-202/12.
121 Case C-173/11.
122 Case C-30/14.
123 A review of the EU database right and considerations for potential change can be found at M. Leistner, "Big Data and the EU Database Directive 96/9/EC: Current Law and Potential for Reform"; Electronic copy: https://ssrn.com/abstract=3245937.
124 For an overview see https://www.meti.go.jp/english/policy/economy/chizai/chiteki/pdf/english_2018rev.pdf, last visited 12.08.2020 .
125 See Guidelines published by METI: https://www.meti.go.jp/english/policy/economy/chizai/chiteki/pdf/guidelines_on_protected_data.pdf.

digitization of public services. As such, it is generally recommended that discussions around data ownership go hand in hand with debates around sharing and collaboration to support innovation.

A revolutionary new tool is artificial intelligence (AI), which usually relies on big sets of training data but may also produce data of new quality providing valuable and innovative insights. AI technology protection is an ongoing debate by itself, in copyright, patents and trade secrets law (see the respective chapters). Policy questions also arise on the protection and access to the input and output data in those AI technologies.

FUTURE PERSPECTIVES

The scope of legal protection for data and databases — whether under the *sui generis* right in the EU or on other grounds — remains a subject of discussion, especially because new uses and new tools to collect and exploit data are constantly developing and fuelling the digital economy. As with many accelerating technologies, new challenges have also surfaced. These include possible disputes on who should control, or have access to, certain data. The dispute between Lufthansa Technik against Airbus and Boeing regarding access to the data collected by airplanes during their normal operation is an illustrative example.[126] Debates will continue to take place on how to balance the needs of data from competing or downstream markets with the legitimate interests of the companies who own that data.

The continued expansion of the data being collected and processed worldwide, accelerated by the Internet of Things, Artificial Intelligence and new data-driven products and services, will likely bring about new forms of data and databases, interacting in a connected value chain. More recently, the development of quantum computers with phenomenal computing capabilities and the swift progress of AI are announcing new generations of information products and services.

IoT and Industry 4.0 can be described as the connectivity and infrastructure that enables all types of devices and machines to interoperate and communicate with one another.[127] Due to its potential for multiple applications, productivity gains, and time and resource savings in manufacturing products or providing services, IoT has been attracting growing interest and the increased involvement of businesses. Relying on a layered technological ecosystem, IoT can collect large amounts of information on everything from energy use and crop harvesting to medical data, such as blood pressure. In addition to privacy and cybersecurity challenges, this field raises IP issues which are similar, to some extent, to those encountered by the standard essential patents in the telecoms and electronics industries. The emergence of IoT and its specificities will also bring increased attention to the issues of ownership and access to the data (personal or not) which is generated by the network of connected devices, as well as issues of scalability and security within the companies employing this technology.

All these debates around data-related issues share a common characteristic and challenge, which is that potentially valuable data and content can be created by automated intermediary processes and not directly by humans, as can also happen with artificial intelligence. This may lead to reflection on how IP laws can integrate this new reality, and whether current IP regimes have to be adapted or new forms of IP protection envisaged in order to accommodate such developments. At the WIPO level, their Conversations on IP and Artificial Intelligence in 2019 and 2020 included in one of the debated issues the access to and "ownership" of data.[128] Interest in further incentives for new

126. V. Bryan: "Lufthansa seeks political backing in aviation data debate", Flight Global, 5. Jun 2019.
127 See the *ICC Primer on the Internet of Everything*, an ICC Commission on the Digital Economy policy report, which reviews the impact of the Internet of Everything and its policy implications for businesses and public authorities; iccwbo.org/publication/icc-policy-primer-on-the-internet-of-everything/.
128 Issue Nr. 11, see https://www.wipo.int/about-ip/en/artificial_intelligence/conversation_ip_ai/search.jsp?type_id=&territory_id=&issue_id=2454, accessed 14.08.2020 .

technologies heavily relying on large sets of data needs to be balanced with interests in having (open) access to certain data, a high level of data sharing, and adequate levels of transparency in the management of such data. The EU Commission concluded in 2018 after an intensive consultation with many stakeholders that more evidence is necessary before any firm conclusion could be drawn in favour or against new IP rights for data by stating that "In general, stakeholders also do not favour a new 'data ownership' type of right, with a range of inputs indicating that the crucial question in business-to-business sharing is not so much about ownership, but about how access is organised".[129.]

ICC CONTRIBUTIONS

The ICC Commission on the Digital Economy has issued a comprehensive policy primer on the Internet of Everything, which reviews the impact of this fast-spreading interactive combination of networks, objects and data pipelines, and its many opportunities for businesses and consumers altogether. The report identifies the key businesses practices and policy recommendations for public authorities to consider.[130] Additionally, ICC has developed the report "Trade in the digital economy — a primer on global data flows" wherein policy makers are supposed to be assisted in addressing the negative implications for growth from blanket restrictions to data flows.[131]

2. Indigenous / community / traditional rights

BACKGROUND

Indigenous peoples might possess unique knowledge and distinct forms of expression which have been acquired or developed in a given community, based on experience and adapted to local culture and environment. Despite the development of national measures and *sui generis* systems of protection in quite a few countries (e.g. in South Africa) continued discontent has led to proposals for the creation of one or more international instruments. These instruments are directed to the protection of Traditional Knowledge (TK) — e.g. relating to agriculture and medicinal plants — and traditional cultural expressions (TCEs) — e.g. handicrafts, dances, songs and stories -- from misappropriation. The potential users, who feel that they may be unclear, unduly burdensome, overly broad, and difficult to implement, regard these proposals with caution.

CURRENT LANDSCAPE

With regard to genetic resources (GRs), they are covered by the Convention on Biological Diversity (CBD), which entered into force in 1993, and are subject of the Nagoya Protocol. The Protocol entered into force in 2014 and specifically regulates the third objective of the CBD regarding the equitable sharing of the benefits arising out of the utilisation of GRs.[132] The Nagoya Protocol also addresses access to and benefit sharing from utilisation of TK associated with GRs (for more details, see section D.II.1. Biological diversity).

Negotiations on an international instrument for the protection of TK as such and of TCEs have been ongoing in the WIPO Intergovernmental Committee on Intellectual Property and Genetic Resources, Traditional Knowledge and Folklore (IGC) since 2000. Progress is slow, and much disagreement remains. Negotiations were discontinued in

129 See Communication from the EC "Towards a common European data space", COM(2018) 232 final, p. 9.
130 See https://iccwbo.org/content/uploads/sites/3/2016/10/ICC-Policy-Primer-on-the-Internet-of-Everything.pdf.
131 See https://iccwbo.org/content/uploads/sites/3/2016/09/Trade-in-the-digital-economy-A-primer-on-global-data-flows-for-policymakers.pdf.
132 It is to be noted that besides the CBD and the Nagoya Protocol, there are other, more sector-specific ABS instruments (such as the WHO PIP framework or the FAO International Treaty). The Nagoya Protocol recognises such other international ABS instruments which are in line with its principles. The detailed criteria for such recognition, however, are still under discussion by the Conference of Parties of the Protocol.

2015, during which WIPO organised two seminars on issues under negotiation, but resumed in 2016 in a similar format as before.

Remaining complicated and controversial issues include: the objectives and legal status of the instruments; the definitions of TK and of its misappropriation and misuse; the subject matter and scope of protection; the beneficiaries of protection; complementary measures in the form of databases and codes of conduct, sanctions and remedies, exceptions and limitations (e.g. for TK which has been independently created or is in the public domain); the term of protection; and whether protection would require any formalities. As in the context of the negotiations of the IGC related to GRs, one issue relates to a proposal to require patent applicants to disclose the country of origin or source of all TK included in their patent applications. Similar, if not the same issues are also controversial in the context of TCEs.

FUTURE PERSPECTIVES

As mentioned above, access to TK associated with GRs is addressed in the Nagoya Protocol, which is already implemented in many contracting party countries. Discussions at WIPO will continue during the 2019-21 biennium, with sessions dedicated to TK as well as to TCEs. A decision on whether a diplomatic conference should be set up for the adoption of one or more international instruments for the protection of TK and TCEs, or on whether negotiations should continue or be abandoned is to be made by the WIPO General Assembly in 2021.

ICC CONTRIBUTIONS

ICC has worked actively on access and benefit sharing (ABS), representing business at all relevant meetings of the CBD and the Nagoya Protocol, including in relation to TK associated with GRs, and will continue to contribute business experience and expertise to these processes. ICC has also been represented at the IGC during the negotiations and discussions on GRs, TK and TCEs, putting forward the views of business that were also conveyed in a document on protecting TK.[133]

ICC continues to resist proposals for mandatory disclosure of origin or source of GRs, TK and TCEs in patent specifications, deeming them unnecessary, burdensome for applicants and patent offices, and not achieving the objectives of the CBD and the Nagoya Protocol. ICC also argues for maintaining freedom for all to use TK, as well as all other information and materials in the public domain as a source of future innovation.[134]

133 See *Protecting Traditional Knowledge — Submission to WIPO* (2016), iccwbo.org/publication/icc-paper-on-protecting-traditional-knowledge/.
134 See https://iccwbo.org/publication/patent-disclosure-requirements-relating-to-genetic-resources-will-they-work/.

Enforcement of intellectual property rights

C. Enforcement of intellectual property rights

I. LITIGATING INTELLECTUAL PROPERTY RIGHTS

BACKGROUND

As a general rule, intellectual property rights are granted, and their scope, enforcement, and validity are determined by national or supranational authorities within a particular territory. However, even under such parameters, differences in the way in which laws are applied may exist between courts within a particular jurisdiction or within supranational schemes such as the EU trade marks and Community designs systems and the European Patent Convention.

These inconsistencies — including differences in the rules applied to gathering of evidence and claim construction; differences in the cost, length, predictability and outcome of litigation; differences in the rules applied to the recovery of damages; the availability of interlocutory relief; and the sanctity or discoverability of communications between clients and their legal advisors — have contributed to some forum shopping by litigants seeking the jurisdiction in which their interests would be most favourably protected. To some extent, this leads to uncertainty.

CURRENT LANDSCAPE

Important worldwide efforts have been and are being made in order to continue underpinning harmonisation efforts such as TRIPS, which became effective in 1995, and provides for minimum standards related not only to the protection of IP rights, but also to their effective enforcement by means of customs measures, civil, administrative and criminal actions and provisional measures. Based on the EU Enforcement Directive,[135] EU member states adapted their national laws to provide for similar measures throughout the EU for IP owners enforcing their rights. The Court of Justice of the EU ensures that concepts enshrined in the EU Enforcement Directive are given a uniform interpretation throughout EU member states.

In the United States, the America Invents Act (AIA), which became effective in 2012, provides for greater patent harmonisation via greater alignment of US patent laws and procedures to other international IP systems. Notably, the AIA moved the United States to a "first-inventor-to-file" system, expanded the definition of prior art to include foreign public use, and introduced expanded post-grant opposition proceedings.

Of course, businesses not only seek to enforce IP rights but also to defend their activities against IP claims of all types, including patent, copyright and trademark claims. Since IP protection is afforded on a territory-by-territory basis, businesses active globally may be the target of enforcement activities across jurisdictions, each applying differing standards for enforcement of IP and damage remediation, with the result that activities which are defensible in one jurisdiction may not be so in another.

In recent years, patent disputes have generally arisen in the pharmaceutical, medical device, and information and communications technology (ICT) sectors. Popular jurisdictions for these disputes include China, Germany, the United Kingdom, and the United States. However, with the increasing use of other industry technologies to create new markets, such as the use of artificial intelligence (AI), data, and cellular technologies in the health, automotive, and other non-ICT sectors, new legal issues are arising around access to and costs for the use of these technologies.

135 Directive 2004/48/EC of 29 April 2004 on the enforcement of intellectual property rights.

These issues can be exacerbated due to the different business models in different industries. While the disputes may be founded on intellectual property rights, they often derive from a related commercial dispute; therefore, anti-trust, trade secret violations, regulatory, or pre-existing contractual commitment concerns may influence their outcome.

Notwithstanding the continued harmonisation efforts to enhance uniformity and predictability in IP protection and enforcement, businesses are aware of the need to adapt their activities according to differing national laws. Different trademark rules — e.g. use requirements — in various countries may affect the ability to acquire or enforce rights for a brand. In copyright law, differences in rules and the way they are applied — e.g. with respect to exceptions and safe harbours, moral rights and publicity rights — may pose legal and operational challenges for businesses operating in different jurisdictions. In patent law, such differences can also be observed, for example with regards to the rules governing research exemptions, prior user rights, or pressure to license the rights if there is a public need, such as in a healthcare crisis.

Arbitration and mediation also play an important role in settling IP disputes, especially in contractual matters involving multinational companies. The lack of harmonisation in different jurisdictions and the fact that such disputes frequently demand technical knowledge incentivise the use of alternate dispute resolution. Many parties may seek these alternative forums due to the expense of traditional litigation. Domain name disputes deserve a special reference in this regard, as the World Intellectual Property Organization (WIPO) has settled nearly 48,000 such disputes by applying its UDRP (Uniform Domain Name Dispute Resolution Policy) since the Policy was implemented in December 1999.[136]

FUTURE PERSPECTIVES

It is foreseeable that businesses and national decision-makers will continue supporting harmonisation efforts both in the international and the regional arena. Businesses and decision-makers should also pay special attention and direct their efforts to strengthening the harmonisation of standards that will allow the application of effective solutions to problems such as counterfeiting and piracy. Such efforts should also take into consideration the particular challenges arising from intellectual property infringement derived from the use of the Internet and the presence of counterfeit products via online platforms. In the U.S., several legislative initiatives have been introduced that address the growing threat of trademark infringement through counterfeiting — many such initiatives concentrating on the online space. This is an area where just a decade ago, there was reluctance to institute oversight. But given the prevalence of counterfeits, this has become a focus and would benefit from harmonisation, particularly given the borderless nature of the internet.

A significant harmonisation project is the Unified Patent Court in Europe, which aims to provide to participating member states a common patent court, which would have jurisdiction over classical European Patents, as well as a new Unitary Patent. An Agreement was signed by EU member States in December 2013. The United Kingdom, which left the EU on 31 January 2020, indicated in March 2020 that it would not continue to participate in the system, as the Unified Patent Court provides for the supremacy of EU law and the jurisdiction of the Court of Justice of the EU. Another hurdle came in March 2020, when the German Constitutional Court ruled that the German ratification act of the Agreement was void. It is currently unclear whether the Agreement is to be renegotiated (for instance to possibly extend beyond EU member states). If so, that would likely delay the process for many years. (See section B.I. on the patent system in Europe).

136 See www.wipo.int/amc/en/domains/.

Further efforts to more closely align court procedures and IP laws should be made, including efforts to ensure the existence and effectiveness of interim remedies to provide emergency IP protection. For patent cases in particular, courts should ensure that specialist sections and judges exist for dealing with these disputes, as these cases often deal with complex technical subject-matter.

ICC CONTRIBUTIONS

ICC continues to provide business expertise on the issues arising from these harmonisation efforts, always seeking to promote competitiveness and social and economic welfare. In May 2016, ICC issued a report on specialised IP jurisdictions (SIPJs) worldwide, *Adjudicating Intellectual Property Disputes*,[137] based on a survey conducted among ICC experts from 24 countries. The report reviews various aspects of SIPJs, including their structure and competence, qualifications of judges, judicial procedures, rules of evidence and representation.

II. RESOLUTION OF INTELLECTUAL PROPERTY DISPUTES BY ARBITRATION OR MEDIATION

With the expansion of international trade in recent years, there has been a proliferation of disputes involving a variety of intellectual property (IP) rights. In the meantime, new models of contractual relationships have emerged, such as venture capital investments, which are primarily focused on creating and developing — rather than simply trading in — IP rights. At the same time, due to increased digitalisation (e.g., the proliferation of the Internet of Things), IP rights have gained relevance far beyond the industry sectors in which they have been traditionally relevant. Hence, there has been an increase in technology-related agreements such as licences, non-disclosure agreements ("NDAs") and research and development ("R&D") agreements. These agreements have given rise to disputes relating to IP rights such as patents, trade secrets and copyrights and this trend can be expected to continue. While intellectual property disputes are not necessarily fundamentally different from other types of commercial disputes, disputes arising out of IP — related agreements can be complicated, requiring flexible procedures and expert knowledge. Both arbitration and mediation offer advantages that make these mechanisms particularly appropriate for the resolution of intellectual property disputes.

1. Arbitration

BACKGROUND

Disputes concerning intellectual property typically involve the ownership, validity, enforcement, scope, infringement or misappropriation of an intellectual property right. Other important aspects may relate to damages, royalties, or competition matters.

There are many situations where arbitration may be appropriate, such as disputes involving intellectual property licences, agreements for the transfer of intellectual property (e.g. in the context of a business or company acquisition) or agreements pursuant to which intellectual property is developed (e.g. research or employment contracts and venture capital or co-funding agreements).

[137] See iccwbo.org/publication/adjudicating-intellectual-property-disputes-an-icc-report-on-specialised-ip-jurisdictions/ .

Arbitration has the following features: (i) it is a private mechanism for dispute resolution; (ii) it is an alternative to national courts; (iii) it is chosen by the parties; and (iv) it is the final and binding determination by an impartial tribunal of the parties' rights and obligations.

Parties choose to go to arbitration rather than to a national court for various reasons. First, based on the principle of party autonomy, arbitration provides the parties with the possibility of choosing a neutral forum as well as the rules of procedure and the language to be applied by the tribunal. Second, arbitration awards are directly enforceable under the New York Convention on the Recognition and Enforcement of Arbitral Awards (the New York Convention).[138] Third, arbitration allows the parties to obtain a global resolution of their dispute without the need to litigate similar disputes across different jurisdictions. Fourth, the autonomous nature of the arbitration process allows the parties and arbitrators the flexibility to freely determine the procedure best suited for the particular case, without being bound to detailed, rigid and time-consuming national court procedures. Fifth, the parties may select arbitrators with expert knowledge and from certain legal backgrounds. Sixth, because arbitration awards are final and binding, and there are generally no appeals,[139] arbitration proceedings may be faster than national court proceedings. Another advantage of arbitration is the possibility of keeping the arbitration and the award private and confidential, which is particularly pertinent for disputes involving confidential information and trade secrets.

Parties usually agree to arbitration before a dispute arises, by including an arbitration clause in their main substantive contract, e.g. the licence or the R&D agreement. Alternatively, parties can agree to submit to arbitration after a dispute arises. These days, post-dispute arbitration agreements in intellectual property cases are used more frequently, for example in cases involving the granting of FRAND licenses for Standard Essential Patents.[140]

Irrespective of whether a dispute has already arisen or not, there are three important specific factors which the parties to an IP-related contract need to carefully consider when drafting an arbitration clause or submitting to arbitration: (i) availability of injunctive interim or conservatory relief; (ii) confidentiality of the arbitration proceedings; and (iii) the possibility to opt in to expedited arbitration procedures.

CURRENT LANDSCAPE

A comprehensive framework for the resolution of cross-border commercial (including intellectual property) disputes is already in place. First and foremost, the New York Convention ensures that arbitration awards will be directly enforceable in 164 countries jurisdictions. Secondly, 72 countries have adopted the UNCITRAL Model Law in International Arbitration , and several countries have legislations that are either compatible with this law or go even further in their pro-arbitration approach, so that a majority of countries have arbitration-friendly legislation, supported by well-settled case law. Thirdly, a several arbitral institutions, including the global ICC International Court of Arbitration administer a large number of arbitration proceedings in IP disputes every year. The [2017/2021] ICC Rules of Arbitration provide for efficient and effective resolution of IP disputes. For example, they include provisions for multiparty proceedings, provide for emergency arbitrators that may grant urgent interim or conservatory relief as well as for expedited procedures. Finally, well-recognised international professional organisations, such as the International Bar Association ("IBA"), publish soft norms in the form of guidelines and best practices which provide useful guidance on a number of areas relating to arbitration proceedings, such as the taking of evidence,[141] conflicts of interests[142] or

138 See www.uncitral.org/uncitral/en/uncitral_texts/arbitration/NYConvention.html.
139 Unless the parties agree otherwise. Indeed, subject to mandatory provisions of the law applicable to the arbitration, the parties may agree on an appellate instance before an arbitral tribunal.
140 A FRAND license is a license offered on Fair, Reasonable And Non-Discriminatory conditions.
141 See *IBA Rules on the Taking of Evidence in International Commercial Arbitration*, www.ibanet.org/Publications/publications_IBA_guides_and_free_materials.aspx .
142 See *IBA Guidelines on Conflicts of Interest in International Arbitration*, www.ibanet.org/Publications/publications_IBA_guides_and_free_materials.aspx

the appropriate conduct of parties and party representatives[143]. This comprehensive legal framework has fostered a number of positive developments in out-of-court dispute resolution.

One important development, with significant implications for intellectual property transactions, has been the fact that a wide range of IP-related disputes is now considered "arbitrable", i.e. capable of being decided by arbitral tribunals.[144] This is particularly the case with IP disputes relating to copyrights and know-how, as well as disputes relating to infringement of patents and payment of royalties. Overall, there is a clear tendency towards an increased use of arbitration in patent disputes, even beyond classic fields in which arbitration is already regularly used, such as licensing disputes.

There are some intellectual property disputes which cannot be submitted to arbitration. In particular disputes concerning the granting or revocation of IP rights such as patents or registered designs, and registered trademarks. Such rights can only be revoked by a national court or other state authority — arbitrators have no power to order revocation. Similarly, some competition law remedies — e.g. fines — can only be granted by competition authorities or a relevant national court. Despite these limitations, it is generally possible for questions of validity or competition law to be dealt with in an arbitration, the result generally being binding only between the parties and does not have *erga omnes* effect.

FUTURE PERSPECTIVES

Considering the increase in international trade and the growing importance of IP rights, there is reason to expect that the number of cross-border IP disputes will increase. Arbitration can offer an attractive alternative to proceedings before national courts. To profit from the advantages offered by arbitration, businesses may wish to take the following points into account when considering arbitration of intellectual property disputes:

- To incorporate *ex ante* an arbitration clause, e.g. the ICC Arbitration clause, in their main substantive contract, — e.g. the licence or the R&D agreement — or consider arbitration post-dispute. In this regard, it is important to note that the ICC proposes model clauses.[145]
- To ensure that injunctive interim or conservatory relief is available also before arbitration commences. To that effect, parties should consider choosing arbitration rules that, like the [2017/2021] ICC Rules of Arbitration provide for interim measures to be granted by the arbitral tribunal as well as for emergency relief before the constitution of the tribunal[146]. Although emergency relief granted by an emergency arbitrator may not always be enforceable under the applicable national law, non-compliance with emergency orders issued by emergency arbitrators is rare.[147] In some cases, the support of national courts might also be useful, both before and during the arbitration proceedings. Pursuant to the ICC Rules of Arbitration, parties may seek interim measures from national courts despite ongoing arbitration proceedings.
- To consider agreeing on a confidentiality clause to the arbitration proceedings and the final award. Although secrecy provisions in the underlying substantive contract may also apply to the arbitration procedure, parties may wish to include an express provision of confidentiality covering the arbitration proceedings, arbitration-

143 See IBA Guidelines on Party Representation in International Arbitration, https://www.ibanet.org/Publications/publications_IBA_guides_and_free_materials.aspx.

144 It remains important for parties to verify prior to engaging in arbitration proceedings which law(s) potentially apply to the issues in dispute and whether under those laws, the issue is considered arbitrable.

145 ICC Model Arbitration Clauses are to be found at https://iccwbo.org/dispute-resolution-services/arbitration/arbitration-clause/

146 See e.g. Article 29 of the ICC Arbitration Rules, providing for emergency arbitrator proceedings: iccwbo.org/dispute-resolution-services/arbitration/rules-of-arbitration.

147 See the ICC Commission Report on Emergency Arbitration Procedures to be found at https://iccwbo.org/publication/emergency-arbitrator-proceedings-icc-arbitration-and-adr-commission-report/

related documents and arbitral award. Alternatively, parties can either agree on confidentiality in the terms of reference or request the tribunal to grant a confidentiality order. The ICC Rules of Arbitration contain a provision explicitly allowing for such orders".[148]

- Where time and costs are of the essence, parties may consider opting in for the expedited arbitration procedure as well as specific management techniques both available under the ICC Arbitration Rules and its Appendices.[149]
- Parties should be careful to expressly select the seat of arbitration in a country which has a legal framework that is supportive of the arbitration and is party to the New York Convention.
- Where parties consider expertise in intellectual property issues to be essential, they should consider specifying in their arbitration clause that the arbitrators should have suitable qualifications and/or experience; and, if within the dispute resolution process the appointment of a neutral expert is needed, they may consider making use of services under e.g. the ICC Expert Rules.
- Complex IP disputes usually require extensive evidentiary processes. In such cases, parties and tribunals are advised to consider adopting the 2010 IBA Rules on the Taking of Evidence.[150]

Continuing support from international institutions with specialist knowledge, including ICC, will greatly facilitate arbitration of intellectual property disputes.

Governments may wish to take the following actions:

- Ratify the New York Convention on Recognition and Enforcement of Arbitral Awards (1958). 164 countries have already done so and efforts should be made to persuade the remaining states to ratify.
- Adopt a modern arbitration law, e.g., an arbitration law based on the UNCITRAL Model Law on International Commercial Arbitration.
- If necessary, adapt legislative measures to ensure the enforcement of orders rendered by an emergency arbitrator under national law.

Other relevant actors, such as standardization organizations which develop and administer technical standards, may wish to consider promoting arbitration as a dispute resolution mechanism among their participants.

2. Mediation

BACKGROUND

Mediation may be defined as a confidential process whereby a mediator — i.e. a neutral third party — assists the parties in finding an interest-based settlement to their dispute without imposing a solution. Mediation is normally a voluntary process. The mediator assists the parties in isolating points of agreement and disagreement, exploring alternative solutions and considering compromises in order to find a mutually satisfactory settlement of their dispute. Mediators cannot make binding adjudicatory decisions and they assist the parties in reaching a settlement that is, following the parties' agreement, contractually binding.

148 Article 22 (3).
149 Article 30 Expedited Procedure Provisions and Article X and Appendix XX encouraging parties to use the Management Techniques. Also see the ICC Commission Report 'Controlling Time and Costs' available at https://iccwbo.org/publication/icc-arbitration-commission-report-on-techniques-for-controlling-time-and-costs-in-arbitration/
150 See www.ibanet.org/Publications/publications_IBA_guides_and_free_materials.aspx .

The strength of mediation is that it allows the parties to negotiate the resolution of their dispute, rather than be the recipients of a third party's solution, while being assisted by a neutral third party in doing so. The parties may negotiate a solution based on their current and future needs and business interests such as financial considerations, future business relations, competition, reputation and market value. Other advantages are that mediation is confidential and that the mediator may assist the parties in achieving any type of commercial solution that they consider acceptable.

Any mediation is commenced consensually by the parties. A dispute resolution clause in the parties' contract providing for mediation is the easiest way to ensure that the parties will try to settle amicably their dispute, but an agreement to mediate is not a prerequisite to start mediating.[151] Parties may also decide to attempt a settlement by mediation when the dispute has already arisen, or even when they have already commenced other dispute resolution procedures such as arbitration or litigation. The high success rate of mediations indicates that the attempt to settle the dispute by mediation can be successful at any stage of the proceedings.

As the purpose of mediation is the negotiation of a settlement, situations where no negotiation and cooperation between the parties is possible — e.g. cases of deliberate counterfeiting or piracy — are normally inappropriate for mediation. A mediator may, however, enable commercial parties that seem very far apart at the outset of a dispute to reach a settlement.

Mediation of intellectual property disputes may be particularly appropriate in situations where it is important that the dispute remains confidential, and the business relationships between the parties are preserved or further developed e.g. through (cross-)licence agreements. Further, mediation is a cost efficient and speedy alternative to adversarial legal proceedings, such as litigation or arbitration. The parties to the mediation will — in most cases — directly execute the outcome of the mediation because they have agreed to it between themselves, without further need for recognition and *exequatur* procedures. This feature is of great advantage in international IP disputes where several countries may be involved.

CURRENT LANDSCAPE

Mediation's relevance and acceptance as an effective dispute resolution method has significantly grown in the last 20 years. Currently, courts in most countries encourage mediation and will uphold the parties' final settlement agreement ensuing from a successful mediation.[152] Further, a number of institutional rules on mediation, such as the ICC Mediation Rules[153], are available and well-suited to intellectual property disputes. ICC mediation is administered by the ICC International Centre for ADR and the advantages of such administered mediation proceedings are numerous. The ICC ADR Centre can facilitate the setting up of the proceeding by providing all parties with the relevant information and ensuring that procedural hurdles are overcome; assist parties to designate or appoint mediators; oversee financial aspects, including the fixing of the mediator's fees; supervise proper conduct of the proceedings under the ICC Mediation Rules; replace the mediator if necessary and answer the parties' questions; and provide assistance throughout the entire process.

Awareness of mediation has also spread rapidly among businesses. As a result, commercial parties have slowly but surely been increasing their trust in mediation for the resolution of their commercial disputes — both domestic and

151 ICC Suggested Model Mediation Clauses are to be found at https://iccwbo.org/dispute-resolution-services/mediation/mediation-clauses/.

152 In a similar vein, the Singapore Convention paves the way for settlements reached through mediation to be recognised internationally. See United Nations Convention on International Settlement Agreements - https://www.singaporeconvention.org/.

153 See iccwbo.org/dispute-resolution-services/mediation/mediation-rules/.

cross-border — including IP disputes. The use of ICC and other services offering administrated mediations in IP disputes is therefore expected to increase.

FUTURE PERSPECTIVES

Certain courts have set up mediation schemes under which judges refer parties in patent disputes to mediation before taking a decision. On a regional level, mediation services are also offered by the European Union Intellectual Property Office (EUIPO). Mediation becomes available once a decision taken at the EUIPO in the context of *inter partes* proceedings related to trademark or design matters is appealed. This is not an option, for the time being, in opposition or cancellation proceedings.

Evidence for the growing support for mediation can be found in a number of legislative initiatives in different countries and regions, the most important being the EU Mediation Directive,[154] an ambitious effort to facilitate access to mediation for the resolution of cross-border commercial disputes. In particular, there is an uptick in calls for the use of ADR mechanisms in FRAND disputes.[155]

Its primary goals are to enhance the enforceability of the agreements resulting from mediation, and further protect confidentiality of the mediation process; additionally, it encourages member states to ensure the quality of mediation through a code of conduct and training of mediators.

3. Other ADR Mechanisms

In addition to arbitration and mediation, other ADR mechanisms, or combinations of ADR mechanisms, might be considered by parties to resolve IP-related disputes. For example, businesses may wish to consider the use of Dispute Boards in long-terms contracts under which conflicts are likely to arise, such as R&D agreements or software development agreements. Likewise, it may be appropriate to use experts and expert determination for specific questions of a scientific or technical nature. [156]

III. COUNTERFEITING AND PIRACY

BACKGROUND

The one certain circumstance that we know about the trade of counterfeit and pirated goods is that it continues to increase at an alarming rate. The Organisation for Economic Co-operation and Development (OECD) and European Union Intellectual Property Office (EUIPO) jointly published a report in 2019 based on 2016 world seizure data of counterfeit and pirated goods that attempts to measure the scale of the problem. Based on their findings, the international trade in counterfeit and pirated products could amount to as much as 509 billion USD for 2016, which they estimate represents 3.3% of world trade. These numbers continue to increase, as a similar study done via their 2016 report based on 2013 seizures indicated that those numbers amounted to US$461 billion in 2013, representing

154 Directive 2008/52/EC of 21 May 2008 on certain aspects of mediation in civil and commercial matters.

155 The EU Commission has encouraged the use of arbitration and ADR in disputes regarding licenses for standard essential patents (SEPs) on a fair, reasonable and non-discriminatory (FRAND) basis, taking the view that alternative dispute resolution (ADR) mechanisms can offer swifter and less costly dispute resolution and observes that the potential benefits of this tool are currently underexploited. COM(2017) 712 final https://ec.europa.eu/docsroom/documents/26583/attachments/1/translations/en/renditions/native ; the Munich IP Dispute Resolution Forum has also published a set of guidelines on this issue: https://www.ipdr-forum.org/wp-content/uploads/2020/06/frand-guidelines_helvetica_rz6_klein_online.pdf

156 For the ICC Expert Rules see https://iccwbo.org/dispute-resolution-services/experts/.
For the ICC Dispute Board Rules see https://iccwbo.org/dispute-resolution-services/dispute-boards/.

2.5% of world trade. What is so significant about the growth in these numbers is that they occurred during a relative slowdown in overall world trade and these numbers are based only on global customs seizures, and do not include counterfeit goods that were not seized that "got through". Additionally, these amounts do not include domestically produced and consumed counterfeit goods, or pirated digital products distributed via the internet.[157]

Within the counterfeit industry is often the significantly overlooked problem of raw materials, ingredients and counterfeit components that make up a company's larger final product. These inferior or adulterated components and parts may contain the classic counterfeits bearing trademark violations, logos, markings and sometimes legitimate serial numbers lifted from products of respected manufacturer. But some of these products also bear no brand names shipped with documentation falsely certifying that the product is of a certain quality, has met required standard material testing, or possess important properties. The intended or non-intended purchase and use of low-grade, inferior raw materials and products cuts costs tremendously, boosts profits and allows the counterfeit manufacturer to undercut the authentic competition. These products can enter the supply chains of legitimate businesses and brands, especially during times of high demand and shortages. They can come not only directly from the manufacturer, but also through trusted suppliers and distributors.

Counterfeit components and parts create global problems that affect a wide range of industries. For example, in the pharmaceutical industry, buying or using counterfeit medicine has the potential for creating safety and health risks. Within the pharmaceutical supply chain, from the initial raw materials to manufacturing to distribution, plenty of opportunities exist for providing fake or mislabelled materials and ingredients, leading to possibilities of creating a counterfeit product. Regarding the auto parts industry, the amount of counterfeit vehicle parts available on the market is on the rise, as reported by the European Union Intellectual Property Office (EUIPO) which estimated that more than €2 billion is lost every year due to counterfeit tires and batteries alone. The most common counterfeit vehicle parts worldwide include filters, brake pads, lights, wheel rims and air bags. Dr Ros Lynch, Director of Copyright and Enforcement at the UK Intellectual Property Office said, 'It's clear counterfeit vehicle parts can pose a serious risk to drivers, passengers and other road users, with potentially life-threatening results. Criminals who produce counterfeit vehicle parts have no concerns about public safety and they use this as an opportunity to profit at the expense of others.[158]

CURRENT LANDSCAPE

The 2020 COVID-19 pandemic has overwhelmed global business and to date the most substantial negative supply chain security effect in history. The lack of genuine products and supplier disruption has been devastating to legitimate businesses, with declining supply chains, and reduced production to adjust to decreasing supplies. The COVID-19 pandemic has provided many opportunities for criminal elements who seek to take advantage of the rise in demand and subsequent shortages of many parts and products. Reduced genuine materials allow illicit actors to offer counterfeit raw materials which will contaminate their supply chains. These threats lie with certain counterfeiters who will exploit weaknesses in legitimate supply chains by offering lower than normal prices for source and raw materials. Such threats are everywhere tainting legitimate supply chains, and can be continuous within all sectors.

Additionally, G20 countries have taken the advice of the WTO ensuring open trade for the need to expedite movement of pandemic related supplies and other essential goods across borders, keeping global supply chains fast moving with open trade lines and the removal of unnecessary trade barriers in key supply chains.[159] This includes the reverse and

157 OECD-EUIPO (2019), Illicit Trade: Trends in Trade in Counterfeit and Pirated Goods, OECD Publishing Paris, https://www.oecd.org/governance/risk/trends-in-trade-in-counterfeit-and-pirated-goods-g2g9f533-en.htm.
158 See https://www.gov.uk/government/news/fake-vehicle-parts-are-on-the-rise.
159 See https://www.wto.org/english/tratop_e/covid19_e/medical_products_report_e.pdf.

ban all tariffs, quotas and other non-tariff measures that affect the deployment of medical equipment, medicines and other essential goods and services —including foodstuffs. Given the cross-border nature of supply chains, these recommendations and safeguard measures have increased opportunity for the infiltration of the supply chain by sub-standard or counterfeit goods. Open trade has allowed criminals to take advantage of the relaxed oversight, as has the rise in demand of many products by exploiting weaknesses in legitimate supply chains while seeking to copy trademarks and offer substandard, adulterated and counterfeit branded goods.

Transport operators continue to be intermediaries that provide critical services subject to abuse as part of counterfeiting supply chains. Goods transported by large sea container, overland transport and small parcel shipments delivered via couriers or postal services continue to present challenging vulnerabilities. The sheer volume of container cargo and the actions by counterfeiters to mask the true nature of the shipments with false paperwork make goods transports hard to monitor. Sea and land transports continue to be the favoured means for transporting large volumes of counterfeits, although import and export shipments have decreased during the pandemic while online purchasing and small parcel shipments delivered directly to consumers increased dramatically even before the pandemic. E-commerce, including transactions involving small parcels purchased online from retail websites or third-party marketplaces, and shipped via express or international postal services, has been intensely misused by traffickers in illicit trade. One of the key challenges resides in the fact that high volumes of small parcels and postal packages imported are too numerous to inspect comprehensively for illegal or illicit goods. The OECD estimates that 63% of seized fakes were shipped by postal and express services, which constitutes a growing challenge for law enforcement agencies.[160] The OECD also found that the transportation modes by modes of seizures were 51% by sea, 23% postal and express service, 19% air and 8% road.

According to a 2018 report, 65% of all detained articles entered the EU via the maritime route, usually in large consignments while air traffic accounted for 14% of fake articles.[161] Lastly, courier and postal traffic together accounted for 11% and mainly carried consumer goods ordered online (e.g. shoes, clothing, bags, watches).

The COVID-19 pandemic has resulted in a surge of e-commerce activity, some of it driven by necessity. Some product sectors have seen substantial increases in e-commerce demand while others have experienced a drop in e-commerce sales due to growing economic uncertainty. Regardless of whether a brand owner experiences a sudden increase or decrease of product demand, challenges often arise to meet the new demand levels. These variations in e-commerce flow can cause ripple effects throughout the supply chain. For example, increased demand of raw materials that cannot be met can cause longer-term disruptions to brand owners due to the loss of potential customers. Additionally, added strain to a finite distribution network can also substantially impact a business' ability to deliver products to the increased number of customers.

FUTURE PERSPECTIVES

There have been several recent governmental documents including the 2019 U.S Senate Committee's Staff Report "The Fight Against Fakes" criticising specific law enforcement agencies with failing to share counterfeit violator information with the private sector such as product seizure information at ports of entry.[162] Better data sharing collaboration between the private sector and law enforcement is presently needed in most parts of the world, specifically during times of crisis. The concept of building Public Private Partnerships for investigating product counterfeiting should include public law enforcement and private business entities that are victims of product

160 *Mapping the Real Routes of Trade in Fake Goods:* https://read.oecd-ilibrary.org/governance/mapping-the-real-routes-of-trade-in-fake-goods_9789264278349-en#page1.
161 See https://ec.europa.eu/commission/presscorner/detail/en/IP_18_5912.
162 See https://www.finance.senate.gov/imo/media/doc/The%20Fight%20Against%20Fakes%20%20(2019-11-07).pdf.

counterfeiting. A strong commitment to cooperate is absolutely essential when building such a partnership. This is most critical when the brand or product owners have more than one remedy for identifying and correcting violations and can dissolve the partnership and pursue civil remedies.

The increase of e-commerce activity has been met with increased rights owners use of technology to combat online infringement. This is a trend that will continue as the e-commerce brand protection vendor industry is rapidly expanding to service brands of all sizes. The utilisation of sophisticated brand protection technologies in e-commerce can result in the acquisition of substantial IP risk data, while also allowing their civil enforcement of infringements at scale in the marketplace. Increasingly, rights owners are also more capable of accurately assessing their infringement risk in the e-commerce environment and are often more able to leverage the data to take effective legal action in the marketplace. The acquired data can also enhance off-line enforcement actions, including criminal and border enforcement where required. Rights owners will be challenged in the coming years to fully leverage this data to protect their brands and government organisations involved in the protection of intellectual property will also need to adapt to the availability of larger volumes of IP risk data. The effective use of IP risk data is also increasingly important due to the increasing countermeasures used by infringers to avoid detection in the marketplace.

Increased effectiveness in the assessment of IP risk has also resulted in increased efforts worldwide to address systemic IP vulnerabilities through legislative and policy means. These efforts are meant to address the changing legal requirements within e-commerce, often re-examining the role and responsibilities of e-commerce intermediaries. Since many of the controlling statutes were established either before, or in the early years of the e-commerce development, they often do not adequately address the intricacies associated with e-commerce. Rights owners should see increasing opportunities to influence these proposed legal changes and should be prepared to do so, by using industry coalitions as well as maximising their effective use of growing IP risk data. For example, a new Digital Services Act is on the agenda of EC president Ursula von der Leyen.[163] Additionally, many e-commerce intermediaries have instituted their own internal procedures to mitigate IP risk on those platforms to address brand owner and consumer concerns that can threaten the reputations of those marketplaces.

MARKETPLACE'S CONTRIBUTIONS

First, it is worth mentioning that the service provided by marketplaces consists in offering advertising space on its website for registered users to sell products and services at their own risk and responsibility and after clear manifestation of knowledge and in accordance with its General Terms and Conditions of Use.

It is important to mention that marketplaces have strict rules set in the General Terms and Conditions of Use, aimed at removing from its online platforms listings that may reveal to be contrary to any Law in effect or that are considered offensive to third party rights.

Regarding such, marketplaces are able to suspend or cancel listings that violate the Law or the conditions of use of service. Furthermore, in case of noncompliance with the General Terms and Conditions of Use by any user, marketplaces may suspend or cancel the user´s account.

Moreover, and in order to ensure the best buyer experience, most of the marketplaces offer Brand Protection Programs, so that intellectual property owners (or their representatives) can enroll and easily and effectively report listings that may infringe their IP rights, such as trademarks, copyrights, industrial designs and patents and utility

163 See https://ec.europa.eu/commission/sites/beta-political/files/political-guidelines-next-commission_en.pdf.

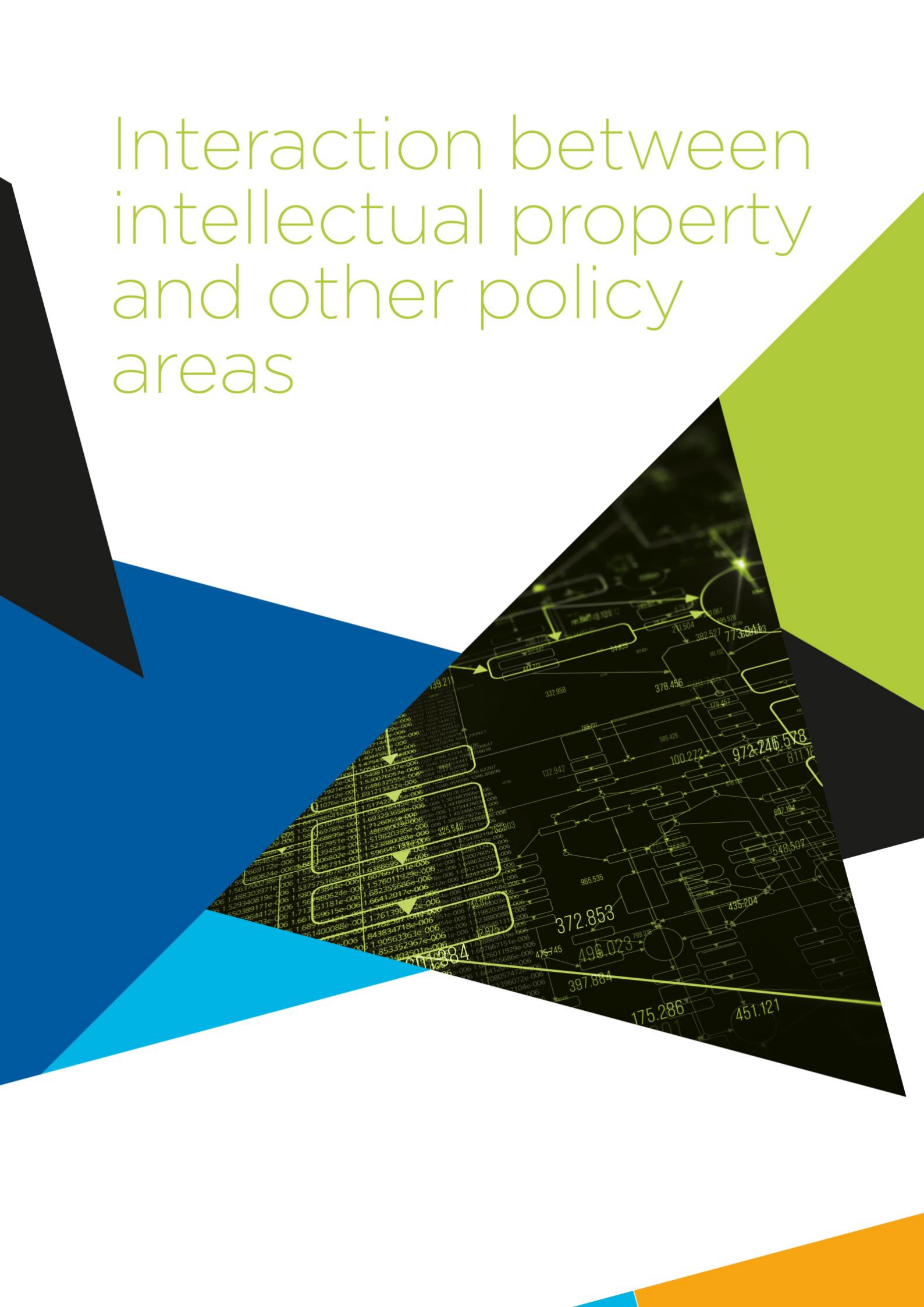
models (notice & takedown procedure). Additionally, marketplaces have begun to introduce proactive measures to prevent the sale of counterfeit and pirated goods on their sites and also to apply sanctions on repeat offenders.

Due to the always evolving environment that represents the online space, partnership and collaboration between brand owners and marketplaces is of paramount importance to curb counterfeit and piracy. For this reason, we strongly encourage brand owners to engage with marketplaces and have a clear IP enforcement strategy to protect their IP portfolio in both, the brick-and-mortar and online business.

ICC CONTRIBUTIONS

ICC's Business Action to Stop Counterfeiting and Piracy (BASCAP) is a member-driven initiative that provides policy and legislative recommendations and advocates for better enforcement of IP rights. BASCAP is a founding partner of the annual Global Congress on Combating Counterfeiting and Piracy, which brings together business and intergovernmental organisations such as INTERPOL, the World Intellectual Property Organization and the World Customs Organization. The group has produced specific IP recommendations for countries including India, Russia, Turkey and Ukraine and promotes essential elements for an effective IP enforcement regime to governments worldwide. BASCAP also promotes recommendations to address vulnerabilities to counterfeiting in free trade zones, goods in transit and intermediary supply chains. BASCAP has also initiated the "Fakes Cost More, I Buy Real" campaign to educate consumers on the social and economic harms of counterfeiting and piracy. BASCAP works together with the ICC Commission on Intellectual Property to promote the value of intellectual property to the economy.

Interaction between intellectual property and other policy areas



D. Interaction between intellectual property and other policy areas

I. SUSTAINABLE DEVELOPMENT GOALS

BACKGROUND

The United Nations 2030 Agenda for Sustainable Development sets out 17 interconnected Sustainable Development Goals (SDGs) building on the Millennium Development Goals, and came into force in 2016.[164] The SDGs reflect the economic, social and environmental dimensions of sustainable development and are the blueprint to address key global challenges — from economic exclusion, to social inequality and environmental degradation — and ensure peace, prosperity and opportunity for all. ICC played a central role in shaping the SDGs and we continue to work with our network and wide range of partners to ensure that policy frameworks are implemented in a way that works for and with business, and through policies that recognise the defining role of business in promoting and implementing the SDGs. Innovation, collaboration and good governance will be key drivers to help attain the SDGs by 2030 and ensure that no one is left behind.

CURRENT LANDSCAPE

Innovative and creative activity, mainly driven by private sector engagement and investment, will play a crucial role in helping to attain the SDGs. Supportive framework conditions, both at national and international level, will be essential to support and incentivise such activity. An important element in this is an effective system for the acquisition and enforcement of intellectual property rights. The IP system plays a central role in supporting innovation by providing investors in inventive and creative activity with legal rights over the intangible assets that result from innovation — such as brands, technology, designs, and creative content — which can help them secure their investments.

Another important catalyst for attaining the SDGs is collaboration. The IP system provides the legal framework necessary to support collaboration and exchange of knowledge and information, which is essential for the development of new processes, products, services and technologies.

The SDGs outline specific objectives towards which the international community has pledged to work. Technological innovation, supported by the IP system, will make an important contribution in achieving many of these. For example, innovations in agriculture will help ameliorate agricultural productivity and food security; cleaner, more efficient, affordable energy technologies will help increase security and access to sustainable energy sources; and improved water and water management technologies will preserve water supplies and help ensure access to clean water and sanitation for all. Goals relating to the stewardship of the environment will also require innovative solutions, whether in the area of climate change, biological diversity or marine conservation. Innovations in the medical field will also play an important role in working towards a healthier population and wider access to medical care. Information Communication Technologies (ICT) have already revolutionised the ability of previously isolated communities to communicate and interact with the rest of the world, opening new economic, educational and other possibilities. Brand protection, underpinned by IP rights such as trademarks, designs and copyright, drives corporate accountability and social responsibility and can help encourage sustainable consumption and production patterns,

[164] See sustainabledevelopment.un.org/post2015/transformingourworld

another 2030 Agenda goal. The interconnected nature of the SDGs means that where IP helps to drive forward one goal, it also indirectly helps to move all other goals forward.

With respect to the economic dimension of sustainable development, IP clearly plays an important role in creating prosperity and underpins the economy in several countries and regions. A significant part of the world economy and global trade is driven by intangible assets such as brands, technology, designs, and creative content. To a large extent, investments in developing these assets are conditioned by the legal guarantees provided by the IP system, which also supports their use, trade and exchange. The economic dimension of sustainable development is strengthened when markets are fully open and competitive, and provide opportunities for businesses from all countries to engage in the global marketplace. Effective IP protection is instrumental not only in attracting external investment and partnerships, which help increase local technological capacity and technology dissemination, but also in supporting local businesses in their quest for competing in global markets.

Developments in green technology — supported by technology-related IP such as patents, trade secrets, and software protection — are likely to make a significant contribution to the environmental dimension of sustainable development (see section D.II. Environmental protection). Changing consumer habits and production practices also play an important role. The branding of goods and services, underpinned by trademarks, designs and copyright, provides a link between consumers and producers that can encourage the latter towards more sustainable production and the former towards more responsible consumption.

Many of the discussions concerning the role of IP in the social dimension of sustainable development are centred around the transfer of technology from more technologically advanced countries to those which are less so, and the building of technological capacity in the latter. In addition to the 2030 Agenda for Sustainable Development, UN deliberations on these issues occur in a multiplicity of intergovernmental fora, including the discussions on Financing for Development, the UN Framework Convention on Climate Change (UNFCCC), the World Summit on the Information Society (WSIS) follow-up processes, the Convention on Biological Diversity (CBD) and the World Intellectual Property Organization (WIPO). A technology facilitation mechanism was also launched at the end of 2015 as an outcome of the Financing for Development and the 2030 Agenda for Sustainable Development processes in order to support the sustainable development goals.[165]

The IP system provides a legal framework which supports technology transfer and dissemination, and the legal guarantees which it offers encourage technological collaboration and the resulting knowledge exchange and capacity building. Business is actively engaged in contributing its expertise and experience in developing and disseminating technologies to relevant international discussions.

FUTURE PERSPECTIVES

In order to make any headway in achieving the Sustainable Development Goals, collaboration between the various stakeholders will be essential. Business stands ready to work with governments and other stakeholders, and to actively contribute to the efforts to implement the SDGs as well as to other related intergovernmental processes addressing sustainability issues. However, the multiplicity of UN fora working on similar issues, notably in the area of technology development and transfer, can render meaningful engagement difficult. Efforts to streamline these and provide some clarity as to each of their specific goals and how they interrelate would be welcome. The challenge of integrating global business interests across such diverse platforms is significant, but so is the challenge of integrating

[165] See sustainabledevelopment.un.org/TFM.

the economic, social and environmental dimensions of development. It is clear that business needs to play a central role as that future unfolds.

Businesses in all countries will also continue to innovate on the ground and to find practical solutions to take sustainable development goals forward. To allow them to do this, they need a supportive and coherent policy environment to create and nurture innovation ecosystems, and to build the confidence necessary for investments in innovative activity. This includes predictable, transparent and robust legal and regulatory regimes, a stable macroeconomic framework, a skilled work force, open markets and effective and predictable IP systems. Effective IP systems will also encourage international R&D and dissemination, collaboration and partnerships which help build local capacity and transfer knowledge across borders. In their development policies, governments should consciously aim to put in place the governance and economic infrastructure necessary to support their business innovators in domestic and global markets, including IP systems, and encourage international collaboration and exchange.

Shaping policy that does justice to the economic, environmental and social dimensions of sustainability is not simple. In addressing any one of these dimensions, countries should be wary of not undermining the others. In IP-related policy making, governments should keep in mind the important contribution of the IP system to not only the economic, but also the environmental and social dimensions, by incentivising innovative solutions to environmental and social challenges.

In sum, governments and intergovernmental fora of all types — economic, social and environmental — should recognise and respect the global IP framework as strategically important to sustainable development. IP should be seen as a tool that is part of the solution to sustainable development, not as part of the problem.

ICC CONTRIBUTIONS

ICC contributes to debates on the role of IP in sustainable development through participating in discussions, organising events, and publications. This multi-prong and multi-disciplinary approach includes active leadership of global business in not only the 2030 Agenda for Sustainable Development and the UN Financing for Development processes, but also the major intergovernmental fora shaping the future of the global IP system, such as WIPO and World Trade Organization (WTO), as well as those shaping the future of the environmental and other dimensions of sustainable development, such as United Nations Environment Programme (UNEP), the United Nations Framework Convention on Climate Change (UNFCCC) and in its context the United Nations Climate Change Conferences (COP), the Convention on Biological Diversity (CBD) and the World Summit on the Information Society (WSIS) follow-up processes.

More information on ICC's work on Sustainable Development, as well as our latest publications on this topic, can be found on our website's portal on Sustainability.[166]

166 See iccwbo.org/global-issues-trends/responsible-business/sustainability/

II. ENVIRONMENTAL PROTECTION

1. Biological diversity

BACKGROUND

The global community is increasingly acknowledging the important value of biological diversity, which resulted in the adoption of the Convention on Biological Diversity (CBD, 1993). The objectives of the CBD are to conserve biodiversity, to promote its sustainable use and to share in a fair way the benefits of its use. The CBD recognises the sovereignty of member countries over genetic resources (GRs) found within their boundaries, and sets out principles upon which access to genetic resources is to be provided.

195 countries and the European Union are now parties to the CBD; the US is the only major country that has signed but not ratified it. Since the coming into force of the CBD in 1993, different ways have been sought to codify and clarify how the principles of access and benefit sharing are to be implemented in practice. Progress towards this was achieved in October 2010 when the Nagoya Protocol (Protocol) was adopted after very difficult negotiations.[167] The Protocol entered into force in 2014 and requires Contracting Parties wishing to regulate access and benefit-sharing to their GRs and/or associated TK, to put in place clear rules. On the other hand, parties in which such GRs and/or associated TK are utilised have to put in place measures to monitor such utilisation to make sure that access and benefit sharing (ABS) laws of the provider country are respected. The Protocol can also recognise other international agreements on ABS, which are in line with its principles as specialised instruments. The detailed criteria are still under discussion by the Conference of the Parties of the Protocol, but once agreed, could cover for example the International Treaty on Plant Genetic Resources for Food and Agriculture (ITPGRFA)[168] and the Pandemic Influenza Preparedness (PIP) framework of the WHO, which provide for rules for a specific category of GRs.

CURRENT LANDSCAPE

Although the Protocol has now been ratified by many countries, not all provisions have been implemented in all Contracting Parties into national/regional law. For example, compliance measures have been put into national law so far only in a few countries such as the EU, Switzerland, Norway and Japan. One key instrument that the Protocol established is the ABS Clearing House (ABS CH), which is meant to be a central portal with all the information available to users and authorities to be able to comply with obligations and follow up compliance. However, the information being incomplete and lacking user-friendliness, the ABS CH for now is not a reliable tool for compliance.

On the international level, the Contracting Parties of the Protocol are still dealing with several open issues, as the one mentioned above on the criteria for the acceptance of other international ABS regimes as specialised instruments under the Protocol. Furthermore, the question whether there is a need for a Global Multilateral Benefit Sharing Mechanism to ensure fair and equitable benefit sharing derived from the utilisation of GRs and associated TK in transboundary situations or where it is not possible to grant or obtain prior informed consent is another open issue.[169] Another question which has obtained much traction is the relationship between digital sequence information (DSI) and the scope of the Protocol, or more generally speaking whether DSI should be a trigger for benefit sharing.[170]

167 Nagoya Protocol on Access to Genetic Resources and the Fair and Equitable Sharing of Benefits Arising (ABS) from their Utilization to the Convention on Biological Diversity, https://www.cbd.int/abs/.
168 See https://www.planttreaty.org/.
169 See iccwbo.org/publication/the-need-for-and-modalities-of-a-global-multilateral-benefit-sharing-mechanism/.
170 See https://iccwbo.org/publication/digital-sequence-information/.

In addition to the so-called Conference of the Parties of the CBD and the Nagoya Protocol, negotiations on an international regime for marine GR beyond national jurisdiction are taking part under the United Nations Convention on the Law of the Sea (UNCLOS), which deals not only with the question of benefit-sharing and technology transfer but also with the relationship to IP.

Another issue in relation to IP — which had already been discussed before the negotiations of the Protocol started — is related to the negotiation of an international instrument for the protection of GR, TK and traditional cultural expressions (TCE) at WIPO, focusing on a so-called patent disclosure requirement for the origin/source of GR and/or TK. It is largely favoured by developing countries. Business opposes such a requirement, which would lead to legal uncertainty because it could have significant consequences on the validity and enforceability of the underlying patents and is incompatible with the patent system. Such a regime may ultimately lead to less use of biodiversity for R&D and result in fewer benefits to share, which would be contrary to the benefit-sharing objective of the CBD and its Protocol. Finally, given ratification of the Protocol, a system for the prevention of misappropriation already exists, which makes the WIPO negotiations for patent disclosure requirements superfluous.[171]

FUTURE PERSPECTIVES

In addition to the on-going discussions referenced above, there is an overall perceived frustration on the side of the developing countries in view of limited benefit generation and sharing and the developed countries in view of still unclear ABS laws and divergent, overly bureaucratic administrative access procedures. This might lead in the future to a rethinking of the whole ABS system.[172] A further element of the debate is a misconception of benefit sharing from the utilisation of genetic resources as the major source of financing of biodiversity conservation. This puts an unnecessary high additional pressure on benefit sharing under ABS laws. Other innovative financing mechanisms could be explored, in view of the amount of financing needed for biodiversity conservation.

Business will continue to constructively engage in these debates advocating for more user-friendly ABS solutions and demonstrate specifically that intellectual property is not incompatible with the objectives of the CBD and the Protocol and needs to be safeguarded and that therefore new patent disclosure requirements are not required.

ICC CONTRIBUTIONS

ICC acts as a focal point for business in the on-going international discussions and negotiations under the CBD, the Nagoya Protocol and UNCLOS on marine GRs beyond national jurisdiction and the national implementation of the Nagoya Protocol in key markets. ICC also continues to contribute to the negotiations at WIPO.

2. Climate change

BACKGROUND

Climate change is one of the most pressing global challenges of our time and calls for global solutions. IP can play an important role in spurring the investment and innovation needed to help deliver some of these solutions.

171 See ICC Document *Patent disclosure requirements relating to genetic resources: will they work?*,

172 Laird, S., Wynberg, R., Rourke, M., Humphries, F., Muller, M. R., & Lawson, C. (2020). Rethink the expansion of access and benefit sharing. Science, 367(6483), 1200-1202.

Climate change mitigation and adaptation require efforts by all countries, by both the public and private sectors. The global nature of climate change necessitates constant innovation, deployment and technology transfer on mutually agreed terms at an international level to achieve global adaptation and mitigation goals, which require significant investment. The largest contribution to investment and innovation comes from the private sector, while the governments' role is to provide the appropriate institutional frameworks and enabling policy environments that accelerate and scale up business investment in technology development, deployment and cooperation. Intellectual property and related institutional frameworks are critical to any technology development and deployment process and provide the basis for providers of technology solutions to invest in continuous technological improvement for the benefit of society. As such, they are an indispensable foundation for international efforts to implement the Paris Agreement and other climate-related technology activities, and should be maintained and strengthened to support actions by governments, business and society to respond to climate change. They can also have an important part to play in finding and matching technology needs with available technologies.

CURRENT LANDSCAPE

Technology transfer on mutually agreed terms and climate financing are cornerstones in international climate policies with respect to both mitigation and adaptation. The main intergovernmental forum to discuss and negotiate global solutions to climate change is the United Nations Framework Convention on Climate Change (UNFCCC). The Convention entered into force in 1994 and now counts 196 parties plus the European Union. In 2015, a substantial breakthrough in international climate policies was reached. The Paris Agreement,[173] which entered into force on 4 November 2016, marks — together with other climate-related multilateral deliberations and agreements such as the UN 2030 Agenda for Sustainable Development — a new direction in international climate policies with direct and indirect implications for technology and IP, even though IP is not specifically mentioned in the Paris Agreement.

The Paris Agreement's overarching objective is "holding the increase in the global average temperature to well below 2°C above pre-industrial levels and pursuing efforts to limit the temperature increase to 1.5°C above pre-industrial levels, recognising that this would significantly reduce the risks and impacts of climate change".[174] In order to achieve the objectives of the Paris Agreement, we must "aim to reach global peaking of greenhouse gas emissions as soon as possible […] and to undertake rapid reductions thereafter in accordance with best available science, so as to achieve a balance between anthropogenic emissions by sources and removals by sinks of greenhouse gases in the second half of this century, on the basis of equity, and in the context of sustainable development and efforts to eradicate poverty".[175]

In 2018, the Intergovernmental Panel on Climate Change (IPCC) — the United Nations body for assessing the science related to climate change — published the IPCC Special Report on 1.5°C, which clearly set out that: "the climate-related risks for natural and human systems are higher for global warming of 1.5°C than at present, but lower than at 2°C". In other words, every half of a degree of warming matters and global warming must be limited to 1.5°C to avoid the worst effects of climate change. Attaining the goals of the Paris Agreement, in line with this latest science, will require an unprecedented systems transformation of business and society, especially with respect to energy supply and use. Technology development and deployment will play an essential role in helping to achieve these goals.

Two key levers of the Paris Agreement are technology transfer and climate financing. Technology plays an essential role and its availability must be ensured wherever it is needed. Substantial amounts of financing and investment are also required; pledges are upwards of US$100 billion per year, even if actual transfers fall short of this amount. An

173 Paris Agreement under the United Nations Framework Convention on Climate Change (2016): unfccc.int/paris_agreement/items/9485.php.
174 Ibid., Article 2.
175 Ibid., Article 4.

effective response to climate change requires ongoing innovation on a global scale in the coming decades. The international community has already taken a number of steps to help developing countries bridge the technology gap and to assist nations to collectively put in place policies and instruments to both encourage climate-related innovation and develop, commercialise, and further disseminate new and existing technologies.

Intellectual property rights play a pivotal role in supporting the transfer and dissemination of technologies. Patents, in particular, provide the primary means for spurring necessary private sector investment in the development and deployment of important technology, particularly clean technology. IP and related instruments also play other relevant roles in technology transfer processes. Patents, for example, provide a good publicly available source of information for identifying technologies and technology holders in order to facilitate and speed up technology transfer. IP rights are thus a prerequisite, not a barrier, to accessing or transferring technology. Stable and effective IP protection is essential to clean technology development and dissemination, and weakening IP frameworks would be counterproductive to these goals.

IP as such is neither referred to in the Paris Agreement nor in its adoption text. In particular, the UNFCCC resisted all proposals introducing new IP flexibilities that would make investment more difficult and less predictable. This indicates that IP rights are no longer seen as a critical obstacle or barrier for effective climate policies. This is supported by studies showing the distribution and availability of IP and by documents such as the Technology Needs Assessments (TNA) of developing countries, which do not specify IP rights as a barrier for successful implementation.

Indeed, it should be noted that IP rights have not negatively impacted access to many technologies needed for effective and efficient climate policy implementation. The technologies in question may not be protected by IP rights at all — e.g. because the IP protection has expired[176] — or may be freely available on the market, even if subject to IP rights, without significant cost premiums due to IP protection. This is especially true for climate change adaptation technologies because many, if not most, of these technologies are already on the market and have been in use for a long time, although not necessarily under the label “adaptation to climate change”, but according to their functionality, such as “flood protection”, “irrigation”, “building technologies”, etc.

From the perspective of legal and institutional coherence, and based on the requisite expertise to discuss trade-related IP issues, the WTO TRIPS Council is the appropriate venue for any discussions concerning IP rights. This is consistent with the Paris Agreement referring discussions on IP issues to the relevant bodies and expert groups. Indeed, discussions on green technology and IP have been on the agenda of the WTO TRIPS Council for several years.

Efforts to transfer clean energy technology to less developed countries, on mutually agreed terms, while respecting the intellectual property rights in force, should be intensified, but this depends on the development and maintenance of increasing innovation capacity of both developed and emerging economies.

Like IP rights, free trade and access to markets with enabling frameworks for investment and climate financing are essential to ensure access to needed climate technologies, and their absence constitutes a significant obstacle. The WTO TRIPS agreement harmonises IP protection globally as a means to encourage and assure unobstructed free trade. Dedicated marketplaces such as WIPO Green can also play a valuable role in facilitating transactions of sustainable technologies.[177]

176 See *Patents and Clean Energy: Bridging the Gap between Evidence and Policy* (UNEP, EPO, and ICTSD, 2010): documents.epo.org/projects/babylon/eponet.nsf/0/cc5da4b168363477c12577ad00547289/$FILE/patents_clean_energy_study_en.pdf

177 See www3.wipo.int/wipogreen/en/.

FUTURE PERSPECTIVES

Following the UNFCCC negotiations, governments and businesses are now focusing on the development of the required institutional framework and on ensuring that the Paris Agreement can be implemented in practice. The Climate Technology Centre & Network (CTCN) and the Technology Executive Committee (TEC) are examples of this operational arm of the UNFCCC.

Many challenging issues remain on the table. Any efforts to limit or call IP protection into question — whether inside the UNFCCC or in another form — would be counter-productive to meeting the commitments and challenges of the Paris Agreement.

Very important issues under the UNFCCC umbrella are technology transfer and climate financing, which must be substantiated by adequate instruments and dedicated policies. These must be created while bearing in mind not only the requirements of today's technologies, but also the need to maintain or create an enabling environment for the development and deployment of the technologies of tomorrow. The Paris Agreement strengthens the Technology Framework and provides useful tools such as the Technology Needs Assessments (TNAs) and Technology Roadmaps.

In order to offer an optimal innovation and technology environment, all countries need to define and implement policies that encourage education in science, technology, engineering and math, especially for underrepresented groups, incentivise innovators, stimulate R&D, as well as encourage investment in innovation and collaborative technology partnerships both within the country and across borders. A solid, reliable, coherent, and stable legal and administrative environment complemented by appropriate fiscal measures, a skilled and diverse workforce, physical infrastructure (roads, ports, pipelines, and transport, reliable access to electricity, or high-speed internet access) and a robust national and global investment and financing infrastructure are very important to allow innovators and entrepreneurs to invest in technology development and commercialisation. Policies to encourage and enable foreign direct investment (FDI) and a robust global market mechanism as a co-financing tool that can assist in integrating a country into global supply chains will help both companies, consumers, and the economy as a whole to move up the innovation value chain.

Innovation in advanced technology also requires consistent investments in education — particularly advanced research institutions — and ongoing training for the workforce, as well as effective policies that enable immigration and allow the integration of skilled foreign workers into the workforce. Measures to promote innovation should also include building capacity to analyse patents and patent databases in order to identify available technology and potential partners. Training and educating local policy makers, workers and consumers will also be an important component of capacity building. Such critical innovation infrastructure enables firms to innovate as well as lays the groundwork for public private partnerships.

Finally, translating the positive spirit and ambition of the Paris Agreement into concrete workable approaches through technological solutions will be essential for the Agreement's sustainable implementation. As countries develop their climate plans and long-term climate strategies, the private sector can be a valuable resource to help inform governments of the technological solutions and framework conditions necessary to help implement the goals of the Paris Agreement.

ICC CONTRIBUTIONS

As the institutional representative of 45 million companies worldwide — ICC recognises the urgent need to keep the global temperature increase below 1.5° Celsius and achieve net-zero emissions by 2050. ICC has a long-standing

engagement in the climate arena and played a central role in advocating for the delivery of the Paris Agreement and in shaping the United Nations Sustainable Development Goals (SDGs).

ICC is the official UNFCCC Focal Point for Business. We are also Observers to the Green Climate Fund and the IPCC, bringing the business perspective to these forums. These roles, coupled with ICC's Observer Status at the UN General Assembly[178] means that we are uniquely positioned to bring the business perspective to UN climate negotiations.

With respect to technology and intellectual property, ICC provides input to dedicated UNFCCC bodies, such as the Technology Executive Committee (TEC), the Climate Technology Centre and Network (CTCN) and the Green Climate Fund (GCF). In the discussions at the international and national levels, ICC advocates for the important role of intellectual property and overall enabling conditions needed for the transition towards a green economy. We share positive examples of the development, dissemination and use of environmentally sound technologies and issue position papers that highlight policies that create enabling environments for these processes. More broadly, we are committed to advocating for and providing input on coherent policy frameworks — in line with the Paris Agreement and the latest climate science, and committed to raising global business ambition and to mobilising action at scale.

ICC continues to provide critical feedback to governments and Intergovernmental Organisations (IGOs) on the role of IP and enabling environments, including environmental taxation principles and ICC World Trade Agenda (WTA) recommendations on environmental goods and services.[179] ICC highlighted the importance of an enabling policy environment on the 2017 paper on ICT, Policy and Sustainable Economic Development.[180]

More information on ICC's work on climate change, as well as our latest publications on this topic, can be found on our website's portal on Climate Action.[181]

III. COMPETITION

BACKGROUND

Tensions naturally exist between competition law ("antitrust law" in the US) and intellectual property rights.[182] TRIPS Articles 8.2 and 40 allow WTO members to adopt measures to control anti-competitive practices based on IP rights. WTO, OECD and UNCTAD have set up groups to study such practices but the major legislative activity and antitrust enforcement has been at national or EU level.

In recent years there has been a remarkable expansion of antitrust enforcement in the area of intellectual property and enforcement agencies have identified a number of distinct ways in which the use of IP rights may prove anti-competitive:

a) A dominant position resulting from ownership of intellectual property may be abused by its owner, for instance by refusing to license the IP to competitors or implementers of the protected technology, by seeking an injunction against infringers of standard-essential patents (SEPs), or by misleading patent offices in order to prevent competitors from entering the market.

178 See iccwbo.org/global-issues-trends/global-governance/business-and-the-united-nations/.
179 See *ICC World Trade Agenda — Post-Bali Business Priorities*: iccwbo.org/publication/icc-world-trade-agenda-post-bali-business-priorities/.
180 See iccwbo.org/publication/ict-policy-sustainable-economic-development/.
181 See iccwbo.org/global-issues-trends/responsible-business/climate-change/
182 The relationship between patents and standards is dealt with in section A.II.2.2, Patents and Standards.

b) A licensor may impose anti-competitive licensing terms on his licensee that restrict either intra- or inter-brand competition, such as restraints on the licensee's ability to determine the price of its products or services, restraints on certain fields of use, customer and geographic restraints, "tying" or non-compete arrangements.

CURRENT LANDSCAPE

In contrast to the European Commission, the US authorities have traditionally taken a somewhat less strict approach in relation to technology licensing agreements. For example, reports by the Federal Trade Commission in 2003, and by the Federal Trade Commission and the Department of Justice jointly in 2007, took the view that intellectual property rights only rarely create monopolies in the antitrust sense and that patent holders may generally refuse to license their technology to others without violating antitrust laws. More recent enforcement guidelines and enforcement policy statements confirm this position.

In contrast, the European Commission has long promoted the compulsory licensing of IP rights in exceptional market situations. Early cases involved the licensing of copyright-protected listings of television programmes, structuring of market research results and waste recycling. Also, the European Commission has taken enforcement action against Microsoft in relation to its non-release of technical information, and has warned the pharmaceutical industry of its willingness to take action against "defensive patents" — i.e. patents in respect of which the owners were no longer pursuing relevant innovative efforts — if they were being used to block innovation by competitors. Following its investigation into the pharmaceutical sector in 2009, the European Commission has successfully pursued a number of investigations into pay-for-delay or reverse payment agreements between originators and generic firms and has imposed significant fines on a number of IP owners.

The US competition enforcement agencies have issued guidelines for the assessment of potentially anti-competitive licensing agreements and generally apply a "rule of reason" approach.[183] Under this approach, only agreements that unreasonably restrain trade are found to be in violation of antitrust laws and may, as a consequence, be non-enforceable and attract fines. In this respect, courts analyse whether an agreement's anti-competitive effects are outweighed by its pro-competitive benefits. For example, depending on the facts of the case, a licensing provision that prevents a licensee from entering into a licence agreement with the licensor's competitors may be permissible if that agreement is necessary to prevent the licensor's competitors from free riding on the licensor's prior research and development. Also, tying in a patent licence may be permissible in the US provided that the patent does not create a dominant position. Further, the imposition of a minimum price at which the licensee is required to sell products manufactured under a license, will be subject to a rule of reason analysis.

In the EU, the European Commission takes a keen interest in various types of potentially restrictive agreements involving intellectual property. On tying, the EU technology transfer guidelines are stricter than corresponding US law: tying may be considered anticompetitive even if the patent does not establish a dominant position. The Commission also takes the view that in principle the setting of a minimum price in relation to products manufactured under an IP licence cannot be justified under the EU competition rules.

The European Commission has issued block exemption regulations in relation to specified classes of agreements whose "safe harbour" provisions provide for an automatic exemption from the prohibition of anticompetitive agreements under Article 101 of the Treaty on the Functioning of the European Union (TFEU).

183 In January 2017 the U.S. Department of Justice and the Federal Trade Commission issued revised Antitrust Guidelines for the licensing of intellectual property.

There are two key EU block exemptions that are of relevance for IP agreements:

- Regulation 1217/2010 on research and development cooperation agreements, which remains in force until 31 December 2022.
- Regulation 316/2014 on technology transfer agreements, which remains in force until 30 April 2026.

Regulation 316/2014 on technology transfer agreements provides for an exemption "by category" from the prohibition of Article 101(1) TFEU on anticompetitive agreements, for certain types of IP licensing agreements. However, the safe harbour is narrowly defined and only applies if the parties' market shares do not exceed certain thresholds and the agreement does not contain "hardcore" or "blacklisted" restrictions on competition. Significantly, the scope of the exemption differs depending on whether the parties to the agreement are deemed competitors in the affected relevant technology and product markets. For example, if the parties to a technology transfer agreement are considered competitors, the exemption will only apply on the following conditions: the combined market share of the parties does not exceed 20% on the relevant market(s); the agreement does not provide for either price fixing or a number of specific market and customer allocations; and, it does not include clauses that restrict a party's output, the licensee's ability to exploit its own technology, or the parties' ability to carry out research and development — unless that is indispensable to prevent the disclosure of the licensed know-how to third parties. In addition, the European Commission has also issued guidelines for the assessment of IP licensing agreements that fall outside the scope of the safe harbour block regulations.[184]

This Regulation, and the accompanying guidelines, are considerably stricter than the previous EU safe harbour provisions with respect to grant-back provisions, patent pool licences and the right of the IP owner to terminate the licence agreement upon a challenge on the validity of the licensed IP rights. In particular, the latter provisions are no longer covered by the safe harbour provisions, may be non-enforceable and require individual assessment under the guidelines. These changes have been made in an attempt to "weed out" invalid IP rights, a risk that the European Commission has been increasingly concerned with in the past years.

Courts and antitrust enforcement agencies in many other jurisdictions, including in Asia, are increasingly confronted with IP-related conduct on the interface of IP-, antitrust and contract law and may take positions that sometimes diverge significantly from well-established US and EU approaches.

FUTURE PERSPECTIVES

In the EU, the European Commission can be expected to continue to take antitrust enforcement action against IP-related transactions, particularly in the area of standard-essential patents (SEPs). Already in 2014, it adopted a settlement decision in relation to the licensing of SEPs and the seeking of injunctive relief in the mobile telephony sector in relation to Samsung, as well as a prohibition decision against Motorola. Relevant guidance in the SEP / FRAND area is also provided by the Court of Justice of the European Union's judgment in Case C-170/13 Huawei vs. ZTE and, increasingly, by national courts, such as the UK Court of Appeal judgment in the Unwired Planet vs. Huawei case, which is currently pending at the UK Supreme Court, and a number of German and Dutch courts. In addition, in 2017, the European Commission issued a communication on SEPs. The European Commission and, potentially, national competition enforcement agencies, will continue to investigate potentially restrictive agreements in the pharmaceutical sector and other IP-intense sectors, including in mergers and joint ventures that require approval under the European merger control rules. IP licensing may also come to the fore in the context of the European Commission's antitrust inquiry into the sector of Internet of Things, which was launched in July 2020, and in the

[184] See https://ec.europa.eu/commission/presscorner/detail/en/IP_14_299.

context of the review of the Horizontal Cooperation Agreement guidelines, which are due to be revised in 2022. The current Guidelines cover "Standardisation Agreements", which include guidance on related intellectual property rights to ensure fair access to the use of standards.

It is expected that increasingly courts and antitrust enforcement agencies in jurisdictions outside the US and EU will be called upon to rule on matters involving IP-antitrust and contract law.

ICC CONTRIBUTIONS

ICC has commented on various EU proposals for research and development and on technology transfer and continues to monitor developments in this area.[185]

[185] See http://www.iccwbo.org/advocacy-codes-and-rules/areas-of-work/competition/technology-transfer/.

ICC Commission on Intellectual Property

WHO ARE WE?

With over 400 business executives and private practitioners from 50 countries, ICC's Commission on Intellectual Property contributes the international business community's voice to debates on key intellectual property issues.

The Commission aims to promote efficient intellectual property systems that support international trade, encourage investment in creation and innovation, and facilitate sustainable economic development.

FOCUS AREAS

Promoting IP as a positive force for society by explaining the vital role of intellectual property protection in helping economies around the world to grow through publications and events.

Building efficient IP systems by working with policymakers to ensure well-functioning and cost-effective IP systems that provide legal certainty and encourage investment in creation and innovation.

IP and new challenges by participating in international discussions with governments and other stakeholders on the role of intellectual property in areas such as the digital economy, the environment, health, development, and competition policy.

Helping businesses understand the IP implications of technological and other developments through reports and exchanges.

ACTIVITIES

Commission publications on different aspects of intellectual property include its flagship Intellectual Property Roadmap, an overview of key IP policy issues for business and policy makers that draws on contributions from experts around the globe. The ICC research series on innovation and IP provides insights on how intellectual property is used in practice to support innovation and technology diffusion.

ICC meetings and conferences around the world stimulate discussions with policy makers and enable businesses from different sectors and regions to exchange information and best practices on cutting edge IP issues.

JOIN ICC'S IP COMMISSION TO

- Access cutting-edge information on IP developments
- Lead and contribute to international policy development under ICC's name
- Participate in international meetings and organizations
- Network and learn from experts in diverse fields from different countries and sectors

HAN KUN
汉坤律师事务所
Han Kun Law Offices

www.hankunlaw.com

汉坤律师事务所是中国领先的综合性律师事务所之一，专注于国内、国际间复杂的商业交易和争议的解决，是中国律师行业的领军律所之一。在具体业务领域里，汉坤尤其以私募股权、兼并和收购、境内外证券发行与上市、投资基金/资产管理、竞争法、银行金融、飞机融资、外商直接投资、公司合规、私人财富管理、知识产权、争议解决等板块的法律服务著称，连年被国际权威法律媒体评为亚太区顶级中国律所。汉坤目前有近400名专业人员，分布于中国几个主要商业中心城市，北京、上海、深圳和香港。汉坤的律师拥有优秀的学历背景和丰富的项目实践经验，具有长期服务于境内外客户和参与复杂跨国交易的丰富经验。

Han Kun is a leading full-service law firm in China. Over the years, Han Kun has been widely recognized as a leader in complex cross-border and domestic transactions. Our main practice areas include private equity, mergers and acquisitions, international and domestic capital markets, investment funds, assets management, competition law, banking and finance, aviation finance, foreign direct investment, compliance, private client wealth management, intellectual property and dispute resolution. As of today, we have nearly 400 lawyers located in the four offices of the firm in Beijing, Shanghai, Shenzhen and Hong Kong. All our lawyers are graduates of top universities and speak at least a foreign language. Many have worked outside of China and have extensive experience in complex cross-border transactions as counsel to both Chinese and foreign clients.

私募股权和风险投资
Private Equity and Venture Capital

兼并和收购
Mergers and Acquisitions

境内外资本市场
Domestic and International Capital Markets

投资基金/资产管理
Investment Funds/Asset Management

银行和金融
Banking and Finance

航空及航空金融
Aviation and Aviation Finance

结构化金融和资产证券化
Structured Finance and Asset-backed Securitization

金融科技
Fintech

反垄断/竞争法
Antitrust/Competition

公司合规
Corporate Compliance

科技、媒体和电信（TMT）
Technology, Media and Telecoms

生命科学与健康
Life Sciences and Healthcare

房地产和基础设施
Real Estate and Infrastructure

家事法、信托与财富规划
Family Law, Trust and Wealth Planning

税务规划
Tax Planning

劳动人事
Labor and Employment

知识产权
Intellectual Property

争议解决
Dispute Resolution

企业重组改制
Corporate Restructuring

能源、矿产
Energy and Minerals

减资、清算和破产
Capital Reduction, Winding Up and Bankruptcy

北京•上海•深圳•香港
Beijing•Shanghai•Shenzhen•Hong Kong

ABOUT THE INTERNATIONAL CHAMBER OF COMMERCE (ICC)

The International Chamber of Commerce (ICC) is the institutional representative of more than 45 million companies in over 100 countries. ICC's core mission is to make business work for everyone, every day, everywhere. Through a unique mix of advocacy, solutions and standard setting, we promote international trade, responsible business conduct and a global approach to regulation, in addition to providing market-leading dispute resolution services. Our members include many of the world's leading companies, SMEs, business associations and local chambers of commerce.

www.iccwbo.org
Follow us on Twitter: @iccwbo

INTERNATIONAL CHAMBER OF COMMERCE
The world business organization

33-43 avenue du Président Wilson, 75116 Paris, France
T +33 (0)1 49 53 28 28 E icc@iccwbo.org
iccwbo.org @iccwbo

Online at iccwbo.org/iproadmap
Publication number: 813E
ISBN: 978-92-842-0581-3