

Voice of the World

Blueprint: China to Lead IPR Competitiveness by 2035

Edited by QI Liming

China released a 15-year plan (2021-2035) on the development of intellectual property rights (IPR) on Sept 22. The plan demands stricter IPR protection, a high level of public satisfaction, and greater market value of IPR by 2025. Meanwhile, China's IPR comprehensive competitiveness will rank among the top in the world by 2035, according to the plan.

Once the outline was released, it drew close attention from both home and abroad. Business circles and media are among the most concerned. Actually, China's achievements and progress in IPR protection in current years, have gotten much praise from the world.

IP system facilitates economic recovery

The U.S. Chamber of Commerce Global Innovation Policy Center (GIPC) released its ninth annual International IP Index, "Recovery Through Ingenuity," in March this year, highlighting the extraordinary role of IPR in delivering pandemic-ending solutions.

In a year of unprecedented challenges, China, as an emerging market,

continued making solid progress.

China's improved score is due in part to new legislation to strengthen its domestic IP framework. "Trade remains critically important to global IP standards," Neil Bradley, chief policy officer at the U.S. Chamber of Commerce, said on the chamber's website after the announcement of the index.

"The international IP system gave the innovative scientific community the capacity to respond to the global pandemic," said David Hirschmann, president and CEO of GIPC, on the same website.

"Countries with the most effective IP ecosystems — as measured by the 2021 Index — become trusted partners in our mission to develop, manufacture, and distribute the solutions needed to defeat COVID-19 in record time. Now is the time to build greater international consensus and capacity on IP, to enable all countries and the next generation to build a sustained economic recovery through ingenuity," said Hirschmann.

According to *South China Morning Post*, IP continues to be a massive economic driver for jobs and investment. Experts have noted that China's stake in

IP has been growing as its economy moves up in the value chain and expands overseas.

China ramps up IP protection for international market

"China's IP policy is part of the government's overall development plan," Elizabeth Chien-Hale, a veteran China IP expert and a partner of international law firm Appleton Luff, told *South China Morning Post* this May. "Patents and IP in general are just a way to bolster the transition from a manufacturing-based economy into a knowledge-based economy," she said.

Elliot Papageorgiou, head of IP strategy for China at multinational law firm Gowling WLG and chairman of the IPR working group of the European Union Chamber of Commerce in China, commenting on the same portal, said that IP was the "most obvious way" for China to capture and retain as much as possible the value added to products going to market internationally.

"As Chinese companies are embarking on ever-growing numbers of foreign investments under the Belt and Road Initiative (BRI), they will need to protect Chinese-developed innovations in the

countries in which they invest," Papageorgiou commented. "It is expected that Chinese IP filing in BRI countries will continue to grow steadily."

Protecting China's IP

The China National Intellectual Property Administration (CNIPA) has outlined several ways designed to increase protection for IP this April, including the introduction of harmonizing laws and common judicial and administrative standards.

Besides, new rules and regulations will be introduced, dedicated to the protection of future technologies, including big data, artificial intelligence and genetic engineering.

Meanwhile, as for overseas protection, China will push foreign governments to strengthen their protection of Chinese IP. China will actively participate in the global governance of IP through the World Trade Organization and the World Intellectual Property Organization (WIPO), and strengthen government support to help Chinese enterprises safeguard their IP overseas.

China's IPR record improving

According to Japan's media *Nikkei Asia*, in 2020, China was the biggest



IP protection in China. (PHOTO: VCG)

source of applications for international patents in the world for the second consecutive year, with a total of 68,720 filing. An increased number of Chinese technology-oriented companies see IP protection as a key element of their business strategy.

As reported in *Foreign Policy* maga-

zine, China's record on IPR is getting better and better.

The country is making the transition from net importer of ideas to net innovator, and as it does, it is looking for that good patent laws matter. Overall, IP regime in China has made significant strides in just a few decades.

French Media: China's Leapfrog Development in Internet Sector

Edited by BI Weizi

China Internet Network Information Center released the 48th Statistical Report on China's Internet Development on August 27.

The report shows that as of June 2021, the size of China's Internet users had reached 1.011 billion, forming the world's largest and most vibrant digital community. Recently, French media published several related reports praising China's leapfrog development in the Internet realm.

France's *Siecle Digital* reported on August 30 that China's rapid growth in the Internet sector has been driven by many factors, which even include the

pandemic. In addition, the continuous improvement of logistics and digital service facilities has not only improved the development of e-commerce, but also facilitated the emergence of new online services, such as online government service platforms and online education.

The report said people could do many things without leaving home via the Internet, including paying gas and electricity bills, ordering take-out, online shopping, and remote medical consultations. Data provided showed the extent of this online activity.

Examples include: 944 million online video users, 638 million online live streaming users, 469 million online take-out users, 397 million online taxi users,

812 million online shopping users, and 872 million online payment users. This shows the development of the various Internet industries, and how they make a significant contribution to China's economic transition and recovery.

The report concluded by focusing on China's efforts in the area of Internet legislation, noting that China's *Data Security Law* and *Personal Information Protection Law* would take effect in September and November respectively.

French newspaper *Le Figaro* reported on August 29 that the number of China's Internet users exceeded one billion, and the Internet penetration rate reached 71.6 percent, which shows that China has come on in leaps and bounds in the Internet field in the past two decades.

On August 27, the French newspaper *Libération* also reported that it was expected that the size of China's Internet users would exceed one billion, because the number of Chinese Internet users has been growing since 2000 and doubled between 2010 and 2018, from 400 million to 800 million.

Furthermore, *Radio France Internationale* reported that smartphones have become an integral part of people's lives, with some people using them for about seven hours a day. The article said analysis showed the popularity of the Internet also augurs well for the development of e-commerce in China.



The picture shows a representative of Zhejiang Lab is introducing "800G ultra-high-speed optical transceiver chips and engines" to the public during the 2021 World Internet Conference Wuzhen Summit on September 26. (PHOTO: XINHUA)

Xi Congratulates 2021 World Internet Conference Wuzhen Summit

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Xi emphasized that China is willing to work with other countries to shoulder the historical responsibility of promoting human progress by stimulating the digital economy, enhancing the government's digital efficiency, optimizing the digital social environment, setting up a digital cooperation structure, and building a strong digital security shield. China is also willing to work with other countries to make digital civilization benefit people of all countries, and promote the building of a community with a shared future for humankind, he added.

The conference, themed "Towards a New Era of Digital Civilization—Building a Community with a Shared Future

in Cyberspace," set up 20 sub-forums focusing on hot topics such as 5G, artificial intelligence, and open-source ecology, as well as major topics of cyberspace governance and development, aiming to build an international platform of interconnectivity between China and the world.

This year's leading Internet scientific and technological achievements, along with a section showcasing projects on jointly building a community with a shared future in cyberspace, were also on display at the summit.

More than 1,000 online attendees watched the conference in real time for the first time through the Online Conference Video System. Nearly 2,000 representatives from more than 80 countries

and regions attended the conference both online and offline, said Zhao Zeliang, vice-minister of the Cyberspace Administration of China.

Located in the core exhibition area of the World Internet Conference with a total construction area of about 30,000 square meters, the Wuzhen World Internet Science and Technology Museum is planned to be unveiled in 2023. It will present Internet technology in a panoramic view with four functional sections including "History Review," "Leading Technology," "Composite Space" and "I Future."

Two reports titled World Internet Development Report 2021 and China Internet Development Report 2021 were also released during the event.

Hi! Tech

Bamboo High-speed Train on Track

By YU Haoyuan

China leads the world in terms of high-speed train technology, owning a wide range of intellectual property rights in this field. Taking cognizance of the growing pressure from environmental protection trends, Chinese engineers are experimenting with construction of high-speed trains made from bamboo, in line with sustainable development goals.

A kind of advanced composite material is used to manufacture high-speed trains. Compared with the traditional high-speed trains, the bamboo version, along with other components integrated into an appropriate material, demonstrates the following three distinctive advantages:

Firstly, using renewable resources, a bamboo high-speed train features low carbon emissions and it is environmen-

tally friendly. Bamboo produces less pollution than steel when processed. Every 1,100 million tons of bamboo material can lead to a reduction of carbon emissions by as much as 350 million tons.

Secondly, the bamboo high-speed railway is light in weight, low in cost and high in profit, which is conducive to the maximum utilization of resources available. The wood fiber derived from the bamboo material weighs less than carbon fiber and glass fiber, which makes the bamboo material weighs less than other traditional materials, meaning the train will use less energy to run. As calculated by Chinese experts, the amount of energy consumed by one bamboo train carriage is 30 percent less than that of the ordinary one. Besides, for a train made completely of bamboo composite materials, its total energy consumption will reach the level of being

about 20 percent lower than traditional bullet trains.

Finally, the bamboo high-speed train is safer and stronger in structure. Though the wood fiber of bamboo is inferior to carbon fiber or glass fiber in strength, it remains stronger than steel given the same weight. As suggested by the experimental results, the carriages made out of bamboo can withstand the pressure applied by an 80-ton truck, which is impossible for various steel materials. In addition, bamboo performs well in absorption and flexibility, which makes the new bamboo-made train resistant to impact.

Currently, the bamboo high-speed train has passed standard compliance test. It is believed to be suitable for widespread use in large-scale high-speed railway operations across the country in the near future.

Chinese Shield Machines: Tunneling above and below Sea Level

By QI Liming

China's deepest undersea tunnel boring machine, Shenjiang -1, rolled off the production line of China Railway Construction Heavy Industry Corporation Ltd. (CRCHI) in Changsha on August 23, 2021. It will serve in the construction of China's deepest submarine tunnel: the Pearl River Estuary Tunnel of the Shenzhen - Jiangmen Railway.

This shield machine, with a cutter head decorated with the face of a lion, has an excavation diameter of 13.42 meters with a total length of 130 meters and a total weight of 3,800 tons.

Shenjiang -1 will excavate a tunnel that crosses a section measuring 3,590 meters, passing through the Pearl River estuary. With a maximum buried depth of 106 meters and high water pressure construction area of 110 meters, it is currently the underwater shield tunnel with the longest buried depth and the highest water pressure in China.

Considering these construction difficulties in the sea areas, such as ultra-high water pressure, super-hard rock formations, long-distance downhill excavation, continuous crossing of fractured zones, and strong seawater corrosion, the development team has carried

out a targeted selection design and a configuration of a normal and heavy composite cutter head, a retractable main drive and a double-layer shell.

The machine integrates a series of intelligent systems to improve the adaptability of the shield machine and provide a guarantee for the safe and efficient construction of the project. The shield machine will be disassembled and transported to the construction site, where it will be reassembled.

Another big challenge for domestic shield machine construction is excavat-

ing through the Himalayas.

China has constructed a 4,300-ton shield machine Jinghua, digging through the Himalayas to build the world's highest railway: the China - Nepal Railway.

Jinghua is 150 meters long, with a maximum excavation diameter of 16 meters and as high as a five-storey building. It is also the largest diameter shield machine developed in China, combining mechanical sensing, optics, hydraulic and information technology. The technology used in these machines is the most advanced of its kind worldwide.



Homemade shield machine "Jinghua". (PHOTO: XINHUA)