



**Asia-Pacific
Economic Cooperation**

PROTECTION OF INTELLECTUAL PROPERTY RIGHTS IN DIGITAL CONTENT TRADE

WORKSHOP SUMMARY REPORT



**APEC COMMITTEE
ON TRADE AND INVESTMENT**

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Introduction

Digital economy is a key phenomenon at the current stage of global development. The use of digital technologies contributes to the economic development and trade facilitation and ensures the inclusive nature of regional production and trade. Information technology (IT) sphere has opened the opportunities to lower distribution costs and enlarge the market for content-related businesses. Recently, there has been surge in the ability of consumers and businesses to reach the Internet and to engage in digital content trade and e-commerce.

However, the absence of Intellectual Property Rights (IPR) protective mechanisms leads to higher vulnerability of creations on the Internet. The processes of copying or altering digital information have become easier and more available with the IT development. In this regard, violation of IPRs is one of the key impediments for digital content trade. There are challenges to protecting intellectual property in the digital environment that need to be tackled timely at both domestic and international level. APEC economies' individual and joint efforts should be focused on the development of transparent and efficient regulatory environment, which enables trade in digital content and related business activities, while ensuring that intellectual property rights are respected.

With an aim to identify the above-mentioned potential challenges and find out potential ways to address them, including through reviewing existing regulatory framework and APEC economies' best practices in the area of protection of IPR in digital content trade, a respective virtual workshop "Protection of Intellectual Property Rights in Digital Content Trade" was held on 20-21 April 2021. It was hosted by Russia and co-sponsored by China; Hong Kong, China; Korea; Mexico; Philippines; Chinese Taipei; and Viet Nam.

Background

The APEC Project CTI 02 2019 Protection of Intellectual Property Rights in Digital Content Trade (Project) was implemented to meet the following objectives:

- to examine existing challenges APEC economies are facing in the field of IPR protection in digital content trade;
- to facilitate better understanding among APEC economies of how the issues relating to IPR protection in digital content trade are regulated on international, regional and domestic level;
- to review APEC economies best practices and exchange experiences in promoting effective protection of IPR in digital content trade.

The Project includes four major phases: (1) developing and circulating a Pre-Workshop Questionnaire and the analysis of APEC economies replies; (2) conducting two-day workshop (in virtual format); (3) preparation of the summary report, that contains the analysis of two previous steps and (4) developing an initiative based on the project findings.

From 12 to 31 March 2021 the Pre-Workshop Questionnaire (Annex #1) was circulated to gather information from APEC economies on existing domestic regulation and applied practices in the field of intellectual property rights (IPR) protection in digital content trade, views of APEC economies on most critical challenges to the IPR protection in digital content trade, as well as APEC economies' examples on how to tackle such challenges. The questionnaire contained closed and open-ended questions and the submitted replies served as a starting point for the virtual workshop dedicated to the protection of intellectual property rights in the digital content trade. The questionnaire materials and the following analysis (Annex #2) were prepared by the Russian State Academy of Intellectual Property (RSAIP).

Eleven economies submitted their replies to the Pre-Workshop Questionnaire: Canada; Chile; China; Hong Kong, China (HKC); Indonesia; Japan; Malaysia; Mexico; Peru; Chinese Taipei; and Russia.

The two-day virtual workshop dedicated to the protection of intellectual property rights in the digital content trade was held on 20-21 April 2021. The workshop included four sessions with expert presentations followed by the Q&A, with 15 speakers and 115 participants from 19 economies and international organisations (UNCTAD, WTO, WIPO, etc.) in total.

Based on the recommendations of the virtual workshop, Russia will consider proposing new activities/initiatives to follow up the outcomes of the Project.

Workshop - Discussion Findings

Opening Remarks

The workshop was opened by welcoming remarks from *Mr Grigory Ivliev*, Head of Rospatent, and *Ms Ekaterina Mayorova*, Director of the Department for Trade Negotiations, Ministry of Economic Development of Russia.

In his speech, *Mr Grigory Ivliev* welcomed the workshop participants and highlighted the importance of discussion for the effective development of IP system and international digital content trade. COVID-19 pandemic accelerated the digitalisation of many goods and commercial interactions. Copyright and related rights are now fully present in the digital environment, and it is essential to establish an appropriate approach towards their protection and enforcement at the global level. He gave a brief overview of the digital systems that are being introduced by Rospatent in order to facilitate these processes.

Ms Ekaterina Mayorova emphasised that the pandemic significantly increased the volume of e-commerce, and this digital boost created several challenges, with content trade being one of them. The importance of IP regulation will continue to grow because many digital products can be consumed by an unlimited number of users. It creates a necessity for high quality IP protection in this field, and it is essential to ensure that IPR is not limiting access to technologies in a discriminatory manner. A balance needs to be achieved, and as complex as it is, now it becomes more difficult given the lack of common understanding of the scope of digital content and therefore the scope of applicable regulation in this area. There is an obvious need for clear, transparent, universal and business-friendly regulatory environment enabling business activities and ensuring at the same time the respect for IPR. It would be very helpful to identify key challenges and problems in this area, to review the existing regulatory framework and the practices.

Questionnaire Results

Questionnaire results were presented by *Ms Daria Biryukova*, the Director of the International Centre of IP Competences, **RSAIP** to guide the further discussion.

The survey analysis has shown that at the international level as well as at the domestic level, most APEC economies do not have any harmonised definition of digital content trade, however, the vast majority indicated the importance of such term and definition. That proves the necessity to elaborate an agreed definition of the digital content trade. At the same time, most of the APEC economies do not keep statistics on the share of digital content trade in total GDP. Some respondents reported the share of e-commerce and the share of creative works. Some economies are working on the approach to calculating detailed statistics concerning the digital content trade.

Regarding the legal regulation, most economies indicated a lack of legal frameworks governing the digital content trade. However, some economies indicated that they protect the digital content as a part of Copyright that grants the protection upon creation of a work, including a digital one. Some economies indicated that they have a general framework for commerce, including electronic commerce.

As per registration of digital content, some economies provide optional registration of such works with local IP offices, however, it is not an obligation due to the copyright well-established practice that covers digital works as well.

In the case of a federal state or trade union, some economies have harmonised rules and

legislation relating to digital trade across their economies. A few concerned economies provided recent updates of their domestic legislation in terms of copyright regulation and e-commerce.

Regarding cross-border transactions, most economies indicated that IP rights have territorial nature, therefore they apply the territorial principles. However, they do not have any specific regulation for cross-border transactions covering the digital content trade directly. Concerning cross-border disputes related to the digital content trade, a number of economies indicated that parties could independently choose the way of legal protection and enforcement of their rights, including the court system that also might depend on terms and conditions specified within the contracts signed between those parties. Some respondents also indicated alternative dispute resolution, such

as arbitration and mediation. Some economies reported that they are parties to several bilateral or multilateral agreements concerning cross-border trade related to copyright-protected works, as well as the cross-border trade overall, such as TRIPS, WIPO's agreements, ASEAN, as well other regional bilateral and multilateral agreements between the economies.

As legal barriers, the responding economies see the complexity and uncertainty in legal protection of digital content, particularly on the Internet that is not specifically regulated in most economies. However, some of them mentioned mechanisms of Internet control and regulation as well as fighting piracy, for example, blocking websites that infringe the copyright or contain pirate content. Partially, accessibility is also one of the key issues along with the uncertainty and lack of legal regulation, as well as lack of trust or qualified professionals in that area. Some respondents expressed their concerns relating to the fee and tax payments that are unclear for the digital environment.

More than half of respondents highlighted their activities focused on the digital content trade and its protection, including raising awareness among the population. Some economies engage both public and private sectors to elaborate on the issues relating to the regulatory framework and collective management of rights. A few respondents have relevant working groups and communities to address such issues and to find out possible solutions that would be acceptable for everybody. Some respondents highlighted their domestic programs dedicated to the Digital Economy. Most economies allow the collective management of rights in terms of copyright-protected works, such as literature, movies, music, etc.

Due to the COVID-19 pandemic and its consequences, many of the responded economies reported a significant increase in the digital environment that boosted digital activity, including trade. Some respondents recognised the transition of some industries into the digital environment, such as education and creative industries. Thus, most of them had to rapidly adapt to the digital transformation process taking into account the epidemiological situation across the globe. However, most economies did not face any infringement boost, perhaps due to enhanced measures focused on legal protection and raising public awareness.

Considering the received responses and the outcomes of the survey, it is recommended to the APEC economies to deepen understanding of the scope of the digital content trade that would be mutually agreed upon at the international level.

Since most respondents indicated IPR protection in the digital environment as one of the key issues, it would be reasonable to discuss the regulation and governance of the digital content trade at the international level as well as the approaches to IPR protection in the digital environment.

Among the respondents, the vast majority of statistics agencies do not separate the share attributed to the trade in content transmitted and consumed in digital format due to definitional and measurement challenges and the absence of uniform or consistent methodology. Thus, it seems to be reasonable to determine a common methodology for collecting and estimating such statistical data.

Among others, key aspects for further discussion with the international community are rights infringement and piracy fighting, as well as regulation

of e-commerce. Nowadays, the lack of such regulatory frameworks is obvious, therefore enforcement measures for cross-border infringements is another important topic. Finding out appropriate solutions that might help in resolving the said issues would be of great benefit to the international community and APEC economies in particular.

Session 1: General Issues of IPR Protection in Digital Content Trade

This session was dedicated to the existing global regulatory framework relating to IPR protection in digital content trade. It covered information exchange related to domestic regulation in this field, including challenges related to the territorial nature of IPRs and the new challenges that appeared due to the COVID-19 pandemic. As a result, the participants received a better understanding of the current legal framework and its gaps.

The overview of the IP system in the context of digital trade from the multilateral perspective was offered by *Mr Wolf Meier-Ewert*, Counsellor at the Intellectual Property Division, **WTO**. The main challenges include the territoriality of IP rights, new IP uses in terms of products and distribution, as well as new business models. There are different international responses to these challenges: conflict of laws, international standards (TRIPS and WIPO), regional and sectoral harmonisation (i.e., EU Trademark or UDRP) and technological solutions (TPMs and DRM).

Multilateral response to copyright issues in the digital context include general principles of the TRIPS Agreement, digital update of the WIPO Copyright Treaty and WPPT. Copyright rules are quite often applied to digital content trade issues, which was also illustrated by the questionnaire results. Even though the existing multilateral framework is quite sufficient, some obstacles remain, including the issue of ownership, term of copyright and the scope of exceptions and limitations, all of which vary from jurisdiction to jurisdiction.

International response includes a variety of approaches. There are many rules on IP in the digital context in FTAs and RTAa, usually including references to WIPO internet treaties, terms of protection, scope of protection of TPMs and liability for internet service providers. A significant part of the regulatory need on digital trade is currently contained in the FTAs. Some areas are still lacking common approaches, such as online exhaustion, orphan works, data mining, creations and infringements by AI systems.

Trademark issues in the digital context are also now being solved within the scope of principles of the TRIPS Agreement, but there has been a recent digital update of WIPO Recommendations (Joint Recommendation concerning provisions on the Protection of Marks, and other Industrial Property Rights in Signs, on the Internet, 2001). Despite being non-binding, throughout the years they have been incorporated into many FTAs.

APEC Policy Support Unit represented by *Mr Andre Wirjo* shared the findings of the study conducted the previous year. The factors that drive digitalisation include improved access to infrastructure, continued advancements in technology, increased awareness and COVID-19 measures. A lot of work remains in order to create a supportive environment and facilitate cross-border e-commerce, which has widely discussed, in particular, electronic transactions framework, cross-border related issues, consumer protection, cybersecurity, infrastructure related aspects and market access.

The issue of intermediary liability becomes very important due to the increased possibilities for infringement in the context of wider internet access. There is a need to clarify who is liable for the counterfeiting in third-party use of content: internet service providers or platforms.

The above-mentioned study consisted of two main parts: the database of relevant laws and case studies. All APEC economies can be divided into three groups based on their approach to intermediary liability. The first group established little to moderate liability due

to the lack of relevant legislation, the second has conditional liability relying on safe harbour approach and the third - greater liability where insufficient response can lead to penalties. By subject matter two main approaches can be identified: general and targeted. The latter applies to specific IP rights, mainly copyright, and the legislation has clear specifications on where safe harbours apply, as well as an established notice-and-takedown approach.

The integrated approach to the protection of IPR was discussed by *Mr Ermias Biadgleng*, Officer in Charge, Intellectual Property Unit at UNCTAD. The digital content industry operates at the intersection of creativity and information technology. There are three main considerations in this regard: the fact that the internet is considered an important opportunity for investment, social development and education; the importance of enforcement of IPR and the market power of large, multinational technology companies.

Using the example of the music companies, UNCTAD representative explained, that the industry suffered losses during the period of widely spread infringements, and now the steady growth of revenues can be explained by introduction of new technological business models.

If large, multinational technology companies players are participating in the digital content trade, it means that they have enough financial resources and investment interest to contribute to the enforcement of IPR, but on the other hand they have substantial power that they can use in negotiations with content developers.

The UNCTAD experience in working with developing economies can be summed up in four main purposes: supporting investment in digital companies for the development of newer business models, addressing inequities between platforms and users, building capacity for content creators and international cooperation.

Mr Andrey Kuleshov, the counsellor at the Permanent Mission of **Russia** to the WTO, emphasised the issues of IP regulation in the digital content trade using the example of a triangle with unequal sides: IP, Trade and E-Commerce, as those elements are still on various levels of development in terms of regulations. In Russian experience IP is the most developed with numerous legislative acts, international cooperation and a highly effective IP Office, Rospatent. IP and Trade aspects are connected on the international level with the WTO's TRIPS Agreement, but the experience in this field is still recent. For example, Russia has taken an obligation under the WTO jurisprudence in regard to enforcement of copyright on the internet, even when TRIPS does not contain direct regulations of digital trade.

In Russia, the "Anti-Piracy law" allowing enforcement of infringed content on the internet in an effective manner entered into force in 2013. All Russian FTAs include specific provisions on IP.

The issue of e-commerce regulation remains an important topic of discussion for Russia, especially on the international scale, which is even more difficult given the differences in approach to its regulation, no international example to follow and technologies constantly amending business models. There is an apparent need for international framework or rules for e-commerce to connect all three sides of the above-mentioned triangle. One of such platform for communication is the Work Programme on Electronic Commerce at WTO.

Domestic systems of IP protection are sometimes limited when it comes to digital trade. For example, an infringing website can be blocked on a domestic level, but widely available VPN technology allows users to keep accessing the illegal content.

Economies need a common understanding of e-commerce and regulations specifically for digital content trade with a focus on IP.

Session 2: Specific Aspects of Copyright and Related Rights Protection on the Internet

This session was dedicated to the challenges of copyright and related rights protection on the

internet, as well as various approaches to tackling them. Moreover, the presentations in this session focused on the impact of the COVID-19 pandemic in terms of piracy and new challenges faced by rights holders.

Ms Pham Thi Kim Oahn, Deputy Director General of Copyright Office of **Viet Nam**, explained the experience of Viet Nam in the field of copyright and related rights protection on the internet. The copyright system contributes greatly to the promotion of creativity and socio-economic development, and technological advancement brings new challenges.

The copyright system of Viet Nam includes laws on Intellectual Property, amended in 2009, with a separate Circular providing liability of intermediary service providers (ISP) in the protection of copyright and related rights in the digital environment and telecommunication network. This Circular establishes a system of checking and supervising information that is being hosted or transmitted on the internet to prevent infringements, as well as detailed liability of ISPs.

Viet Nam is a part of several bilateral agreements and multilateral treaties, including TRIPS Agreement. There are also 5 Regional FTAs within the ASEAN and 5 FTAs.

Several main challenges that Viet Nam faces in relation to copyright protection online include identification of infringement of rights to copy, to communicate and distribute works, as well as compensation for damages caused by infringement on the internet and determining a competent court. When infringement is done with the use of newest technology the identification of the infringement entity is more difficult, as the law doesn't keep up with the technological development.

To face these challenges Viet Nam applies a number of solutions, including regulating the new legal relationship in accordance with the international practices, acceding to international treaties, improving capability, expanding management area, cooperating with specialised management authorities and strengthening international cooperation.

Mr Tatsuya Otsuka, General Manager in International Affairs at the Content Overseas Distribution Association (CODA) provided an overview of copyright protection in **Japan**. CODA, a voluntary organisation founded in 2002 with 32 member companies, 12 organisations and 9 supporting members, promotes legitimate content distribution, collaborates with regulatory bodies both in Japan and abroad and conducts educational activities.

Today online copyright infringement includes illegal streaming devices, piracy websites, UGC sites, link sites, online storages, P2P and shops that sell pirated content. One of the main protection activities that CODA has implemented is an Automated Content Monitoring and Takedown Centre that uses digital fingerprint technology with assistance of manual monitoring that is very effective.

There is a number of indirect measures that is being taken by CODA, including user warnings upon entering the infringing platform, delisting of search results, takedown requests, suspension of advertisement and of settlement process. Piracy websites usually make profits through advertisement, and the initiative to prevent ad placement on infringement sites is very effective, done by creating a list of infringing websites and apps, working closely with WIPO Alert.

Cross-border online copyright infringements have become more complicated, which is very difficult and time-consuming to address. Overseas piracy sites infringe a large volume of Japanese contents and continue to grow in numbers, and there isn't a method or a framework for quick identification of their operators. Newest technology, 5G in particular, facilitates the infringement process. To solve this issue a Cross-Border Enforcement Project (CBEP) was initiated as a collaboration with cyber security experts to track down and identify site operators in order to strengthen cross-border enforcement efforts.

Mr Szu-Ting Chen, Associate Professor for department of Law at National Cheng Kung University, offered an overview of online copyright protection solutions by **Chinese Taipei**. The experience with infringement is similar to other APEC economies, with P2P, streaming, hyperlinks,

and illegal websites and apps being the main ways of copyright infringement. These types of technology present a number of legal questions that are not directly tackled in the existing copyright law.

In 2007 and 2019 Copyright Act was amended to include the illegal use of P2P programs, OTT boxes, mobiles devices and prohibited acts: to provide programs to the public and to manufacture, import or sell equipment or devices with these programmes installed.

The Copyright Act does not contain the concept of blocking an illegal website, so the court authorised the “seizure” of a domain name. In this regard, judicial and technological collaboration with member economies is needed.

COVID-19 pandemic brought into view the issue of online learning, and in 2021 Copyright Act was amended to adjust the limitations of author’s economic rights for educational use of their work in order to maintain balance between the author’s right and the public interest, educational and cultural purposes.

Mr Dmitry Syrtsov, independent expert at the **Russian** Diplomatic Academy, highlighted the issues of IPR protection in the digital economy with the focus on media content. The digitalisation changes the forms of creativity and the share of media consumption, relationship between authors and consumers.

With no definition in existing domestic and international law, in the digital economy media content can be defined as information-containing coded data presented to the user in the form of text, graphics, sound, video, and multimedia. As technology develops, those common forms of content change, as well as their creators due to the fact that anyone anywhere in the world can become content creator. A phenomenon of “prosumer” emerges, who is an active network user who at the same time consumes, produces and distributes content.

The main issues of media content regulation include impossibility of monitoring the use of works by copyright owners, difficulties in copyright owners identification, sharing nature of the internet, the fact that not all rights-holders register their rights, the lack of metadata, the increasing speed of information exchange, the extraterritoriality of the internet and the possibility of content access simultaneously by an unlimited number of people.

Technology also may offer solutions both for authors and consumers. For example, blockchain can help resolve problems of copyright registration and infringements by providing user-friendly tools.

The improvement of legislation should be introducing new concepts relating to technological progress, including such concepts as media, content and the internet.

Session 3: Domestic Approaches of Marks Protection in Digital Content Trade

This session focused on the interaction between marks and digital content, as well as the domestic approaches to the protection of marks in the context of digital content trade. During this session speakers shared their experiences in order to facilitate a better understanding of the relevant issues.

It can be noted that the presentations on the issue highlighted the need for enhancing both legislative and enforcement systems in regards to the marks protection in the field of digital trade. Moreover, as seen in the questionnaire results, this need forms a strategic path for the government willing to keep up with the high speed of technological development and updating their intellectual property ecosystems.

The Philippines, for example, has recognised this direction and now demonstrates the benchmark results. *Mr Atty. Rowel S. Barba*, Director General of the Intellectual Property Office of the Philippines (**IPOP**) in his comprehensive overview shared their whole-of-government approach to the IP rights protection, involving both governmental bodies and private stakeholders, which is considered to be the key to their effective enforcement.

In 2020 the Philippines experienced a surge in IPR violation complaints

and reports with 95% of them in relation to digital space, mostly due to the shift to e-commerce and entertainment as a result of the COVID-19 pandemic. In response the Revised Rules of Procedure on Administrative Enforcement of IPR were issued, explicitly including online counterfeiting and piracy in enforcement work. These rules provide for blocking the websites that make available to the public counterfeiting goods and pirated content.

Whole-of-government approach is focused on the cooperation between government agencies and strengthening the legal framework against counterfeiting and piracy that are now heavily influenced by technological advancement. Since 2020 amendments to the IP Code are being reviewed to intensify the government efforts in preventing counterfeiting and piracy both in physical and online markets. They include a faster website blocking system, the ability to conduct store visits and preventively place in custody IP infringing goods, institutionalisation of IPOPHL's IP Rights Enforcement Office, establishing liability for landlords and platforms found to be dealing in trademark infringing goods.

The Internet Transactions Act will change how e-commerce platforms and websites operate by holding them accountable for erring online merchants and setting more adequate preventive mechanisms. A Memorandum of Understanding was signed between e-commerce platforms and several right holders aimed at developing a code of conduct in dealing with vendors selling fake and pirated goods.

IPOPHL has strong collaborations: for example, with the Bureau of Customs or as a part of a 12-member Committee on IPR (NCIPR). The Philippines continues to be the chair of the ASEAN Network of IP Enforcement Experts. It continues its collaboration with the ASEAN Customs Enforcement Compliance Working Group and ASEAN's 2016-2025 IP Rights Action Plan.

One of the most important directions in IPOPHL's work is creating a culture of respect for IPR, for example, through webinars offered to their employees and other government agencies on how to spot counterfeit goods and pirated items as consumers.

The experience of **Mexico** also includes a significant number of legislative changes aimed at improving IPR protection system that were created following the best foreign practices, the feedback from users and the experience of the system as well as international treaties. *Mr Aldo Fragoso*, Director of Intellectual Property Protection Division at Mexican Institute of Industrial Property, presented the most important amendments.

After an outstanding case the Supreme Court recognised that Mexican Institute of Industrial Property (IMPI) has the authority to order provisional measures to block the illegal content on web pages and measures against Internet Access Providers and other third parties as long as the decision is based on a legitimate purpose and is necessary and proportional. The new legislation clearly provides that these actions are in IMPI's authority as well as the right to carry out inspections both in physical and virtual environment to find infringing content.

Trademark and copyright infringements affect negatively not only consumers and government agencies, but also marketplaces. As the share of digital trade due to the growing access increases, the issue becomes more significant. Industry representative, *Mr Kirill Gorbachev*, the Chairman of the Board of Directors at Global Rus Trade (Russia), highlighted the need to develop appropriate tools. **Russia** introduced a digital marking system to track counterfeit products: every item is marked by a digital code providing information about the current location of the product, which significantly limits the possibility of infringement. For now, the system includes a limited number of product types such as tobacco, furs, pharmaceuticals, jewellery, etc.

The approach of Global Rus Trade as a marketplace includes verification of all sellers on the platform, control over the use of IPR and automation of many processes aimed at improving data exchange with customers and sellers. As entrepreneurs are responsible for compliance with IP laws, it is important to educate them on IP related subjects, which is a task both for the government and marketplaces. Digital trade platforms have to start constant communication with domestic IPOs

and make it a requirement to have trademark certification before they accept goods for sale. It will enable to significantly decrease the traffic of counterfeit products and the number of IPR related litigations that will have a positive impact on businesses and economy.

Online platforms are an integral part of the discussion on digital content trade. From the point of view of the international organisation, as presented by *Mr Brian Beckham*, Head of the Internet Dispute Resolution Section at **WIPO's Arbitration and Mediation Centre**, the notion of consumer protection is even more true in the online environment. The UDRP is a core aspect of protecting consumers online as it effectively allows brand owners to reclaim domain names from infringers. During COVID-19 crisis WIPO experienced a record growth in filings for UDRP: with the world conducting its major activities online from home, there are more opportunities for infringers.

The key elements that make UDRP successful include global reach, contract system and straightforward legal criteria. Nearly all decisions now rendered by the experts cite the principles that are laid out in the WIPO Overview, that is a compilation of 50 commonly accepted principles that were drawn from 50,000+ cases. The UDRP forms a bases for a number of ccTLDs and manages disputes for 80 of them as a part of serviced provided to the member states.

It is highly important to establish trustworthy online presence both for companies and consumers as it can influence the economy in a positive way: the statistics demonstrate that the more consumers trust that they are safe during transactions online, the more it drives jobs and GDP.

Session 4: Access to New Technologies in the Context of Digital Content Trade

The new emerging technologies present both challenges and opportunities to the IP rights holders and government authorities. This session covered the exchange of practices, approaches and ideas related to the protection of IPRs in terms of new technologies, namely AI, blockchain, autonomous vehicles and others. An appropriate way to tackle these issues can significantly promote both innovation and creativity. At the same time, the lack of understanding in this field may result in a strong economic decline.

The interconnection of the IP system with economic processes and technological advancement is obvious, and the overview given by *Ms Tuthill Lee*, Counsellor at **WTO**, demonstrated comprehensive statistics illustrating the topic. US Retail digital trade data shows that online content is in more demand than ever: books, music and video became the biggest product category in 2020, while in 2019 it was only the 10th in sales. Among other significant findings is the fact that Asia-Pacific region is a leader in e-commerce retail sales in 2020, followed by North America with a significant gap, and that the global tech & telecom sector was one of the least affected by the pandemic in 2020.

WTO representative gave a summary of the most relevant technologies and emerging tech trends, including broadband and mobile internet advances, artificial intelligence, blockchain, 3D printing, as well as established technological business models: cloud, Big Data and Internet of Things.

For example, mobile internet and 5G introduction, predicted to triple in 2021, has the biggest importance not only for consumers but also for industrial applications. The cloud-based technology will be more in demand both from the public and a variety of businesses, and Big Data is inherently dependent on the cloud infrastructure as well. AI is and will be used not only by high-tech sector, but also by financial services, transportation, energy, media and automotive industry. IoT also works with AI

and is being developed a lot faster than expected: from smart-cities and factories to autonomous vehicles. Blockchain, in its turn, is and will be commonly used in IoT, smart devices, and electric e-mobility; 3D printing - in aerospace, medical and automobile industries.

In terms of regulations, the issue of territorial boundaries arises within

the IT industry there is a huge amount of outsourcing which makes even a seemingly local trade in fact global. Even though all these technologies are interconnected, they are being regulated differently, if regulated at the moment at all. There isn't a tradition of content regulation in many of these sectors as well, because before recently the creation of such content was not possible.

This complex ecosystem requires a very careful approach to regulation, and regulatory innovation that can be achieved through information sharing and collaboration between agencies and especially governments in order to create true interoperability.

As demonstrated by the questionnaire results, the issue of defining the newest concepts is very relevant. *Mr Marcel Salikhov*, Director of Institute for Public Administration and Governance, Centre for Economic Expert Analysis of HSE (**Russia**), using the statistics provided by Euromonitor emphasised that the digital market is growing despite global economic issues due to the COVID-19 pandemic. These markets have been growing over the last 10 years, and especially since the newest technology becomes available for mass users, and as technology develops the growing trend is expected to continue.

One of the key factors of this growth is the availability of internet and smartphone access, and there is large variability in APEC member economies with unequal proportion between internet access and the number of smartphones with mobile internet connection used by the population. Large economies have large potential to increase consumer base through improving access availability, especially broadband that is essential for further digital market development.

COVID-19 accelerated the trends that have started earlier, thus offering an advantage for the companies that initiated their digital presence before the pandemic, while more traditional industries suffered significant losses until they adapted to the new reality through apps and other forms of digitalisation. Start-ups emerged in response to the pandemic, i.e. creating contact tracing apps, and their activities raise privacy and data issues. Robotics and 3D printing experienced a surge in demand in these circumstances too.

A survey dedicated to the technological investment priorities, conducted among managers all over the world, shows that information security, cloud technologies, automation, AI, IoT and 5G are among top tech investment choices.

The growth of digital markets has been heavily impacted by the changes in consumer behaviour: the online traffic shifted towards online shopping and media, content consumption, video streaming and video games, which caused a spike in the relevant markets and strengthened the position of the biggest players. Remote working becomes an important trend as it requires the development of technologies to provide the necessary infrastructure.

The development of digital economy has entered a new stage. As *Ms Li Dingjun*, Consultant at the Department of Treaty and Law, **China** Intellectual Property Administration, explained, the integration of digital technologies and the process of trade creates a number of changes such as online orders, digital delivery, etc, all of which reduces trade costs and increases its efficiency. Products and services are being digitalised too when data becomes a trade object.

In these circumstances important challenges become obvious: protection of IP and market regulation. For example, AI algorithms can currently be protected by copyright, trade secret or patent, Big Data - by copyright, patent or competition law, but neither choice is sufficient on its own and presents certain difficulties, primarily unclear protection standards.

In the experience of China, the gradual amendment and improvement of patent examination rules was an important step. In 2017 technical solutions in relation to business model innovation were included in the scope of patent protection, and in 2019 the examination rules for patent applications in the newest fields regarding AI, Big Data and blockchain are introduced as a new chapter to the Guidelines. Besides, these technologies are now being applied in patent analysis, consultations and document translations.

Conclusion Remarks and Recommendations

Analysis of the questionnaire results and the workshop findings allows establishing clear common patterns and needs of APEC economies in this field. Both the Questionnaire and the Workshop illustrated that many APEC economies share similar challenges and sometimes approaches to problem solving in terms of legislative systems, definitions, the use of the newest technologies and international collaborations.

Considering the needs of APEC economies on enhancing cooperation, facilitating digital content trade and creating sustainable, effective and balanced systems, further potential new activities/initiatives in APEC could be proposed:

- to foster further dialogue in the field of digital content trade to get a better understanding of ways of trade facilitation and IP ecosystem enhancement;
- to deepen understanding of the scope of digital content trade and enhance understanding of e-commerce and regulations specifically for digital content trade with a focus on IP;
- to determine a common methodology for collecting and estimating statistical data on digital content trade;
- to equip businesses, content creators and users with the necessary information and a deeper understanding of the processes occurring in digital content trade;
- to raise public awareness on the issues of IPR infringement in the digital content trade processes by providing detailed, and comprehensive information on the main aspects of digital content trade within the APEC;
- promote further work in the WTO on e-commerce.

Annexes

Annex #1. Structure of the Questionnaire

The Pre-Workshop questionnaire consisted of seven sections, covering both general and specific issues regarding the protection of intellectual property rights in the digital content trade, including the impact of the COVID-19 pandemic.

Section №1. General Information

- Does the domestic legislation of your economy clearly define the term "digital content trade" or other similar terms? Please provide the definition together with the source.
- What share of your economy's gross domestic product (GDP) takes digital content trade? Please provide the most recent data in US dollars. If the data is not available, please specify the reasons for the lack of such information.

Section №2. Legal Regulation

- How are the digital works protected in your economy? Please specify all the options and approaches, if there are many.
- Does the domestic legal system provide regulation specifically for digital content trade? If not, please provide information on relevant laws and regulations that can be applicable to digital content trade.
- What approaches, if any, are applicable in your economy to provide the legal framework for the digital content trade (e.g. sui generis laws, directives, regulations, resolutions, case law, general framework or concept, etc)? Please specify.
- Does your economy provide any registration of digital works? How does the registration relate to the protection of intellectual property rights?
- In the case of a federal state or trade union, are rules relating to digital content trade harmonised? If yes, please specify.
- Have any domestic frameworks governing the digital content trade been recently developed or updated?

Section №3. Cross-Border Transactions

- What are the approaches to the principle of territoriality of IPR protection applied in your economy to cross-border transactions involving digital content?
- Does your economy have any specific regulation for cross-border digital content trade? If yes, how does it relate to the regular trade of material goods?
- How the disputes involving cross-border digital content trade are commonly resolved in your economy (e.g. general State courts, specialised State courts, arbitration and mediation (including provided by the digital content platforms, etc)? Please provide details.
- Is your economy party to a bilateral or multilateral agreement covering cross-border digital content trade? Please specify.
- Are there any model laws that govern cross-border contracts involving digital content transactions in your economy?

Section №4. Legal Barriers and Challenges

- In your opinion, what are the key barriers to digital content trade in your economy?

- In your opinion, what are the key barriers to digital content trade in your region and/or globally?

Section №5. Activities Focused on the Digital Content Trade

- Have any activities focused on the digital content trade or its protection been ever conducted within your economy? If yes, please specify.
- Are any communities, work groups, task forces or other entities, focused on the digital content trade, functioning within your economy?
- Have any documents (e.g., road map, concept, policy, guidelines) been developed or proposed within your economy?

Section №6. Role of the Private Sector & Collective Management of Rights

- Do the private stakeholders participate in the development of the regulation related to the digital content trade in your economy? If yes, please provide more information.
- What type of rights is collectively managed in your economy?
- Are there collective management organisations involving in digital content trade in your economy? If yes, please provide details (e.g., industry sector, role, manageable rights, etc.).
- Do the private sector representatives draft and apply collective contracts to manage their digital content rights?

Section №7. COVID-19

- How the COVID-19 pandemic affected the digital content trade in your economy?
- Has your economy experienced any infringement activity boost concerning the digital content trade and electronic commerce?
- Have the measures to prevent infringements of rights to digital content trade been introduced in your economy? Please provide details.

Annex #2. Overview of the Replies to the Questionnaire

Section №1: General Information

Comparison and analysis of replies have shown significant similarities in the regulation of digital trade content. On the terminology level, domestic legislation of the responded economies has no definition of "digital content trade". Some of the economies mentioned that they are currently developing the relevant definitions together with the domestic framework.

At the same time, some of the responding economies mentioned similar terms able to assist the further definition of the digital content trade. Indonesian Regulation on Trade Through Electronic System defines both "digital goods" and "digital content" as electronic or digital information including physically converted digital goods or electronic goods such as software, multimedia. Furthermore, China specified that its Digital Government Law defines a "digital service" as a service provided wholly or partially through the internet or another equivalent network, which is characterised by being automatic, not face-to-face and using digital technologies intensively, for the production and access to data and content that generate public value for citizens and people in general.

As per the share of economies' gross domestic product taken by digital content trade, only two economies specified the approximate figures — US\$23 billion in 2018 (Japan) and US\$2.9 million in 2019 (Malaysia).

Some economies shared estimated figures covering a wider sector of trade.

In 2016, creative industries supposedly amounted to 2.2% (US\$ 5.5 billion) of Chile's GDP. In 2017, it is estimated that 7% (US\$11.5 trillion) of Canada's GDP was digital, including the contribution of digitally-delivered products and exports of digital services. In 2018, the value added of the distribution of information and communication technology products represented 3.0% (US\$ 10.8 billion) of the GDP of HKC. In Malaysia, the contribution of the creative industry to its GDP grew at an average annual rate of 6.9% reaching US\$ 7.1 million in 2019.

In terms of further development in this area, Canada mentioned that its Statistics Office is building a Digital Satellite Account, which will capture this information in the future.

Section №2. Legal Regulation

All the responding economies were uniformly specifying that the copyright laws constitute the primary source of protection for digital works. Most respondents mentioned a general framework for trade in goods, including e-commerce. In general, all existing laws and regulations treat trade in digital content the same way as traditional trade in tangible goods. None of the economies has adopted regulation specifically targeting digital content trade.

There is no registration requirement for the digital works to be protected under the legislation of all the responding economies. At the same time, optional copyright registration is available with the domestic IP offices or relevant departments of the Ministries of Culture. Such voluntary registration provides the registrant with certain enforcement benefits and serves as preliminary evidence.

Regarding the recent developments in domestic frameworks governing digital content, Canada is currently reviewing its Copyright Act, including consultations on a modern framework for online intermediaries, artificial intelligence, and the Internet of things. Chile has recently reformed its IP Law, Law on Computer Crimes and General Telecommunications Law. The latter imposes sanctions on unauthorised distribution or commercialisation of content carrying signals of television service providers, the importation, distribution or commercialisation of devices or applications destined to decode such signals, and the supply of services for the installation of the devices or applications. Mexico has also updated its regulation covering the digital content trade last year. Russia shared that the amendments in this field are being widely discussed.

Section №3. Cross-Border Transactions

The courts in Canada have territorial jurisdiction over the cross-border disputes basing on a "real and substantial connection" to that economy. Its Copyright Act covers both electronic transmissions originating from or received in Canada if the mentioned connection is proven. Relevant connecting factors include the situs of the content provider, the host server, the intermediaries and the end-user. Furthermore, Canadian IP Law can have an extraterritorial effect in its application. In particular, a court has jurisdiction to issue worldwide injunction orders against a non-party to litigation (provided the court has personal jurisdiction over such non-party) – for example, a search engine.

In HKC, courts generally have jurisdiction when the infringement occurred in the territory. In terms of digital content trade, the following factors may be taken into account in determining the location of the online infringing activities: the location of the infringer or the target audience of the infringing materials, the location where uploading and downloading of the materials occurred, and the location of the server for data storage.

The Indonesian legal framework on copyrights allows the Government to block website, which contains infringed digital content. Russia laws also grant the power to the specialised governmental

agency to block the infringing websites after the court decision. Regarding other matters, both economies treat trade in digital content the same way as the one in traditional tangible goods protected by IPRs.

Most economies did not introduce any specific regulation for cross-border digital content trade. On the other side, Indonesia mentioned the Finance Ministry Regulation covering both tangible and digital goods import duties.

Half of the respondents did not provide any data regarding the common way of dispute resolution involving cross-border digital content trade. Canada; Indonesia; Mexico; and Russia specified that court actions are the common way to deal with such disputes. China; HKC and Chinese Taipei highlighted the freedom of the right holder to decide on the form of dispute resolution.

Notably, HKC stressed alternative dispute resolution mechanisms, including those provided by online dispute resolution (ODR) platforms. The economy mentioned the COVID-19 ODR Platform, which was designed specifically for the disputes arising out from or in connection with the COVID-19 pandemic globally and locally, especially for those involving micro, small and medium-sized enterprises that may be adversely affected or hard hit by the pandemic. For instance, and domain name ODR services are provided by the Asian Domain Name Dispute Resolution Centre. Furthermore, HKC shared that its Hong Kong Creative Industries Association has launched the Hong Kong Infringing Website List (HK-IWL) that contains a list of websites offering copyrighted content without the right holder's authorisation. The initiative is similar to the international online platform WIPO ALERT.

Canada specified that it signed three multilateral agreements specifically including disciplines related to digital trade and one bilateral agreement that includes provisions on the electronic exchange of information.

HKC is a party to the free trade agreements with the European Free Trade Association (EFTA), Georgia and Australia, as well as the Closer Economic Partnership Agreement with New Zealand, all covering cross-border digital content trade.

Regarding model laws that govern cross-border contracts involving digital content transactions, Canada and HKC enacted legislation based on UNCITRAL Model Law on Electronic Commerce.

Section №4. Legal Barriers and Challenges

The responding economies expressed quite heterogeneous opinions on legal barriers and challenges to digital content trade at domestic, regional and global levels, at the same time there were some similarities related to accessibility issues, the lack of legal framework and distrust towards the digital environment.

Canada and Malaysia mentioned a potential barrier highlighted and exacerbated by the COVID-19 pandemic that is the connectivity gap within the economy, where citizens living in rural and remote areas have less access to high-speed internet than those living in urban areas.

From the perspective of the public sector of Chile, the main obstacle for the protection of digital content is a habit of the "free" use of works available on digital media without remuneration to the right holders. The private sector identified the tax for international services as the key barrier. The access better services and providers with specific experience in game development the private sector players must pay from 15% to 30% above all fees in taxes, which increases the development cost and affects the final negotiations with potential publishers or partners.

According to Peru, there are still lags in digital transformation adoption in public and private entities, either due to lack of economic resources, ignorance or shortage of trained professionals who promote digital development within their companies and institutions, which translates into a waste of new technologies and the benefits they entail, running the risk of being left out of the market by not adapting to new digital trends that allow them to meet demands of an increasing number of users. Furthermore, the economy noted the lack of digital tools, inaccessibility of databases, low generation of domestic content, waste of the cloud, change of

paradigm in the consumer (renunciation of the use of technology due to ignorance or lack of trust).

Russia specified the lack of specific legislative regulation. For now, all the goods and services on the Internet are regarded as regular products (e.g. custom-made downloadable files), services (e.g. online education videos) or in some cases as licensed works (e.g. music, movies). Other challenges identified by Russia include lack of digital tools and platforms and customer protection availability.

Mexico considers that the continuous evolution of digital platforms constitutes the key challenge in this field.

As to the regional and global challenges, Canada named unnecessary restrictions on the transfer, storage, or processing of data across borders, barriers reducing consumer and business confidence and trust, such as inadequate legal protections for consumers, privacy, and IP.

Both Chile and Russia highlighted the absence of consensus in the regulations at the regional or global level. From the perspective of the private sector of Chile, the fees and taxes payable in every economy of the region constitute a major barrier to the digital content trade.

Indonesia stressed the need for a harmonised system or international agreement governing the protection of digital content against infringement in the regional or global setting. Furthermore, it mentioned the absence of a regulatory framework on cross-border e-commerce issues such as transparency, non-discrimination, and interoperability also lack global efforts in facilitating and removing unnecessary barriers in cross-border e-commerce activities. Among the main barriers in the ASEAN, the responding economy identified the lack of network coverage, costly and slow internet connection, lack of utilisation of e-payment in electronic transactions, and lack of support for the MSMEs to participate actively in digital trade.

From the point of view of Peru and Russia, the main challenges that exist at the regional or global level are accessibility problems, inequality in digital inclusion of the population of the world, absence of clear global regulations on digital economy and remaining distrust towards the digital environment. Peru also mentioned the lack of support for digital entrepreneurs at the regional and global levels.

Japan noted the existence of government censorship and quantitative regulation introduced in some economies. On the enforcement side, Mexico pointed out that the infringers use the cloud services and therefore their location is almost impossible to identify.

Section №5. Activities Focused on the Digital Content Trade

Seven of the responding economies specified various activities focused on the digital content trade or its protection conducted in their economies, varying from public dialogue and awareness-raising activities of a different scale to participation in the local, regional and international relevant working groups.

Canada generally undertakes analysis and consultations before the negotiation of digital trade or e-commerce provisions in prospective trade agreements. Furthermore, the Parliament conducts periodic statutory reviews of the Copyright Act.

For many years, IP Office of Chinese Taipei has been taking steps to respond to the challenges of the digital age, including amendments to the Copyright Act to provide more comprehensive protection and delivery of awareness-raising events.

Since 2011, an annual Business of IP Asia Forum is organised in HKC to bring together IP professionals and business leaders from all over the world to discuss the latest developments in the IP world and explore business collaboration opportunities in both the physical and digital environments. Furthermore, the Intellectual Property Department of HKC has engaged in awareness-raising activities related to IPRs, including promotional campaigns against piracy and infringement in both the physical and digital environments.

The Communications and Multimedia Content Forum of Malaysia indicated

the government's blueprint that had been introduced as MyDigital initiative which is focused on the following activities: to drive digital transformation in the public sector, boost economic competitiveness through digitalisation, establish digital infrastructure, build agile and competent digital talent, create an inclusive digital society, build trusted, secure, and ethical digital environment.

The Institute for the Defence of Competition and the Protection of IP of Peru (Indecopi) promotes the new guidelines to protect consumers who carry out commercial operations in Peru over the internet. The Institute also actively participates in the Consumer Policy Committee and OECD Working Group on Consumer Product Safety.

The digital content trade and its protection are being widely discussed in Russia both on a governmental level and among companies, customers and content creators. The biggest project is the domestic program "Digital Economy", dedicated to encouraging digital economic development.

Four responding economies provided details on the various entities focused on research, analysis and promotion of the digital content trade within their territory.

The Canadian cultural community is very vocal in advocating for measures to support cultural industries in the online environment. The Coalition for the Diversity of Cultural Expressions (CDEC), representing 2,000 companies, 200,000 creators and professionals, is one of the main associations representing the interest of cultural industries online. The CDEC has commissioned numerous studies on the discoverability of cultural content in the digital environment. Internal to the federal government, there are interdepartmental working groups on digital trade and internet policy. The Canadian Institute for Global Innovation (CIGI) also publishes numerous reports on digital trade's intersection with topics such as data regulation, intellectual property bilateral agreements, intellectual property and the WTO.

The work of some public agencies in Chile is focused on the digital content trade. For example, within the Ministry of Foreign Affairs, Under-Secretariat for International Economic Relations (SUBREI) and Export Promotion Bureau (PROCHILE) focus on supporting the negotiation process and developing laws and opportunities in this field.

Interactive Advertising Bureau (IAB) of Peru is promoting the development of digital content and supporting the digital transformation in Peru. IAB is responsible for promoting the use of the internet as a communication tool for brands and encouraging them to take advantage of the effectiveness of online advertising.

There are numerous communities and working groups, including those in Government bodies, that discuss the issues of digital content trade in Russia.

Taking about the recent developments in the field of digital content trade, Canada introduced a new model for industry-government relations, which led to a report that includes a sector-specific plan to foster the growth of digital industries. According to the Canadian IP Strategy, the Government will make sure that local businesses, creators, entrepreneurs and innovators have access to the best possible IP awareness, education, advice, tools for growth and legislation.

Multiple papers and proposals have been submitted in the last years in Chile, specifically speaking about videogame development. The final proposal for digital trading policy for information protection was presented to all the economies within APEC in 2018.

In Peru, Indecopi is actively promoting the OECD guidelines to protect consumers who carry out transactions on the internet.

The major recent development in Russia is the above-mentioned program "Digital Economy".

Section №6. Role of the Private Sector & Collective Management of Rights

In Canada; Chile; China; and HKC, the relevant stakeholders are invited to share their views on a regulatory framework.

Under the Canadian Copyright Act, collective societies administer some copyright and

remuneration rights in Canada. Some local collective societies may be involved in digital content trade, for example, the Canadian Musical Reproduction Rights Agency, which collectively administers reproduction rights for musical works, offers online music licensing for the reproduction of songs for distribution as permanent downloads, limited downloads, on-demand streaming, and webcasting.

The IP Law of Chile regulates the entities that can collectively manage the IPRs. These are Chilean corporations under private law, whose objective is to carry out activities of administration, protection and collection of intellectual rights. There are currently eight collective management organisations managing works in the following sectors: music, books, audiovisual directors, scriptwriters and playwrights, still image, audiovisual production, actors, phonogram producers. They can regulate and manage the digital use of the works included in their repertoire. The private actors operating the video games sector created a collective organisation called VG Chile that has eighty-six members. The private sector is currently working on the development of collective contracts to manage their digital content rights. However, the local private actors consider that there are not many achievements in terms of collective management of IPRs so far, since the economy is relatively new.

Chinese legislation allows the collective management of copyrighted works, including text, music, photography and movies. The copyright collective management organisations comprise the Chinese Character Copyright Association, China Music Copyright Association, China Audiovisual Copyright Collective Management Association, China Photographic Copyright Association and China Film Copyright Association. If authorised by the right holder, they can be involved in the digital content trade.

In Chinese Taipei, there are now only collective management organisations for musical works and sound recordings. The rights of management are limited to public broadcast, public performance, and public transmission. If the exploiter intends to make available or communicate to the public the above-mentioned content of work through the internet (including enabling the public to receive the content of such work at a time or place individually chosen by them), a license of public transmission must first be obtained from the relevant collective management organisation.

In HKC, the copyrighted works may be collectively managed by licensing bodies. To enhance the transparency of the licensing bodies and the licensing schemes that they administer, licensing bodies are encouraged to be registered under the Copyright Ordinance. Registration is voluntary. Currently, there are six registered copyright licensing bodies. The collective contracts used for managing digital content rights are generally prepared by the licensing bodies or with the support of their professional advisors.

In Malaysia, there is a copyright-related regulation covering the music, sound recording, performer, film or audio-visual works. However, since the establishment of Collective Management Organisation (CMOs) in Malaysia, in most cases, the right holders assign the management of rights including digital content to such organisations.

In Russia, several officially accredited organisations collectively manage copyright and related rights, including services on the internet.

The Indonesian Copyrights Law also allows collective management of copyrighted works, particularly the collection of royalty. The Collective Management Organisation (LMKN) was established to supervise and coordinate the collection of royalties by the local collective management organisations. Public places or activities using music like cafes, karaoke, and art performance eventually have to pay royalties, which is regulated by these organisations that collect, manage and then distribute royalties to the authors and related right owner. The collective management organisations do not specifically engage in the digital content trade.

They serve the purpose to collect royalties on behalf of the right holders. The local private sector representatives draft and apply collective contracts to manage their digital content rights through LMKN.

In Mexico, a non-profit and public interest collective management society protects and represents the rights of authors and publishers (CEMPRO). Private

and public sectors jointly draft collective contracts to manage digital content rights.

Section №7. COVID-19

While the COVID-19 pandemic dramatically has harmed the traditional business models, most of the responding economies recognised that the pandemic has accelerated the shift of the creative industries (especially video games and streaming services) and education services to the digital sphere. Furthermore, the epidemiological situation has encouraged both public and private entities to adapt quickly to the digital transformation and changing demands of the public.

Canada recognised that the pandemic has accelerated the shift of the creative industries to the digital sphere, however, the shift has not been seamless or without barriers for some industries, e.g. international tours and the discovery of new talent. Other sectors like interactive media have thrived, driven by the increase of people working from home, with increased disposable income. Overall, the COVID-19 pandemic hit Canada's cultural industries early and hard, and the impacts are still ongoing.

Chile observed both positive and negative effects of the pandemic. On the positive side, the economy had the strength to digitalise the working process and the ability to respond immediately to the constantly changing demands. On the other side, for those companies that were negotiating with providers and clients, it negatively affected the process: the cost went high, contracts were being delayed and the investment from small parties was lost with no new content. In that regard, the pandemic has shown the reality of small developers against big international stakeholders.

Japan experienced the expansion of the video games and streaming services market as time spent at home has increased.

During the COVID-19 pandemic, Malaysia faced issues concerning the media box/android box and illicit streaming devices (ISD). The following measures were taken to prevent infringements of rights in the context of digital content trade: copyright law for infringement of copyright in the digital environment, websites blocking under the provisions of the Communications and Multimedia Act 1998.

Informal businesses or businesses that did not have services such as delivery or web pages were the main affected due to the pandemic in Peru. However, those such as supermarkets experienced a positive impact. The use of digital platforms has grown exponentially due to the pandemic, so much so that both public and private entities have found it necessary to adapt to the digital transformation to stay in the market.

The main effect of the pandemic on the digital content trade in Russia was the drastic increase in demand. The online education sector experienced a logical increase in the volume of content sales as well. Some products were converted to a digital format if this was a possibility, and content creators increased the production.

Mexico noted that the negative impact caused by the COVID-19 pandemic on its digital content trade is immeasurable.

The majority of responding economies did not record an increase in infringement activity concerning digital content trade, which fully or partially results from the enhanced proactive measures and awareness-raising activities.

Canada; Chile; HKC; Indonesia; Mexico; and Chinese Taipei did not witness any increase in infringement activity concerning digital content trade and e-commerce as a result of the COVID-19 pandemic.

As per Chile, this may partially or fully result from the increase of the protection measures of rights and private information introduced by the government. In the second half of 2020, the Ministry of Culture, Arts and Heritage launched a communications campaign to educate the public about the importance of respecting and protecting copyright.

Regarding the prevention of online copyright infringement, Chinese Taipei has taken several proactive steps, including assisting rights holders in pushing for legal amendments

regarding curbing the proliferation of illegal set-top boxes, promoting "follow the money" measures, raising awareness of copyright protection and conducting joint investigations with international partners.

HKC regularly carries out promotion and public education activities to promote IP awareness and discourage infringements. To strengthen the enforcement work against online IPR infringements, the Customs and Excise Department of HKC has set up dedicated "Anti-Internet Piracy Teams" to conduct online investigations and enforcement actions where the infringers are located in the economy. They have also set up the "Electronic Crime Investigation Centre" to conduct research on the IPR crime trends and to enhance the investigation capabilities of the operational staff through cyber investigation training. Furthermore, they have developed dedicated monitoring systems to analyse open information on different online platforms for effective profiling and targeting of infringing activities.

Indonesia did not introduce any specific measures or regulations, which regulate infringements of rights to digital content trade. However, in general, copyright law provides provisions to protect the infringement of digital content.

On the other hand, Japan and Peru observed an increase in online piracy. Japan did not specify whether it has introduced any measures to prevent infringements of rights to digital content. Peru noted that retransmission of content illegally by social media platforms had a boom during the pandemic. According to the Telecommunications Centre in Latin America (CET.LA) study, digital piracy in Latin America represents a potential profit of US\$ 675 million per year based on average clicks on illegal sites. Through agreements with international organisations, Indecopi (Peru) has been fighting piracy by tracking and blocking pages that share or retransmit content without the permission of the authors.

In Russia, the Federal Service for Supervision of Communications, Information Technology, and Mass Media (Roskomnadzor) has been introducing new effective measures that demonstrate great results to ensure the decrease of the illegal content market, including regularly monitoring and blocking the cases of IPR infringement.

China specified that the measures to prevent infringements have been taken. Since 2005, the Copyright Administration and relevant departments have successively carried out 16 special actions named "Jianwang" (Sword Network) against online infringement and piracy, which focused on special copyright rectifications in areas such as online video, music, literature, cloud storage, and application stores, effectively cracked down and deterred Internet infringement and piracy.

