

Xinjiang Seen Remarkable Development: Global Observers

Voice of the World

By TANG Zhexiao

Northwest China's Xinjiang Uygur Autonomous Region has seen remarkable all-round development in recent years.

It now enjoys steady and sound economic growth, ongoing improvement of people's livelihood and steady progress in all undertakings. The social sense of fulfillment, happiness and security has also been on the rise across the region.

Unprecedented achievements received praise

Chea Munyrith, president of the Cambodian Chinese Evolution Researcher Association, said the inspection tour of China's top leader to the region recently fully reflected the Chinese government's efforts to implement strategies for Xinjiang in the new era, and its concerns for people of all ethnic groups.

"Under the leadership of the Communist Party of China, Xinjiang has achieved unprecedented development achievements, and Xinjiang's future will definitely be better," said Munyrith.

Since the establishment of the autonomous region in 1955, Xinjiang's GDP has increased by about 160-fold, and both urban and rural areas have undergone rapid changes, according to Rashid Alimov, ex-secretary general of the Shanghai Cooperation Organization, who added that with improved infrastructure and transportation, Xinjiang has now become a popular tourist attraction.

Meanwhile, the Uygur population in Xinjiang grew from over 8.3 million in 2000 to over 11.6 million in 2020, and the region's average life expectancy rose from less than 30 years in 1949 to 74.7 in



Grape harvest in Kuqa, Xinjiang Uygur Autonomous Region. (PHOTO: VCG)

2019.

Kamal Gaballa, columnist of Egypt's newspaper *Al-Ahram*, has visited Xinjiang many times, and said he particularly noticed that the rights of people of all ethnic groups in Xinjiang are fully guaranteed, and ethnic customs and habits are fully respected. "I see and feel the joy of people in the region," he said.

Negative reports have not hampered Xinjiang's development

On factual evidence, it is difficult to ignore the fact that Xinjiang's people are living a good life.

Success of poverty alleviation in 2020 made Xinjiang achieve "two assurances and three guarantees", meaning assurances of adequate food and clothing, and guarantees of access to compulsory education, basic medical services and safe housing for impoverished rural residents have been fully realized.

The region is embracing a new era of prosperity and modernization.

Official data shows that from 2012 to 2021, the per capita disposable income of urban residents in Xinjiang increased from 17,921 RMB to 37,642 RMB, while the per capita disposable income of rural residents increased from 6,394 RMB to 15,575 RMB.

From January to May this year, 263,000 new jobs were created in urban areas of Xinjiang, completing 57.17 percent of the annual target.

The Western media reports, which stigmatize and demonize Xinjiang and endorse the lie of "forced labor" there, are unfounded.

Essam Sharaf, former Egyptian Prime Minister said the reason why anti-China forces in the U.S. and the West are keen on hyping up the so-called Xinjiang issue at every turn, is that they want to suppress China's development through excluding Xinjiang products from the global supply chain and curbing Xinjiang's economic development.

Sci-tech vitality boosting high-quality development

As a core area of the Silk Road Economic Belt, Xinjiang is transforming from a hinterland into a frontier of opening-up and ushering in a period of strategic opportunities for high-quality development.

For decades, Xinjiang has been making efforts to promote the innovation-driven development strategy and has achieved a number of core technological achievements.

With the help of technology and automated agricultural machinery, like self-developed BeiDou Satellite Navigation System, this year's spring plowing in Xinjiang was much more efficient.

"The degree of mechanization in cotton sowing is about 95 percent, while it can reach 98 percent when we plant wheat. The use of automated agricultural machinery has significantly cut the cost of labor," said Guo Shixue, head of the technological support department of the cooperative.

E-commerce is booming and opens doors to online marketing of agricultural products. In 2021, the region saw its penetration rates of mobile phones and mobile broadband subscribers stand at 117.5 per 100 people and 95.7 per 100 people, respectively. Nearly two billion RMB has been invested in building over 19,000 5G base stations.

"Xinjiang's development achievements left a good impression on me, and the modernization of the region's urban and rural areas exceeded my expectations," said Walid Abdallah, an Egyptian author and editor. "During my visits to several enterprises manufacturing agricultural products, I noticed that they had all turned to modern marketing techniques, including e-commerce and live streaming marketing," he said.

Opinion

Patent Applications, Transfers Soar

By QI Liming

China has granted more than 390,000 patents from January to June this year, according to China National Intellectual Property Administration (CNIPA), bringing the total number of valid patents to over 3.9 million, up 17.5 percent year-on-year.

In the first half of this year, more than 3.67 million trademarks were registered at CNIPA, bringing the country's total valid trademarks to over 40 million, up about 21 percent year-on-year.

By the end of June, some 325,000 Chinese enterprises owned valid invention patents, up 20.3 percent year-on-year, showing that those companies continue to innovate in the market.

High-quality transfer of IP

While the number of patent applications in China has filed significant growth, some researchers have emphasized that high-quality intellectual property (IP) transfer is also needed amid globalization.

The use of IP is pivotal, as it is of great significance to improving small and medium-sized enterprises (SMEs)' innovation capacity and fostering new growth drivers.

CNIPA said that in terms of patent transfer, there exists a "dilemma" between "difficult transfer" of the achievements for universities and institutions and "difficult acquisition" of technologies to SMEs.

In recent years, CNIPA has adopted a series of measures in terms of policy guidance and institutional support, promoting the usage of IP into real productive forces by deepening the special program for patent transfer and accelerating the implementation of the patent licensing system.

According to statistics, the number of patent transfer licenses granted for colleges and universities nationwide reached 27,000 in 2021, up 33 percent year-on-year and nearly twice the overall growth rate of patent transfer licenses nationwide.

Among them, the number of patent transfer licenses granted for universities and institutes in 16 key provinces, and the number of patent transfer licenses granted to SMEs account for about 90 percent of the country's total, which has played a leading role in promoting patent transfer and achieved remarkable results in the implementation.

By the end of 2022, CNIPA plan to launch a pilot program involving more than 100 colleges and universities, and issue more than 1,000 patent licenses,

effectively improving the effectiveness of patent transfer.

Patent reservation in emerging technologies

According to Channel News Asia, in 2021, China was the world's top patent filer for the third year in a row. Chinese firms have filed approximately 75 percent of global artificial intelligence (AI) patents in the past decade and 40 percent of 6G patents.

The country's ability to produce IP across a number of critical and emerging technologies has been seen as evidence that China leads the field in knowledge production.

By the end of June 2022, computer technology, measurement technology and digital communication ranked the top three in the number of effective invention patents in China, accounting for 9.4 percent, 7.6 percent and 6.8 percent of the total, respectively.

The top three growth rates were information technology management methods, computer technology and medical technology, up 78.5 percent, 32.3 percent and 27.1 percent respectively.

IP has become integral to economic power. The growing patent achievements in emerging technologies underpin the digital transformation of the economy, advancing the health and well-being of the people.

Promising hydrogen technology patent

When it comes to the welfare of human society, the issue of energy patents is also of great concern. According to *NIKKEI Asia*, China has shown great potential in hydrogen technology patents.

According to Astamuse, China filed 21,235 patents for hydrogen-related technology, a roughly tenfold increase between 2001 and 2010. The country is also increasing its patent filings, and regional governments offer subsidies to aid the effort.

China has outscored Japan in four of the five categories of hydrogen-related technology tracked by Astamuse: manufacturing, storage, safety controls and transportation.

Chinese research institutions are actively filing patents in a range of different areas. Many Chinese patents have relatively long remaining terms as well. "Chinese patent filings have increased dramatically since the mid 2010s," said Daisuke Ito of Astamuse, adding that, "There is a good chance that it will eventually overtake Japan in all hydrogen-related fields."

Hi! Tech

Fostering Robots' Value Alignment with Humans



Megatron interacts with humans. (PHOTO: VCG)

Edited by QI Liming

A team led by Zhu Songchun, professor at the Institute of AI of Peking University, has built a computing framework for robots to understand human values in real time, enabling robots and human users to complete a series of complex human-robot collaboration tasks through real-time communication.

The research inserts the "heart" for machines, enabling AI to empower robots to "read" human values. A prerequisite for social coordination is bidirectional communication between teammates, each playing two roles simultaneously, as receptive listeners and expressive speakers.

For robots working with humans in complex situations, with multiple goals

that differ in importance, failure to fulfill the expectation of either role could undermine group performance due to misalignment of values between humans and robots.

Specifically, a robot needs to serve as an effective listener to infer human users' intents from instructions and feedback, and as an expressive speaker to explain its decision processes to users.

Here, researchers investigate how to foster effective bidirectional human-robot communications in the context of value alignment-collaborative robots and users form an aligned understanding of the importance of possible task goals.

They propose an explainable artificial intelligence (XAI) system in which a group of robots predicts users' values by

taking in situ feedback into consideration, while communicating their decision processes to users through explanations.

To learn from human feedback, the XAI system integrates a cooperative communication model for inferring human values associated with multiple desirable goals. The system simulates human mental dynamics and predicts optimal explanations using graphic models, in order to be interpretable to humans.

The team then conducted psychological experiments to examine the core components of the proposed computational framework. Results show that real-time human-robot mutual understanding in complex cooperative tasks is achievable with a learning model based on bidirectional communication.

Covering Glacier with Quilt Slows Melting

By Staff Reporters

Great concern has been raised about rising sea level and changes in water cycles in the past 50 years. This has led to Chinese scientists finding an effective way to slow down the melting speed of glaciers.

In cooperation with local environmental authorities, scientists carried out an experiment of putting a "quilt" on the Dagu glacier on the Qinghai-Xizang Plateau in southwest China's Sichuan province, to try and reduce melting.

They used a kind of thermal insulation and reflective material in the test area at an altitude of about 5,000 meters, measuring the data every 15 days.

The team also used 3D laser scan-

ning on the glacier to further quantify the effect of the glacier "quilt" test and provide accurate data support for subsequent glacier melting.

Two months' data showed that the melting rate and volume of the glaciers in the covered area were significantly slower compared with other uncovered glaciers. It was estimated that the decreased thickness of the melting glacier was only one meter, slowing about 70 percent of the normal melting rate of the Dagu glacier.

It is considered that the glacier protection experiment can not only help to explore the method of glacier protection, but also can provide a guide to industrial and agricultural production.



The Dagu glacier scenic spot in Heishui county of Aba Tibetan and Qiang Autonomous Prefecture, southwest China's Sichuan province. (PHOTO: VCG)

CAFOE Discusses Frontier Engineering

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Every two years since 2009, CAE and NAE take turns to hold the CAFOE symposium, which aims to facilitate international and cross-disciplinary re-

search collaboration, promote the transfer of new techniques and approaches across disparate engineering fields, and encourage the creation of a transpacific network of world-class engineers.

Industrial Economy Resilient in First Half

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With a rise of 9.6 percent in added value, the high-tech manufacturing industry enjoyed continuous growth at a speed higher than the entire industry. In particular, the added value of electronic manufacturing mounted by 10.2 percent year-on-year, keeping a double figure growth rate.

The digital industry has also maintained stable growth in the first half of this year with the acceleration of contactless economy such as online shopping, online education and telemedicine, injecting impetus into the economic development, said Wang Peng, a person in charge of the bureau of information and communications administration of MIIT.

For the past six months, the total

volume of electronic information manufacturing, software, telecommunications and Internet exceeded ten trillion RMB, said Wang.

The digital transformation of industries has also been upgraded. There are over 3,100 projects of 5G+Industrial Internet under construction, and more than 6,000 solution suppliers for intelligent manufacturing have been incubated, serving over 90 percent of the manufacturing industry.

For the second half of this year, Tian Yulong, spokesperson and chief engineer of MIIT, said the industrial economy will be put into a more important position and efforts will be made to accelerate the implementation of the package plan of stabilizing the industrial economy.