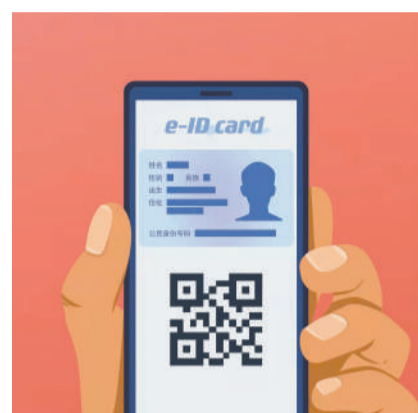


China to Introduce e-ID Cards Nationwide

By ZHONG Jianli

The Chinese government will introduce electronic national identity cards, or e-ID cards, across the country later this year, enabling better services for an increasing interprovincial population, according to Premier Li Keqiang.



(PHOTO: VCG)

Speaking at the annual briefing at the end of the National People's Congress in March, Li said currently some 100 million Chinese are in interprovincial migration. One aim of introducing e-ID cards is to better meet the basic living needs of this demographic.

"Some are elderly people, living away from their hometowns, with their children in cities. Some migrate for employment or education. They are facing many challenges of travel in getting certain things done. Hence, obtaining governmental services interprovincially has become a new constant demand among the people," said Li.

One of these government services this year is to make ID cards electronic, which helps people manage their lives better via a simple code-scan on their cell phones, according to Li.

The premier added that the government will also provide more convenience for people who do not use smart phones, especially the elderly, and will adopt measures to ensure information security and individuals' privacy.

China's Ministry of Public Security started a pilot trial of e-ID cards in 2018, allowing residents in major cities including Quzhou, Hangzhou, and Fuzhou to apply for e-ID cards. Currently, e-ID is accepted in more than 15 major cities in China, with more than six million people using it.

Residents can use facial recognition mechanisms to authenticate their e-ID cards, which are valid for banking, ticketing, hotel registration, and other services. In February this year, the General Office of the State Council issued a document to further expand the application of digital certifications and licenses, so as to bring more convenience to people's lives.

The document says the application of digital certifications and licenses should be linked to the national integrated government service platform and be streamlined so that they are recognized across the country.

The document also calls for accelerating the application of new technologies, such as big data, cloud computing, and artificial intelligence, so that electronic licenses can be more widely used. Different regions are encouraged to introduce the "one e-card for all" service, bringing more convenience to residents in traveling and domestic tourism.

Guo Xu, a human resource manager working in Tianjin, said digital cards make her daily life easier. "With an e-ID card, I don't have to bring my physical ID card or driving license with me any more. When I am stopped by traffic police, all I need is to show a digital code on my smartphone," she said.

Policy Watch

Commercializing Sci-tech Achievements Stimulates China's Innovation

By CHEN Chunyou

In chapter 3 of the revised *Law on Progress of Science and Technology*, among eight newly-revised articles, seven are related to the commercialization of sci-tech achievements, which clearly demonstrates its significance in promoting national sci-tech progress.

In fact, some articles in this chapter are extracted from chapter 2 of the old version of the law. Xiao Youdan, research fellow at the Institutes of Science and Development, Chinese Academy of Sciences, said that articles concerning applied research and commercialization of sci-tech achievements were placed in a separate chapter in this revised law, which fills the gap of legislation in the organization and guarantee for making technological breakthroughs.

The significance of commercializing sci-tech achievements

According to Zhang Yafeng, special research assistant at the School of Public Policy and Management, University of Chinese Academy of Sciences, the commercialization of sci-tech achievements is an effective channel to accelerate innovation-driven development.

Article 2 of the revised law stresses that China would implement the innovation-driven development strategy, whose core is to emphasize the strategic supporting role of sci-tech innovation in improving social productivity and comprehensive national strength. The realization of this role does not fully depend on the achievements in the laboratory, but depends on how the achievements translate from the laboratory to the market. This process is called commercialization of sci-tech achievements.

The commercialization is the key to meeting national strategic needs, noted Zhang. For example, supporting the realization of the goal of carbon peaking and carbon neutrality is clearly stated in article 3 of the revised law.

In order to achieve this goal, it is necessary to transform and upgrade traditional industries, optimize the industrial structure, and form a production mode, which is conducive to resource conservation and environmental protection. These can not be achieved without the commercialization, especially the green and low-carbon technology, said Zhang.

Highlights of the revised law

In article 31, it is stipulated that enterprises, research institutions, universities and related organizations are expected to set up R&D platforms, technological innovation alliance and innovation

union based on the market mechanism, which aims to advance R&D and improve the efficiency of the commercialization.

Zhang said that the establishment of the Beijing Xueyuan Road Clinical Collaborative Innovation Alliance is such an example, which was initiated by Peking University Third Hospital. The alliance provides a platform for the commercialization of medical achievements, and effectively promotes the increase of the number of patent transfers. Another example is the π Laboratory, co-founded by the Chinese Academy of Sciences and Huawei, with the aim of strengthening the links between enterprises and research institutes, and promoting the commercialization.

Article 38 of the revised law puts forward new requirements for the construction of the technology market, noting that the market should be unified, open and interconnected, and the competition in the market should be orderly.

Article 33 stipulates that China would advance the reform of the ownership of intellectual property rights and the mechanism for the distribution of rights and interests, and would explore ways to grant researchers the ownership or long-term right to use their research achievements. Zhang said this article laid a legal foundation for encouraging the commercialization.

In recent years, many universities and research institutes in China have formulated their policies to specify the reward share and incentive mechanism for commercialization, which has played a positive role in stimulating the vitality of commercialization, said Zhang.

For example, Peking University stipulates that holders of research achievements can receive 70 percent of the income from commercialization, and the University of Science and Technology Beijing stipulates that the holders of research achievements and those involved in the commercialization shall enjoy 90 percent of the commercialization income.

The sci-tech achievements produced by research institutes and universities have always been faced with a lot of difficulties in commercialization in China. In this revised law, article 30 stipulates that the research institutes and universities should strengthen the construction of technology transfer institutions and quality talent teams. Zhang said this will be conducive to promoting the commercialization through professional capacity building.

Xiamen Gets Smart with Foreign Sci-tech Commissioners

By FU Xiaobo & CHEN Chunyou

On March 15, four foreign sci-tech commissioners from the Institute of Urban Environment, Chinese Academy of Sciences, were awarded sci-tech commissioners' certificates by the Xiamen Bureau of Science and Technology, making them official members of the city's commissioner team.

Since the introduction of foreign sci-tech commissioners to Xiamen in September 2019, about 150 foreign experts have been selected for this role, bringing international innovative ideas to local sci-tech innovation and promoting high-quality industrial development.

In recent years, Xiamen's sci-tech commissioners' range of services has expanded from agriculture to engineering, science and technology and ecology.

Xiamen plans to take advantage of the opportunity of establishing itself as a BRICS innovation base, carry out more international sci-tech exchanges and cooperation and create platforms for foreign experts to make their contributions to local enterprises' development, said Cao Weimin, vice director of the Xiamen Bureau of Science and Technology.

Franz Gatzweiler, a German researcher at the Institute of Urban Environment, is one of the four foreign sci-tech commissioners. He has been the executive director of the urban health and well-being program at the International Council of Scientific Unions, and has in-depth research in the areas of social ecosystems and institutional economics.

Gatzweiler hoped to introduce international advanced environmental technologies via an urban health and well-being program, to provide broader cooperation opportunities for enterprises in Xiamen.

Dr. Ricardo Llaguno is an Ecuadorian research assistant at the Institute of Urban Environment, and specializes in the research of the colloidal behaviour of nanoparticles. Before he was chosen as the sci-tech commissioner, he offered technical support in the area of extracellular vesicle for Xiamen's Lifeint Company.

According to Zhu Yongguan, director of the Institute of Urban Environment, foreign sci-tech commissioners are welcomed by local enterprises and research institutes. Xiamen has always attached great importance to high-end international experts and the industrialization of environmental technology.

Zhu said that the working mechanism of sci-tech commissioners provides sci-tech support for the innovation and development of enterprises, and he hopes to use this mechanism to introduce advanced ecological and environmental management technologies in the future.

High-tech Industries Lead Growth in First 2 Months

By LI Linxu

China's economy beat expectations in the first two months of 2022, with high-tech industries leading the way.

"Overall, the momentum of January-February recovery remained relatively well," said National Bureau of Statistics (NBS) spokesman Fu Linghui, describing the growth "better than expected."

"Indeed, every data point has been rebounding, mainly because policy effects kicked in early this year," said Qu Qing, chief economist at Jianghai Securities.

Among the key indicators, industrial output rose 7.5 percent in January-February from a year earlier, the fastest pace since June 2021 and up from a 4.3 percent increase seen in December, according to NBS.

The high-tech manufacturing industries posted a stellar performance, jumping 14.4 percent year-on-year.

Specifically, the production of new-energy automobiles logged a marked increase of 150.5 percent, while that of industrial robots and solar cells grew by 29.6 percent and 26.4 percent year-on-year respectively.

Meanwhile, the investment in the high-tech industry grew by 34.4 percent year-on-year, significantly faster than

the overall fixed asset investment growth rate.

By category, the investment in high-tech manufacturing and high-tech services grew by 42.7 percent and 16.0 percent respectively.

"In January and February, the economy enjoyed good recovery momentum, though we must be aware that the external environment is still complex and severe, and China's economic development faces many risks and challenges," said Fu, adding that the country will deepen the reform and opening up, and promote high-quality development so as to maintain the economic operation within the appropriate range.



An industrial robot smart line, Changzhou city, Jiangsu province. (PHOTO: VCG)

Becoming a Meteorological Powerhouse Through Innovation

By LI Linxu

Behind the smooth running of the Olympic Winter Games Beijing 2022, much credit must go to the precise meteorological services provided.

The 100-meter and minute-level operational weather forecast system employed at the Winter Olympics mirrors China's latest progress in meteorology science and technology.

And more exciting applications are on the way as the country strives to make key core sci-tech breakthroughs in meteorology.

According to a newly-released plan, China aims to become a meteorological powerhouse through sci-tech innovation.

The plan, titled *China's Meteorological Science and Technology Development Plan (2021-2035)*, details its goals and tasks for the country to develop its meteorological sci-tech undertakings in the following 20 years.

Sci-tech innovation is the first move

er for high-quality meteorological development, essential for accurate monitoring and precise forecasting, and a prerequisite for ensuring meteorology as the first line of defense for disaster prevention and mitigation, noted the plan.

By 2025, an open, solid, efficient, and robust meteorological sci-tech system is expected to be established.

By 2035, the overall strength will reach world advanced levels, making key core technology breakthroughs.

At that time China is expected to become a meteorological sci-tech innovation hub, with an improved original innovation capability.

To achieve these goals, the plan pledges to double and redouble its R&D efforts from the 2020 level by 2025 and 2035 respectively.

Nine key fields for R&D have been proposed, including meteorological observation technologies, data analysis technologies, weather and climate mechanisms, earth system models, digital

forecasting technologies, meteorological service technologies, weather modification theories and technologies, climate change and ecological meteorology, and AI meteorological technologies.

46 priorities have been identified, such as ground-based meteorological observation, fusion analysis of meteorological data, mechanism of extreme weather, space weather forecast, industrial meteorological service, mechanism of weather modification, climate change risk assessment, and meteorological talent cultivation.

China will actively participate in global meteorological science governance and build international brands in meteorological equipment, disciplines, and sci-tech platforms, said Zhuang Guotai, administrator of China Meteorological Administration (CMA).

The plan was jointly issued by CMA, the Ministry of Science and Technology, and Chinese Academy of Sciences on March 3.

Exploring Energy Supplies and Secrets Far Beneath the Sea

From page 1

In October 2021, the Shenyang Institute of Automation, Chinese Academy of Sciences announced that the unmanned submersible Haidou-1 completed the world's first full-coverage acoustic cruise of the western depression of the Challenger Deep, which is the deepest region of the ocean at a depth of 10,908 meters.

Underwater observation networks

Haidou-1 worked for more than 10 hours continuously under the water at 10,000 meters. Despite reaching a world-leading level, ten hours is still not long enough to explore the secrets of the sea. Underwater networks for long term observation are essential for further ongoing exploration.

Since the 1990s, scientists have begun to put sensors on seabeds, connected the sensors with optical cables and transited information to the surface. The networks can conduct long-term monitoring free from the impact of typhoons

or earthquakes. Such networks can act as weather stations and laboratories, uplifting the capability of ocean observation.

An important application of an underwater observation network is to give warnings for earthquakes and tsunamis. Eighty five percent of volcanoes in the world are underwater. The facilities set up on seabeds could monitor the eruption of volcanoes in real time.

In 2005, China began to promote the construction of underwater observation networks. After 12 years, the national underwater observation network was authorized to be built, aiming to conduct comprehensive monitoring from seabed to sea surface in all weather, real time and in high definition.

Despite the work scientists have done, a great many questions about the sea or related to it remain unsolved. Deep-sea exploration will still be a crucial approach to help humans discover more secrets about nature and human life.