



WORLD TRADE  
ORGANIZATION

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**Council for Trade-Related Aspects of  
Intellectual Property Rights**

**EXTRACT FROM MINUTES OF  
MEETING OF THE  
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INTELLECTUAL PROPERTY RIGHTS**

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**ITEM 14 INTELLECTUAL PROPERTY AND INNOVATION:  
ENTREPRENEURIALISM AND NEW TECHNOLOGIES**

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## **AGENDA ITEM 14: INTELLECTUAL PROPERTY AND INNOVATION: ENTREPRENEURIALISM AND NEW TECHNOLOGIES**

### **14.1 European Union**

400. It is my pleasure to open the discussion today on IP and innovation. As we have said in the past, we value very much, and we consider an important contribution by this TRIPS Council to the discussion to highlight the many positive aspects of IPRs. Today the theme is broad, entrepreneurialism and new technologies, and because in the past we have talked about many issues in this area, today I decide to focus on a particular area where the EU industry and rightholders have been very successful, but also where there is an angle of contribution to development. I will focus on the creation of apps, it is a new market, very dynamic, one that is extremely interesting.

401. As the EU looks to expand and harmonise its digital economy through the newly launched Digital Single Market strategy, the mobile games industry is an area of the global tech industry where Europe is a global leader and has been driving digital innovation, not just across the continent, but worldwide.

402. Every day, millions of people throughout the EU and the world turn on their devices to find enjoyment, challenge themselves, and play against their friends on mobile as well as traditional game platforms.

403. While the mobile games industry is still young, its impact already extends beyond game development and spills over to companies and workers in other creative industries, benefitting the European digital economy. Furthermore, industry forecasts suggest mobile games will grow at an annual rate of more than 10% until at least 2017.

404. European mobile app developers capture a large portion of worldwide revenues from mobile games. Several of these companies grew from SMEs to organisations with hundreds of employees in the span of less than a decade. Popular games such as Candy Crush Saga (King), Clash of Clans (Supercell), and many others have been created by European companies and have now become international household names.

405. More than 90% of the revenues from mobile games come from titles that employ a revenue model known commonly as "freemium": this approach lets people download and play apps for free and gives them the choice to pay for extra features through optional in-app purchases. The freemium model allows people to try new games without committing any money upfront. The zero costs of download also help with international expansion. The digital nature of the marketplace and the reach of app stores allow European developers to take advantage of global audiences, who generate more than 35% of their total revenues.

406. Innovations and skills created by the mobile games industry can fuel Europe's digital economy. the European mobile games industry represents a success story for digital development: it has delivered and is expected to continue to deliver positive business and employment impacts. The increasing popularity of mobile games impacts the wider digital economy. Low barriers to entry in the industry allow new companies to participate in the growing market. As a result, economies can add jobs and generate tax revenues. The special needs of games companies and other innovative digital players can even create new types of jobs, such as data scientists,

407. The industry economic effects are magnified in regional hubs. Hubs and clusters form when developers co-locate in areas occupied by other technical companies and wider creative industries. London, Berlin, Helsinki, and Stockholm have spawned vibrant hubs that attract talent and capital, and boost the broader digital economy. The hubs are not limited to only mobile game developers, as other game companies and creative industries can be a source of talent and creativity. In the UK, for example, mobile games companies are often co-located near other creative industries such as software, advertising or design.

408. The connecting feature of hubs has significant economic benefits. For example, the concentration of telecoms, media, and technology industries in London was estimated to contribute

over £125bn to the UK's GDP. Its tech sector also generated 27% of the city's job growth between 2009 and 2012. This experience is similar throughout Europe, where hubs of creative and digital industries have led growth of employment and the economy

409. This sector is not only about games, and I would like to give also a couple of examples where mobile applications produce development-oriented positive output. The European Commission through our development services, DG DEVCO, has projects in Zimbabwe use mobile applications to improve farmer productivity. One project improves coordination of livestock via timely availability of data that truly reflects the situation on the ground by using GPS and IT.

410. Another is developing and promoting an ICT platform for marketing and increase in production of nutritious foods (cereals and legumes), through crop diversification. It trains farmers in the use of mobile platforms to use marketing info and info on nutrition extension and mobile banking via mobile platforms.

411. Another area of interest is that of so called branchless banking. The Technology Programme of the Consultative Group to Assist the Poor is designed to enable access to a broad range of financial services such as payments, savings, loans, and insurance for over 30 million poor people. Development in information and communication technologies is making it possible for people to receive financial services without having to travel long distances to a bank branch and at an affordable cost. Technology – and in particular the ready availability of mobile phones – permits banks to make 'last mile' cash management and customer servicing functions such as deposits and cash withdrawal available securely through third-party retail outlets such as convenient stores, gas stations, and post offices. This is broadly described as branchless banking because of its strategy for delivering financial services without relying on physical bank branch locations.

412. The Technology Programme for branchless banking, supported by UK's Department for International Development, the Gates Foundation and the Consultative Group to Assist the Poor (CGAP), will test and scale up branchless banking systems in Asia, Africa and Latin America to increase access to affordable savings, payments, credit, insurance and remittances services for the poor. An estimated 1 billion people with a mobile phone do not own a bank account. Branchless banking can harness the potential offered by new technologies, such as mobile banking, which have made it possible for poor people to access financial services without having to travel long distances to a bank branch and at an affordable cost.

413. So far the programme has helped deliver access to 19 million poor people across 16 countries in Asia, Africa and Latin America and the Caribbean) through 25 projects. Bangladesh, Pakistan, India, Afghanistan, Philippines, Mongolia, Ghana, Kenya, Senegal, Uganda, Mali, South Africa, Brazil, Mexico, Columbia and Haiti.

414. Technologies transferred include new technologies to enable branchless banking, such as mobile phones, magnetic stripe or chip cards, and biometric applications.

415. We have more examples in this area, all of these projects require some kind of protection through intellectual property, and they are applicable to small markets, to individuals, to all kinds of different markets.

## **14.2 Australia**

416. Australia is pleased to have co-sponsored this TRIPS Council item on intellectual property and innovation with a focus on entrepreneurialism and new technologies. Australia is keen to embrace the changes occurring in the global economy from new technologies. We recognise that innovation is critical to our economic prosperity. We wish to encourage a more entrepreneurial culture and to play our part in driving global research and innovation.

417. We recognise that stronger linkages between government, providers of higher education, science and research institutions and the private sector will help us commercialise good ideas. We also advocate the role of appropriate consumer protection in building consumer confidence in the use of new technologies.

418. In the interests of embracing these changes, the Australian Government is placing science and research at the centre of Australia's innovation framework. Initiatives such as Accelerating Commercialisation and the Industry Growth Centres are designed to improve Australia's commercialisation performance. The Industry Growth Centres are also intended to bring research institutions and industry together, improving collaboration and market connections.

419. An intellectual property system, as it evolves in response to technological advances, has a critical role in enabling innovation and creativity as we have highlighted in our previous TRIPS Council interventions under this valuable agenda item.

420. Mobile technologies, in particular, continue to transform interactions between the economy, society and business, as the EU delegate's presentation has highlighted so effectively. This transformation is underpinned by a robust mobile ecosystem. A key element of a robust mobile market is competition, which provides a catalyst for the development and adoption of new technologies.

421. Governments also have a key role in ensuring a sound policy framework is in place. In Australia, that framework extends through a range of initiatives, including spectrum reform and the Public Safety Mobile Broadband.

422. In closing, Australia seeks outcomes from the uptake of new technologies that deliver certainty to business and consumers while ensuring we maintain the ability to address public policy needs.

### **14.3 Chinese Taipei**

423. My delegation is pleased to join the United States, the European Union, Australia and Singapore in sponsoring the agenda item. We also very much welcome the contributions from other Members on this subject.

424. Our ICT design and production industry is widely recognized as one of the leading forces in the global market today. And, thanks to the proactive efforts of our government, we have a well-established and sound development environment at home as well. As we know, innovation is key to maintaining the competitiveness of our industries, so we are committed to promoting all forms of innovation in our industrial development policies.

425. To give you just a few examples of our various activities in this area: our government has hosted many professional training courses and competitions to encourage innovation. Here, the goal is to introduce new creative ideas and talents to the ICT industry. The government also provides resources via international partnerships to foster more innovative applications and technologies. For 13 consecutive years now we have held a National ICT Competition. This aims to seek out innovative works that meet current and future market needs, and then to form and train a team to develop them.

426. We also have a Cloud Innovation Award to encourage exceptional talents in such areas as IoT (so called the Internet of Things), big data, and cloud products and services. The winners are given mentorship opportunities to optimize their products and services so as to attract the attention of enterprises and venture capital companies. Meanwhile, they are provided with follow-up professional consulting counselling, such as the business match-up service.

427. In addition, we have launched the first Europe x Asia (or ExA) Summit, with a view to building an exchange platform for the IoT enterprises on both sides of the world. And, a TW-USA Innovation Forum with the United States will be held soon to provide the opportunity for exchange of views to develop IoT.

428. The IoT industry has become a key driver of global trends following the rapid evolution of mobile cloud computing, big data and sensing technology. IoT production is expected to reach a total value globally of US\$26.1billion by 2019. Our government has been helping our industries to grasp the IoT business opportunities and establish a comprehensive development model. It has made special efforts to combine our existing ICT advantages with contributions from industry, academics, and research institutions to develop smart network patents and system technologies.

We have launched several projects - for smart bus standards, smart cloud power management, high C/P value lighting systems, smart identification services, and a demonstration project on the integration of business districts with smart networks.

429. The smart identification service project, for instance, which started in 2011, is to help enterprises integrate their communication networks or cloud services with the smart identification technology in order to develop a new business service model. As of now, a total of 81 local enterprises have joined the project to promote coupons, food and beverage services, online shopping, travel packages, and a bonus-point exchange.

430. The value of the transactions and investment by our services providers associated with this project has already reached a total of US\$171.7 million. We have also gained US\$14.77 million of investment from foreign and local venture capital companies, generating exports worth about US\$5.54 million so far. In the future, the project is expected to create more new services in the form of cross-sector collaboration or alliances. It will also be targeting the emerging markets to expand overseas business opportunities.

431. I hope this gives you a flavour of the huge importance we attach to innovation in this industry. And, I hope I have managed to illustrate the enormous amount of effort and energy expended by our government and the private sector to ensure that our ICT design and production industry develops and stays at the forefront of the fast-moving ICT global market.

432. We are looking forward to hearing from other delegations about their current policies in this regard, and to learning from their own successes and experiences.

#### **14.4 Singapore**

433. Thank you for the opportunity to share our experience in developing a solid intellectual property strategy in communication technology has contributed to innovation and growth in Singapore. The 21<sup>st</sup> Century is an IT century – 40% of the world's population is connected to the internet, and there are as many mobile subscriptions in the world as there are people. The rapid development in communication technology has created a host of opportunities for businesses and societies worldwide. This is also the case in Singapore, which is one of the most socially connected countries in the world. In 2014 Singapore was ranked first in the world for smart phone adoption, with a high usage rate of 85%. This year Singapore tops in mobile data speeds in the South East Asia and Oceania region.

434. The evolution of communication technology has made digital platforms a lucrative and exciting market for innovators and entrepreneurs. It is no longer viable to ignore the high percentage of consumers who would prefer to go online using their smart phones, for example the use of mobile phone technology and social media platforms not only reduces the cost of running a business, in some cases it even allows one to start a business with little capital outlay. New technology has also helped businesses mitigate manpower shortages such as through the use of tablet apps for ordering food at bars and restaurants.

435. While businesses look to communications technology as a nucleus of current and future development, like any product and service, the underlying IP is only as good as its commercial value. Be it patents, trademarks, copyrights or trade secrets or even registered designs, businesses will have to consider whether or not they want protection in more than one country. There is also the commercial issue of weighing the advantages of IP protection against the preliminary costs of technology development. The info communications industry is increasingly relying upon trade secrets and trademarks as a cheaper and faster means to protect IP in the industry. For example Whatsapp and Apple protect their mobile app icons by registering them as trademarks.

436. Singapore is adapting our IP regime to the new digital era with progressive and forward-looking policies, for example in the realm of web designs. We have allowed the registration of graphical user interfaces (GUIs) as designs under the Registered Designs Act with effect from December 2014. Close to 100 GUIs have been registered thus far, including graphical user interfaces of display screens of mobile devices and watches. We have also taken active steps to ramp up IP education for businesses. For technology-rich infocomm business, our IP Academy is

running a range of seminars on the subject such as IP risks and protection strategies in relation to social media, IP as a business tool and the role of IP and software technology industries. Regular industry specific IP management seminars called IP consult have been conducted since 2009 to educate and help enterprises better manage the lifecycle of their intellectual assets including creation, ownership, protection and commercial exploitation. These seminars were jointly administered with trade and industry associations such as the Singapore Manufacturing Federation and the Association of Small and Medium Enterprises.

437. One example of a company that has benefitted from the IP consult programme is Gurena, a leading platform provider for online and mobile entertainment and communication. Since its inception in 2009, Gurena has seen unprecedented growth and currently has a customer base across South East Asia, Chinese Taipei and Hong Kong, China and serves millions of users. In 2010 Gurena launched its first produce, Gurena plus, an online game and social platform for people to meet, chat and play games with each other. By combining a communications tool with compelling digital content, Gurena invented the business model for online games in South East Asia, and created a platform with network effects. Gurena has taken steps to ensure that its trademark and copyright content are properly protected and enforced in the market it operates. These are crucial as its intangible brand and customer network form the bulk of the its overall business value. The Financial Times valued Gurena at more than US\$2.5 billion earlier this year, and Gurena's careful protection of trademarks and copyright has undoubtedly played a role in building up its brand name. We hope that this presentation has been useful and we look forward to further discussions on how Members, particularly developing countries can support and grow the communications technology sector to relevant IP activities.

#### 14.5 United States of America

438. The United States very much welcomes this opportunity to exchange views with TRIPS Council delegations on Intellectual Property and Innovation and to focus on the transformative role of entrepreneurship and new technologies on economic development. We would also like to thank the Australia, the European Union, and Singapore and Chinese Taipei for co-sponsoring this agenda item today.

439. IP, innovation and entrepreneurship are intrinsically linked. Our innovators are almost always our entrepreneurs, who in turn rely heavily on intellectual property (IP) rights to attract investment, to protect their new technologies from theft, and to generate revenue for future research, development, commercialization and employment. Together, IP, innovation and entrepreneurship play a critical developmental role.

440. Through their new technologies, entrepreneurs not only benefit our consumers, our citizens and our societies, they make significant and fundamental contributions to our economies through increased employment, knowledge accumulation and diffusion, and contributions to our respective GDPs. Academic literature, empirical evidence, and practical experience confirm that entrepreneurs are powerful, if not fragile, engines of economic growth. IPR provides entrepreneurs around the world with a critical ally amidst the perils of risk and prospects for reward.

#### *Entrepreneurship*

441. To begin, we will consider today what entrepreneurship is and how it relates to intellectual property rights and innovation. We will then turn to the critical, if not catalytic, contributions of entrepreneurship to growth and development. Finally, from there we will examine several cases studies that illustrate this vital relationship.

442. So, to start, entrepreneurship is inherently innovative. This link has long been made by economists and other commentators. For example, in his article on "Entrepreneurship in Economic Development", Wim Naudé describes Schumpeter's entrepreneurial construct as one that is an agent of change or "creative destruction". "As such the entrepreneur is an innovator".<sup>1</sup>

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<sup>1</sup> Naudé, Wim; "Entrepreneurship in Economic Development"; Research Paper No. 2008/20; United Nations University, World Institute for Development Economics Research; March 2008; page 3. See Schumpeter, J.A; *Capitalism, Socialism and Democracy*; New York: Harper & Row; 1950. See also Schumpeter, J.A.; *The Theory of Economic Development*; New York: Oxford University Press; 1961.

443. Likewise, in their 2011 book entitled *Entrepreneurship, Innovation and Economic Development*, Szirmai, Naudé, and Goedhuys conclude that "the distinction between entrepreneurship and innovation is hard to make".<sup>2</sup>

444. Given the significant overlap between entrepreneurs and innovators, it is not surprising that entrepreneurs rely heavily on intellectual property rights as well. The United States and other delegations have presented copious evidence – including economic analysis, literature on innovation and case studies – in support of the importance of IP protection and enforcement for innovation. We refer delegations to our interventions in previous TRIPS Council meetings under the *IP and Innovation* agenda item as well as the item on IP and environmentally sustainable technologies.

445. The literature on entrepreneurship also confirms the importance of IPR. For instance, the article on "Entrepreneurship in Economic Development" for the World Institute for Development Economics Research of the United Nations University concludes that where "property rights cannot be strongly enforced...there will be many individuals with high entrepreneurial ability, but there will not be many profitable opportunities to exploit that would result in economic growth."<sup>3</sup> As with innovation, entrepreneurship without IP protection is a tremendous resource that may go unrealized.

#### *Development*

446. Turning to economic growth, Szirmai, Naudé, and Goedhuys provide a survey of the literature on the relationship between entrepreneurship, innovation and development. Citing Verspagen, the authors conclude that "[i]nnovation is central to modern theories of growth and development".<sup>4</sup>

447. Entrepreneurship, conclude these authors, occupies the same core role. As they explain, "[t]he study of entrepreneurship opens this black box [of macroeconomic growth] and allows us to analyse the ...entrepreneurs that are responsible for...the development or adoption of new technologies... *This puts entrepreneurship at the heart of economic growth, development, and catch-up.*"<sup>5</sup>

448. Turning from the theoretical to the empirical, we turn to the many ways entrepreneurs from around the world have created new technologies that benefit development, whether through generating revenue, creating jobs, benefiting consumers or protecting the environment.

#### *Mobile Phone Apps*

449. First, we wanted to discuss the mobile phone applications or apps sector as a case study for entrepreneurship and new technologies. The app revolution began in many ways with the decision to harness the power of entrepreneurs – in this case external software engineers. As technology quickly improved more people purchased mobile phones. Then, in July 2008, Apple launched The App Store with 552 app products; three months later, that number surged to 3,000.<sup>6</sup>

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<sup>2</sup> Szirmai, Adam; Naudé, Wim; and Goedhuys, Micheline; *Entrepreneurship, Innovation, and Economic Development*; Oxford University Press; 2011; page 7.

<sup>3</sup> Naudé, Wim; "Entrepreneurship in Economic Development"; Research Paper No. 2008/20; United Nations University, World Institute for Development Economics Research; March 2008; page 27.

<sup>4</sup> Szirmai, Adam; Naudé, Wim; and Goedhuys, Micheline; *Entrepreneurship, Innovation, and Economic Development*; Oxford University Press; 2011; page 8. See Silverberg, G.; and Verspagen, B.; 'A Percolation Model of Innovation in Complex Technology Spaces', *Journal of Economic Dynamics and Control*; Volume 29; 2005.

See also Criscuolo, P.; Narula, R.; and Verspagen, B.; "The Role of Home and Host Country Innovation Systems in R&D Internationalisation: A Patent Citation Analysis"; *Economics of Innovation and New Technology*; Volume 14; 2005.

<sup>5</sup> Szirmai, Adam; Naudé, Wim; and Goedhuys, Micheline; *Entrepreneurship, Innovation, and Economic Development*; Oxford University Press; 2011; page 10 (emphasis added). See Gries, Thomas, and Naudé, Wim; "Entrepreneurship and Structural Economic Transformation"; *Small Business Economics*; January 2010, Volume 34, Issue 1.

<sup>6</sup> AVC Technologies.

450. As of 2014, there were close to 700,000 jobs in mobile app development, and over 1 million in software development.<sup>7</sup> These high-value, knowledge-based jobs involve creating and modifying software, analyzing user needs, and developing solutions with the objective of raising operational efficiency.<sup>8</sup>

451. Today, more than 2 million apps are currently available that address nearly every facet of human need: communications, gaming, multimedia, organization, travel, and utility.<sup>9</sup> It is predicted that by 2017 mobile apps will be downloaded more than 268 billion times, and generate more than \$77 billion in revenue.<sup>10</sup> And the app revolution is global, with developer entrepreneurs innovating for the benefit of consumers around the world. For example, international organizations and government agencies are also leveraging mobile apps to strengthen their development programmes globally.

452. Take UNICEF, which in 2014, launched RapidPro, a mobile app platform that helps African governments deliver rapid and vital real-time information and connect communities to lifesaving services.<sup>11</sup> Here, the app development process relied heavily on local developers in the developing world, with the underlying code for RapidPro having been produced through an eight-year process of development by UNICEF's global Innovations Lab in collaboration with Nyuruka, a Rwandan software development firm.<sup>12</sup>

453. Entrepreneurs are also focusing on addressing local needs in health, agricultural and rural development, and financial inclusion through mobile technologies. For example, mHealth or "medical and public health practices supported by mobile devices"<sup>13</sup> changes the way healthcare is administered and delivered to developing-country populations through the use of technology-based healthcare alternatives.

454. Entrepreneurs in Uganda, for instance, have created apps like Kfree, Matibabu and WinSenga, which show how mHealth is a transformative way to deliver health outcomes. Kfree, developed by three university students, won the 2014 Community Innovations Award in Uganda for its use in aiding the early detection of breast cancer.<sup>14</sup>

455. Matibabu is an app that assists with diagnosis of malaria by using a custom piece that connects to the phone.<sup>15</sup> And WinSenga replicates the information provided by a prenatal ultrasound, whereby a highly sensitive microphone is used to transmit the foetal heart rate to the phone and analyse it.<sup>16</sup> Likewise, mobile apps for agricultural and rural development (*m-ARD apps*) hold significant potential for advancing global development in agriculture.<sup>17</sup>

456. Sri Lankan farmers, for example, are forwarded agricultural commodity prices through a platform called Tradenet.<sup>18</sup> This app transmits up to five price alerts for different fruits and vegetables from each of three markets covered by the service, thereby enabling Sri Lankan farmers the ability to decide where to sell their agricultural goods for the best price.<sup>19</sup>

457. In Kenya, farmers use the apps DrumNet and Kenyan Agriculture Commodity Exchange, both of which offer online clearinghouses for price negotiations and contract and value-chain support.<sup>20</sup> Using DrumNet, Kenyan farmers have seen their incomes rise by 32%.<sup>21</sup> Mobile money apps that integrate financial institutions and mobile money services are also making a difference in economic development and financial inclusion around the world. Apps such as M-PESA (Kenya),

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<sup>7</sup> Occupational Employment and Wages, 2014.

<sup>8</sup> Occupational Employment and Wages, 2014.

<sup>9</sup> Number of apps available in leading app stores as of July 2015.

<sup>10</sup> Little, 2014.

<sup>11</sup> RapidPro, 2014.

<sup>12</sup> RapidPro, 2014.

<sup>13</sup> World Health Organization, 2011, p. 6.

<sup>14</sup> Muheebwa, 2014.

<sup>15</sup> Ingham, 2014; Uganda Fights Malaria Through 'Matibabu' App, 2014; Magazine, 2015.

<sup>16</sup> Boyd, 2012.

<sup>17</sup> Zhenwei Qiang, Chew Kuek, Dymond, & Esselaar, 2011, p. i.

<sup>18</sup> Zhenwei Qiang, Chew Kuek, Dymond, & Esselaar, 2011, p. 19.

<sup>19</sup> International Research and Training Centre for Rural Education

<sup>20</sup> Kenya Agricultural Commodity Exchange Ltd.

<sup>21</sup> Emdon, Elder, Petrazzini, & Fuchs, 2014, p. 149.

and Smart Money and G-Cash (Philippines), have attained widespread use.<sup>22</sup> In Bangladesh, which is quickly becoming a global leader in mobile banking, BRAC Bank's subsidiary bKash accounts for 80 percent of market share.<sup>23</sup>

458. While IPRs can play a critical role in promoting and protecting such innovation and entrepreneurship, IPR infringement can have the opposite effect. For example, in a 2014 case in the United States, the U.S. Department of Justice charged four individuals for illegal distribution of pirated apps in the first case of its kind for uploading more than two million copies of pirated apps to mobile app platforms between August 2010 and August 2012.<sup>24</sup> Similarly, trademark counterfeiting is also widespread.

459. Perhaps app entrepreneurs put the importance of IPR protection and the damage of infringement best. Take Michael Wong, CEO of Touchpal, which is an app development company in China and the first Chinese company to win an international competition – the Global Mobile Innovation Award – for app development. According to this app developer, "many of our innovations were not protected; competitors copied our products. This piracy hinders the innovator's motivation for creating better products for consumers. So, I think consumers should boycott piracy for their own sake."

#### *Other Case Studies*

460. Of course, the importance of entrepreneurship and new technologies to economic growth extend beyond this case study of the app sector. The contributions of IP to entrepreneur-driven growth are felt in many sectors and in many countries around the world.

461. Take Simpa Networks, which has developed a green energy solution for under-resourced communities in India. Or Wonderbag, a South African SME, that developed a clean, heat retention cooking solution that helps prevent smoke inhalation. We recall our previous interventions on these and other entrepreneurs that mobilize IP to deliver to those in need.

462. Likewise, social entrepreneurs at Liter of Light and Sarvajal use IP to provide light and clean water at low cost to impoverished communities. These low-cost/high-impact/IP-intensive technologies were not only developed and deployed by entrepreneurs, they also rely on networks of local entrepreneurs to service their technologies and diffuse their knowledge.

463. And the United States is actively working around the world through capacity building and technical assistance initiatives to help support entrepreneurs like these. For instance, our program in June of this year on *Fostering an Innovation and Entrepreneurship Ecosystem in Tunisia* featured technology-transfer experts focusing on licensing practices, spin-off creation, IP, investment and marketing of early-stage technologies, valuation of technology, and commercialization through university-industry relationships.

#### *Conclusion*

464. So, to conclude, given that innovation is a driving force for growth, governments must endeavor to adopt laws and policies that enable entrepreneurialism. We return one last time to Naudé, who stresses the importance of government engagement to promote the quantity and quality of entrepreneurship. To increase the quantity, governments can stress education and raise awareness regarding the importance of entrepreneurship.

465. Likewise, Naudé explains that "[t]he *quality* of entrepreneurial ability can be improved through incentives that will entice those individuals with the highest entrepreneurial ability to become entrepreneurs."<sup>25</sup> Intellectual property rights provide precisely the kind of incentives that can enhance the quality of entrepreneurship.

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<sup>22</sup> Mas & Radcliffe, 2010, p. 14.

<sup>23</sup> Chen & Rasmussen, 2014, p. 1.

<sup>24</sup> Department of Justice, 2014.

<sup>25</sup> Naudé, Wim; "Entrepreneurship in Economic Development"; Research Paper No. 2008/20; United Nations University, World Institute for Development Economics Research; March 2008; page 35.

466. The case studies we have discussed today and previously confirm vividly what the theoretical and empirical literature amply demonstrates. Intellectual property rights play a critical role in delivering on the promise of the world's entrepreneurs, whose innovative new technologies fuel domestic and international economic growth, and help raise global standards of living.

#### 14.6 Canada

467. Canada is pleased to discuss its national experiences with respect to entrepreneurialism and emerging technologies under the theme of intellectual property and innovation. This theme has been useful in illustrating the important relationship between the TRIPS Agreement and innovation, something that is useful to bear to in mind when discussing the role of entrepreneurs in the development of emerging technologies. When the TRIPS Agreement was negotiated more than 20 years ago, the global economy was in the midst of a global transformation, brought in part by new innovation and information and communications technologies. Think, for instance, of the advent of personal computing and electronic mail, technologies that now seem commonplace and are woven into the fabric of global commerce and daily interaction. Looking ahead to the next 20 years, emerging technologies, or what we might call disruptive technologies are similarly creating entirely new fields, as well as new economic and social possibilities, from mobile devices and applications to the so-called Internet of Things as the use of big data, we have heard many examples from other delegations.

468. To be sure, entrepreneurs play a significant role in bringing emerging technologies to the market, but quite often young firms have a limited awareness of the role that IP plays in commercialising their ideas. In an era of global competition, deploying emerging technologies is a risky proposition as it is, one that is made all the more uncertain without the IP strategic thinking needed to reap the benefits of innovation both at home and abroad. For entrepreneurs a viable IP strategy is therefore important both for identifying and managing their IP assets as well as for understanding the legal and regulatory frameworks by which these assets might be protected and enforced.

469. Canada has undertaken several initiatives in recent years to assist entrepreneurs and small and medium sized enterprises in this regard. For instance, as part of its 2012-2017 business strategy, the Canadian Intellectual Property Office has undertaken a range of outreach efforts to increase knowledge among innovators about the strategic importance of their IP, and to assist them in better exploiting these assets. As part of its targeted customer outreach, CIPO has developed tools to assist businesses in identifying their IP assets and setting IP strategies, from its recent IP video series and bank of speakers delivering educational IP presentations to tutorials on the competitive advantage of protecting and exploiting IP and steps for exporting businesses and protecting IP abroad. Canada's National Research Council, the NRC also provides assistance for small and medium enterprises through the Industrial Research Assistance Programme (IRAP). IRAP provides technical and business advisory services to SMEs to better equip clients to perform research and development, commercialise new products, processes and services and to access new domestic and international markets. IRAP's industrial technology advisors assist clients at various stages of the innovation process to build their innovation capacity in areas such as technology and business assistance, literature and patent searches, and strategic intelligence.

470. IRAP helps SMEs understand the technology issues and opportunities available to them, and provides linkages to the best expertise in Canada. More recently, Canada's department of foreign affairs trade and development has also set out to inform and educate businesses on IP, by way of its trade commissioner service by providing IP training and tutorials to trade commissioners abroad. Given that these officials work with Canadian businesses seeking to export their products and services to new markets, this initiative aims to help firms better understand the importance of sound IP management.

471. In conclusion, Canada would note the importance of strategic thinking on IP for SMEs and entrepreneurs as they set out to commercialise their ideas in the global economy. As we look ahead to the innovation that emerging technologies and entrepreneurialism may bring, it is also important to bear in mind the IP frameworks and enabling environments that continue to make this possible.

## 14.7 Hong Kong, China

472. I would like to thank the European Union, the United States, Singapore, Chinese Taipei and Australia for bringing this item under the "IP and Innovation" series to the meeting again. Hong Kong, China is pleased to share our experience in this regard.

473. Hong Kong, China is a mature digital economy with one of the most sophisticated and advanced telecommunications infrastructures in the world. With the ubiquitous Internet services and a tech-savvy community, mobile devices have become an integral part of our daily lives. Hong Kong, China's mobile penetration rate of 228% is one of the highest in the world. With the advancement of mobile technology, providing services through mobile channels is gaining currency. Our Government is committed in driving mobile development within the Government, as well as in private and non-governmental organisations (NGOs) sector.

474. Firstly, it is currently providing over 110 mobile applications (apps) covering a diverse range of subjects, including traffic, leisure, health, news, etc. Amongst these, the "MyObservatory" mobile app that provides weather information has over five million downloads. "Hong Kong, China eTransport", a mobile app that provides real-time traffic information, has well over one million downloads.

475. For the private sector, the low thresholds for developing mobile apps have opened up many opportunities for startups to kickstart their businesses. To encourage the development of startups, our Government has put in place support programmes and measures to cater for the varying needs of startup including publicly-funded incubation programmes that provide all-rounded support for startups, a one-stop portal named iStartup@HK that provide a comprehensive range of startup-related information, as well as a mega startup event, Startmeup Festival, which features an international startup competition and a series of events for the local and overseas startup community to meet and connect.

476. Many tech startups in Hong Kong, China have made significant achievements in Hong Kong, China, and are expanding to overseas. For instance, a van delivery business app launched in 2013 brought in a new ecosystem in logistics and transport industry in Hong Kong, China, which used to be heavily relied on radio-calling centres to allocate orders from clients to van drivers. With this app, the lead time between the placement and acceptance of an delivery has been significantly reduced from half an hour to half a minute. We are delighted that this app has recently obtained an equity capital of US\$10 million (about HK\$78 million) from a social network in the Mainland to extend its presence in Asia.

477. Apart from the Government and private sector, we are also committed to encourage the development of mobile apps to support needy groups. We have been providing funding support for NGOs to develop mobile apps to cater for the special needs of their service recipients including students with special learning needs, persons with hearing impairment and persons beset with dementia, etc. For example, one of the mobile apps developed was designed to assist persons with hearing impairment to communicate in sign languages. These mobile apps have received encouraging user feedback and industry recognition.

478. Hong Kong, China has a robust intellectual property (IP) protection regime and is well positioned to be a premier IP trading hub. Our creative industries, innovative technologies and IP economies benefit from IP trading. For example, IP trading can help acquire background or upstream IP from untapped stock outside of Hong Kong for downstream R&D and product development. Likewise, IP trading can assist creative industries by making the most of the creative contents generated and exhibit them in the commercial world.

479. In March 2013, the Government of Hong Kong, China, set up the Working Group on IP Trading (Working Group) to study the promotion of Hong Kong as a regional IP trading hub and the specific measures in support. After two years of intensive work, the Working Group released a report in March 2015 with recommendations to further promote the development of IP trading in Hong Kong, China.

480. The recommended action framework comprises four strategic areas, 10 focus strategies and 28 recommended measures. The Government of Hong Kong, China, accepted the

recommendations, and is working in full swing for implementation. Under Strategic Area (III) Fostering IP intermediary services and manpower capacity, one of the recommended measures is to "enhance and promote the use of the Asia IP Exchange (AsiaIPEX) launched by the Hong Kong Trade Development Council (HKTDC), for example to encourage IP exchange, licensing and other trading activities".

481. Insofar as trading of mobile apps (the corresponding IP rights are predominantly patents) is concerned, 12 of them are listed on AsiaIPEX by its strategic partners. HKTDC also operates the "hktdc.com", which seeks to facilitate worldwide buyers to source products and services from verified, quality suppliers and manufacturers. 120 mobile apps are currently being featured for trading.

482. We are glad to have heard a number of interesting developments on mobile apps and IP from members. Hong Kong, China looks forward to more interventions today.

#### 14.8 India

483. My delegation would like to thank the delegations of the United States and the European Union for tabling an agenda item on "Intellectual Property and Innovation: Entrepreneurialism and New Technologies". No information was provided by the co-sponsors regarding the sub-item "Entrepreneurialism and New Technologies". However, we have shown flexibility and engaged constructively on this agenda item. I request some Members who are co-sponsors of this agenda item to show similar kind of flexibility in accepting proposals from other Members like holding a technical symposium on the Paragraph 6 mechanism, updating three factual briefs and inviting the CBD Secretariat to brief Members on the Nagoya Protocol.

484. Let me just recall our intervention when the agenda item on Intellectual Property and Innovation was first introduced in the TRIPS Council. Our statement is still relevant when we are discussing 'Entrepreneurialism and New Technologies' under the broad theme of Intellectual Property and Innovation. In that meeting India pointed out that the word "innovation" appeared just once in the TRIPS Agreement, in Article 7, which states that Intellectual Property Rights (IPRs) "should contribute to the promotion of technological innovation and to the transfer and dissemination of technology," and not for the sake of innovation itself, but "to the mutual advantage of producers and users of technological knowledge and in a manner conducive to social and economic welfare, and to a balance of rights and obligations." Thus the TRIPS Agreement makes it very clear that the purpose of the intellectual property system is not solely to protect the commercial interests of the intellectual property holder but it is one of the many tools available to the society to achieve technological development, its social and economic welfare and innovation. The US Supreme Court in *Motion Picture Patents Co. V. Universal Film Mfg. Co.* (243 US 502, p.511, 1917) found that this court has consistently held that the primary purpose of our patent laws is not creation of private fortunes for the owners of patents but is to promote the progress of science and useful arts...."

485. Innovation should not be viewed within the narrow prism of intellectual property monopolies but framed within a holistic, knowledge ecosystem that includes open innovation, open knowledge approaches and de-linkage of R&D costs from product prices. According to the Trilateral study by WTO, WHO and WIPO on "Promoting Access to Medical Technologies and Innovation: Intersections between public health, intellectual property and trade (2013) "(Page 126),

Patent law is not a stand-alone innovation system. It is only one element of the innovation process, and one which can be deployed differently in diverse innovation scenarios. Patent law has little bearing on many other factors that lead to the successful development of technologies, e.g. the nature and extent of demand, commercial advantages gained by marketing and ancillary services and support, commercial and technical viability of production processes, and compliance with regulatory requirements, including through effective management of clinical trials data.

486. The trilateral study also highlights that innovation in medical technologies for neglected diseases suffers from market failure as conventional IP-based incentives do not correspond with the nature of demand for treatments of these diseases. To overcome the market failure of the IP system for neglected diseases, the trilateral study mentions about open innovation structures such as Open Source Drug Discovery (OSDD) model of India's Council of Scientific and Industrial

Research (CSIR), collaborative research such as WIPO Re:Search Sharing Innovation in the Fight Against Neglected Tropical Diseases. The study also talks about the concept of delinking price of the final product from the costs of R&D by 'push' mechanisms such as grant funding and tax credits for investment in R&D and by 'pull' mechanisms that offer rewards for the final outcome of R&D of certain products like milestone or end prizes.

487. The World Health Organisation (WHO) at the 68<sup>th</sup> World Health Assembly (WHA) adopted the 'Global Action Plan on Antimicrobial Resistance'. The Action Plan, *inter alia*, states that most pharmaceutical companies have stopped research and development of new antibiotics and calls it a "serious market failure" and a "particular cause of concern". The action plan also suggests that "the cost of investment in research and development may need to be de-linked from price and the volume of sales to facilitate equitable and affordable access to new medicines, diagnostic tools, vaccines and other results from research and development in all countries".

488. India declared the decade of 2011-2020 as the Decade of Innovation. The spirit of innovation has to permeate all sectors of economy from universities, business and government to people at all levels. The future prosperity of India in the new knowledge economy would increasingly depend on its ability to generate new ideas, processes and solutions, and the process of innovation would convert knowledge into social good and economic wealth. India is committed to maintaining the delicate balance of promoting innovation, protecting intellectual property rights and meet the development challenges by providing a well-balanced and a purposeful IPR regime.

489. There are many challenges for undertaking any entrepreneurial activity in a developing country like India, especially access to capital, access to skilled workforce, and access to technological knowledge. In September 2014, India has launched the "Make in India" Programme, a flagship programme aiming to facilitate investment, foster innovation, enhance skill development, protect intellectual property and build state-of-art manufacturing infrastructure. To encourage entrepreneurship and to help set up a network of startups in the country, Prime Minister Narendra Modi, during his Independence Day address on 15 Aug 2015, announced a new campaign "Start-up India, Stand-up India". To promote start-ups and entrepreneurship, during the year 2015, the Small Industries Development Bank of India (SIDBI), supported by the Government, has also launched the Indian Aspiration Fund (initial corpus of about US\$300million), which is a fund of funds that would invest in venture capital funds for meeting the equity requirement of Micro and small enterprises (MSME) start-ups.

490. I will conclude by referring to the latest report titled "Start-up India-Momentous Rise of the Indian Start-up Ecosystem" by the National Association of Software and Service Companies (NASSCOM) and Zinnov, which was released earlier this week. According to the report, in 2015, 1,200 new tech start-ups were established in India taking the total to 4,200. A majority of the 1,200 start-ups are business to consumer and mainly present in three sectors: e-commerce, consumer services and aggregators.

## 14.9 Japan

491. This delegation would like to express its appreciation to the United States, the European Union and other cosponsors for proposing this interesting agenda item. Japan fully recognizes the importance of the role that intellectual property plays in developing new technologies and starting new businesses. Japan wishes to take this opportunity to share some of its experience on how we have been encouraging new businesses and promoting the use of intellectual property in developing new technologies.

492. In 1999, with the aim of promoting new businesses by small and medium enterprises and individual entrepreneurs, the Government of Japan implemented a support function called the Small Business Innovation Research programme, in short, SBIR. Since then, the SBIR has been supporting lots of companies by providing various financial incentives, including subsidies to encourage the development of new technologies, low-interest loans from financial institutions, and reductions in fees for acquiring and maintaining patents. Currently, seven ministries and agencies are involved in SBIR and promoting research and development activities in various fields through the SBIR programme.

493. One initiative this delegation believes worth sharing with other Members is the "New Energy Venture Business Technology Innovation Programme" implemented by the New Energy and Industrial Technology Development Organization, or NEDO, under the SBIR programme. This New Energy Programme is geared to new technologies in the energy field, such as renewable energy and untapped energy. The Programme supports small and medium enterprises and venture companies in three stages in regard to their promising technologies; and they are feasibility studies, fundamental research activities, and research activities for commercialization purposes.

494. The programme also includes providing the companies with expert advice on intellectual property strategy. Furthermore, commercialization of their technologies can be made possible through a "business matching forum". It provides a good opportunity for the companies that have new technologies to present them to businesses that are interested in the new technologies.

495. Now this delegation would like to touch upon one case demonstrating the important role that intellectual property plays in developing new technologies. A Japanese chemical company, Microwave Chemical, by making the most of the aforementioned "New Energy Venture Business Technology Innovation Programme", has been developing a new technology to refine biodiesel fuel from waste oil by utilizing microwaves. The technology, which enables the recycling of industrial waste oil generated by factories, is expected to be welcomed by the manufacturing industry and contribute to the protection of the global environment.

496. With regard to this case, this delegation would like to bring two things to your attention. First, through this Programme, Microwave Chemical obtained a basic patent for its technology, after consulting with experts on intellectual property strategy. The patent served as a base for further development of their technology and gave them a competitive edge in the market. Second, the company took part in a "business matching forum" organized under this Programme and successfully secured financial backing from a major venture capital in Japan. Consequently, in 2014, the company signed a joint development agreement with a German chemical giant, BASF.

497. In summary, Japan attaches great importance to the use of intellectual property in developing new technologies and starting new businesses. Japan continues to develop new initiatives in the hope that they can contribute to further promoting innovation and economic growth. We hope Members find the information we shared today useful and would welcome other Members' insightful comments on this issue.

#### **14.10 Switzerland**

498. We would like to thank the United States and the co-sponsors for proposing this agenda item. We associate ourselves with the statements made by the previous delegations about the value of the agenda item for the discussions in this Council.

499. We are pleased to share some of the experience in Switzerland and focus on how IP can help drive innovation and entrepreneurialism in small and medium-sized companies that only have limited resources in terms of capital, staff and research infrastructures and facilities. It is not unusual that small companies or individuals come up with ideas which, if the effort is taken to implement them and launch a product or service on the market, have considerable impact on the economy and society, and change the status quo.

500. It is these kind of innovations, inventions and new approaches - thinking out of the box - that in a sense attracts imitation and commercial exploitation by others without any personal contribution as soon as the product or service has been developed to commercial viability. This is where IP protection and the prevention of unfair competition can prove itself essential, ensuring a lasting effect of the small economic operators' activities.

501. A reliable legal framework enabling adequate and enforceable IP protection allows the small and medium-sized companies to protect their intangible assets, and facilitates a successful implementation of their business plan - so they can market their product and reach potential customers. This is often a precondition of monetary return for the time and labor invested, and allows reinvestment in the innovation cycle for improved and new products and services.

502. SMEs are the backbone of the Swiss economy, the bedrock of our prosperity. While Switzerland is very active in different fields of emerging technologies, the backbone of its economy are small and medium-sized enterprises. They account for 99.7% of all Swiss companies and provide two thirds of all jobs in Switzerland. SMEs are innovative in various fields, often in areas which are not high tech and that are using several aspects of intellectual property rights to further their businesses.

503. We would like to present three different case studies from Switzerland: CatchMyPain App, Atizo Crowdsourcing, and Urban Farmers technology; all of them innovative enterprises active in different sectors and different fields of technology, using different types of IP protection for their specific needs.

504. The first case we present is CatchMyPain App by sanovation, a pain tracker and community app. Mobile application technology has been an emerging technology and grown significantly over the last years, and had a prominent impact on the way information is shared between friends, colleagues and within other communities. Almost every mobile user uses mobile applications associated with social media, social networking, and social gaming, but also for other issues, such as health care.

505. Behind CatchMyPain is a young man who suffered from chronic pain for a number of years. In search for relieving treatment he had to go through an odyssey of doctors having to repeat the same story of his pain history and symptoms every time whilst trying to keep track of what the last doctor had prescribed or which therapies had proven ineffective. The App was developed in 2010 while he was still a student. Now, his company is an award winning, energetic Swiss start-up based in Zurich. The CatchMyPain App allows for patients to easily track their pain by drawing the location and intensity of their pain on a body model using different colors and also making record of the character of the pain, the patient's mood, stress, fatigue, medication intake and much more. This diary allows for much more accurate relaying of information relating to pain towards a doctor or medical health care taker, also helping to overcome obstacles such as language barriers.

506. At the same time the app brings together people suffering from chronic pain allowing them to communicate successful remedies that have worked for them. Furthermore, the app and its medical partners are using the anonymised information from the diaries to conduct research and gain new insights. Since 2010 the user community of CatchMyPain has grown to more than 100'000 users worldwide and has won numerous awards. It is in our eyes a prime example for mobile application technology in a sector, health care, that is an interest to any society and country.

507. The growing popularity of mobile applications goes hand in hand with its proclivity to imitators and free riders. And this is where IPRs come into the picture. The name of CatchMyPain App is registered as a trademark, ensuring that no one can freeride on the success, recognition and image that the app developers have built up by using the same or a similar name. The code and the layout of CatchMyPain App are protected through copyright laws – provided that they satisfy the conditions for copyright protection - i.e. a unique character - ensuring that the owners of the copyright can prohibit a counterfeit app from using its programme code or appearance, since the user-friendly surface and handling is what makes for the success of such an app.

508. The next case we would like to present is a young business called atizo. Atizo was founded in 2009 and the service they offer is based on the concept of crowdsourcing that the founder, Christian Hirsig, now 31 years old, developed in 2004. He had the business idea while surfing the largest crowdsourcing platform in the world - Wikipedia. On the online platform atizo.com enterprises can let the atizo community develop new product ideas or find solutions for specified problems.

509. This is how it works: enterprises describe what they are looking for in a few words on the online platform, e.g. a new product name, a new type of packaging or an idea for a marketing campaign. Then the community consisting of 10'000 users can share their ideas and solutions. The enterprise awards a premium, the amount chosen by the enterprise. This premium is then split and awarded to the community members that brought forward the best ideas. This process only costs the enterprise the amount of the premium (usually between 1000 and 5000 CHF) whilst providing them with numerous creative solutions and - not to be disregarded - material for market

research. The incentive for the users to share their ideas (according to a survey atizo conducted together with a Swiss university) is not just the premium that is awarded to the winning ideas but mainly social appreciation and recognition within the community.

510. As is well known, a business idea or concept alone is difficult to protect through IPRs. Furthermore service providers, such as atizo, do not produce material goods and are therefore often classified as non-innovative. Atizo has proved to be highly innovative though, by having an impact on the way enterprises innovate themselves. Branding through the trademark atizo has helped to make this innovation visible, communicating its features and providing credibility and substance to how the business and its service is perceived.

511. Trademarks can in this way – besides their general function of preventing unfair competition and assuring consumers that they can rely on a product's or service's expected quality - be a means for appropriating monetary returns and other benefits. These can be building the enterprise's and platform's reputation, gaining potential clients, new community members and consumer loyalty.

512. The third and last case we will present to you today is that of UrbanFarmers Ltd (UF), a Switzerland-based technology company building commercial food production units in cities. The company was established in 2011 as a technology spin-off from the University of Applied Sciences in Zurich. UrbanFarmers uses a licensed patent protected Aquaponics technology, owned by the *Leibnitz-Institute of Freshwater Ecology and Inland Fisheries*, that allows for fish and vegetables to be farmed in a closed loop system, reducing the use of resources such as water and chemical components for fertilization and water purification by up to 90%. UrbanFarmers' own innovative contribution is the development and operation of farms with its software system on empty rooftop spaces in urban environments. This gives real estate owners the possibility to rent out otherwise unused rooftop spaces and allows for UF farms to be realized without the need to buy land or real estate or build on their own.

513. UrbanFarmers is already selling fresh fish and vegetables directly to leading local restaurants as well as Migros, Switzerland's largest food retailer. Such fresh and healthy, locally produced and available food contributes to a number of socio-economic issues such as health issues like overweight population or malnourished population due to lack of availability of fresh foods, or environmental issues like the pollution due to global transportation when importing fresh foods, or creation of workspaces and perhaps education possibilities.

514. UrbanFarmers is a good example of a business making use of and integrating several IPRs into its portfolio. For one it profits from a licensed patent protected technology without having invested resources in the creation of that technology. UrbanFarmers is a protected trademark and as such helps make the innovation of the UrbanFarmers model visible to clients and helps build a reputation which is essential for generating returns, as we explained in the second case study illustrated before. Last but not least the software developed to apply the Aquaponics technology on a rooftop or in an urban environment may again be protected by copyright.

515. Further information on the presented cases is available on the enterprises' respective websites and media reports which can be found on the net.

516. We hope that the case studies of national experience presented offer some examples of how certain new technologies, which do not necessarily require high tech infrastructure and resources, are utilised by entrepreneurs to develop products and services for the benefit of society. IP rights and overall favourable framework conditions promote such personal engagement and investment, enable fair competition and allow sustained engagement of economic operators to bring innovative products and services on the market.

#### **14.11 Korea, Republic of**

517. I would like to thank the co-sponsors of this important and interesting agenda item. Korea recognizes the key role of IP in promoting innovation, especially since businesses are becoming more and more dependent on IP in order to provide high-value goods and services. Adopting a new national agenda in 2013, Korea has worked to strengthen its IP ecosystem in order to encourage new business start-ups with innovative ideas, in particular new types of IP-related R&D

and IP-based financing were set up to help them develop skills and becoming global leaders in the IP field.

518. One successful outcome of our activities was the establishment of the 17 Creative Economy Innovation Centres. Each is strategically located to provide coverage across the entire nation. These centres assist with the commercialisation and help facilitate the growth of SMEs and venture companies. In addition, the government is fostering the IPStar company project in order to further nurture the potential regional SMEs with impressive growth potential. We further assist these business start-ups by providing professional consultations on IP management strategies as well as by supporting them in transforming their ideas into patents through the use of such things as customised patent maps.

519. It is notable that Korea's annual GDP growth rate almost corresponds with the increasing rate in the number of IP applications that Korea has received over the past 20 years, demonstrating that IP is the primary engine for industrial and economic development. There are some positive signs in the number of new established legal entities ventures which have surpassed 80,000 and 30,000 respectively as of this year for the first time since the record began, and that of the start-up clubs at universities more than doubled from 1,222 in 2012 to 2,949 in 2014.

#### **14.12 New Zealand**

520. I would like to thank the United States and co-sponsors of this agenda item. I have heard some interesting stories and examples of the importance of innovation in IP. From our perspective we think high-growth start-up firms play an important role in driving productivity gains, commercialising IP and growing emerging sectors. Often start-ups and other new firms exploit novel opportunities that have been overlooked by more established businesses, and in doing so they can make an important contribution to economic growth.

521. As we have seen, start-ups and new business models are now having a major positive impact and this is not just on economic ends, but on social and environmental outcomes, and these firms are often called social enterprises. Just to give one example, in terms of a social enterprise, most experts believe that the smart phone has been the most important tool for raising standards of living in least-developed areas and for fostering economic development. Building mobile networks for example, in remote locations around the world remains problematic and very expensive, but for instance, Range Networks has helped launched profitable rural cell phone services in regions previously uneconomical to set up including in remote areas in Indonesia, Zambia, Mexico and a dozen other locations.

522. In New Zealand's context, the New Zealand Government has been working to explore possible policy tools that can help reshape New Zealand's economy and increase economic growth by increasing the number of high growth technology-based firms. New Zealand has an incubator support programme in place since 2001, which was designed to address New Zealand's lack of high-growth potential firms by enhancing the survival and growth of these firms via the development of high quality incubators. This programme has been successful in catalyzing founder-focused business incubators which work with entrepreneurs and build on business propositions and it helps entrepreneur-driven ICT start-up companies become investment-ready and globally competitive.

523. The Ministry of Business, Innovation and Employment in New Zealand is supporting an accelerated programme which supports the rapid formation of early-stage ICT and digital technology start-ups. The programmes are typically run over three months and prepare start-up companies to be investment-ready. They are currently located in different areas of New Zealand, and managed by a few organizations, for instance in Wellington, the capital city, it is under Creative HQ, in Auckland it is under the Icehouse. If you visit New Zealand today, you will notice that there is a vibrant hub of innovation where many technology start-ups are now global players. Some of the success stories include Zero, which can be considered the Apple of accounting, Vend, the point-of-sale software for retailers, when you go into a store and purchase something it is the software that enables the company to process your payments. CarbonScape is a company that turns waste from instance sawdust into fuel, through microwave heating. This company uses patented technology to essentially short circuit the carbon cycle and in essence achieve in minutes what nature takes millions of years to do. Powerbyproxi is a pioneering wireless charging technology where you can charge your mobile phones without a power cord. Carnival Mobile is a

mobile marketing automation for applications. Martin Jetpack produces jetpacks where you can fly around and for many of us this sounds very futuristic, but it does exist. Rocketlab that launches rockets into the air and is competing with global government players in supplementing their space programmes in the future. Wynyard Group is a market leader in advanced crime fighting software, used by investigations and intelligence operations and government agencies and financial institutions and one last example is Pikpok which is one of the leading video game companies in New Zealand with 100million downloads. While I think Angry Birds as a fun game was mentioned, you might also like to try Pikpok's games such as Flick Kick Football and Flick Kick Football Legends which was nominated for mobile game of the year in 2014. It has also partnered with Dreamworks Animation to make a game called Turbo Racing Legends. In summary the accelerated programme that I highlighted earlier is just one component of the New Zealand Government's support for businesses with high-growth potential that are still in the start-up phase. It complements New Zealand's Business Growth Agenda, which is a broad work programme across government agencies to support innovation and growth, and part of the business growth agenda includes research and development grants, and seed and venture investment funds.

524. Lastly I would also like to note that the enabling and macro-economic environment is also very important to serve innovation. It is notable in this regard that New Zealand is ranked second in terms of ease of doing business, third in terms of the prosperity index, second in the corruption perception index, third in the index of economic freedom, eighteenth in the global innovation index and according to the World Bank it only takes one day to start a business in New Zealand. New Zealand is committed to fostering faster economic growth by assisting entrepreneurs to develop innovative companies that will drive New Zealand's economy into the future.

#### **14.13 Brazil**

525. I would like to thank all the co-sponsors for presenting on this agenda item on IP and Entrepreneurialism. Our delegation welcomes the debate as it can create the possibility of deepening the understanding of features of the intellectual property system related to the achievement of the objective of Article 7 of the TRIPS Agreement which states that "The protection and enforcement of intellectual property rights should contribute to the promotion of technological innovation and to the transfer and dissemination of technology, to the mutual advantage of producers and users of technological knowledge and in a manner conducive to social and economic welfare, and to a balance of rights and obligations." At the outset, as it was also stated by other delegations, it is important to highlight that patents are far from being the single element driving innovation, it is only one in a larger mix of different tools that promote innovation. Having the right infrastructure for innovation, collaboration and research, the flow of ideas among different innovation players and access to knowledge are often more important ingredients of innovation.

526. Even as one element of a larger mix of ingredients of innovation, in order to play a positive role in fostering it, intellectual property must work properly. When this is not the case, IP can work counter to innovation and innovators. A patent system that issues an expressive number of low-quality patents generates uncertainty, and can represent an additional barrier to entrepreneurs. This scenario was accurately described by Jaffe and Lerner in the book *Innovation and its Discontent*. According to Jaffe and Lerner "the sand in the gears of the innovation machine is that companies and individuals must constantly fear that their research and product development may come to nothing, because someone is going to assert an as yet unknown or untested patent against them. Further, when such an assertion of patent infringement is made, the uncertainty about the ability to defend against that assertion often leads either to abandonment of the allegedly infringing technology, or to an agreement to pay possibly unnecessary royalties." Regarding national experiences in supporting entrepreneurialism, in order to allow more time for discussion and approval of the extension of waivers for least-developed countries, I would like to refer back to my delegation's previous interventions under the agenda items related to innovation.