

China Has Become an Important Force for Global Inclusive Innovation: Bill Gates

By Staff Reporters

Bill Gates, co-chairman of the Bill & Melinda Gates Foundation, delivered a video keynote report at the 2021 Pu-

jiang Innovation Forum held in June, saying that human beings share a common destiny, and enhancing innovation, especially inclusive innovation, is central to overcoming any challenge.



Co-Chairman of the Bill & Melinda Gates Foundation (PHOTO:Pujiang Innovation Forum)

World's scientists unprecedented cooperation during the pandemic

Gates said that we are still in the biggest global public health crisis in a century. One year ago, there were no vaccines or drugs against the coronavirus at all. But the world's scientists have answered the call. Thanks to unprecedented scientific cooperation, they were able to complete the whole process, from identifying a virus to immunizing people against it, in so short a time. This impressive achievement is the result of multilateral partnerships and a coordinated mechanism for global collaboration.

But he also acknowledged that 83% of the first billion vaccine doses went to wealthy countries, compared to just 0.2 percent for low-income nations. "If the current immunization rate continues, it will take more than a decade for many nations to reach the level when herd immunity takes

hold," said Gates, stressing that this situation is not only unfair, but could have disastrous consequences. No one is immune until everyone is safe.

Gates called for swift global action to narrow gaps in access to vaccines at the national level. He believed that funding should be increased for initiatives like the COVAX, which is distributing vaccines. Efforts should be made to increase the number of qualified vaccines in the portfolio and ramp up manufacturing and supply around the world. "I hope to see COVID-19 vaccine supplied from China increase, and play a significant global role," said Gates.

China is a leader in inclusive innovation

Inclusive innovation is what is most needed, according to Gates, and that innovation should not stop at the R&D stage or cater only to those who can afford it. Innovation should reach

people trapped on the wrong side of entrenched inequities and give everyone a chance to lead a healthy, productive life.

Gates deemed that China has emerged as a major global force for inclusive innovation. China's increasing investment in scientific research, as well as its efforts to ensure that new ideas and tools become effective public goods, has helped save and improve hundreds of millions of lives, both in China and beyond.

Gates cited Chinese Nobel laureate Tu Youyou's discovery of artemisinin as one of the most significant breakthroughs in tropical medicine in the 20th century. Her work saved millions of lives that would otherwise be lost to malaria. Vaccines made in China also play an important role globally. He said the successful approval of the JE vaccine has created momentum for more Chinese vaccines to get WHO

prequalification. Today, three other Chinese vaccines - addressing influenza, polio and hepatitis A - have been qualified by WHO and are now available to countries in need.

The Goalkeepers report, released by the Bill & Melinda Gates Foundation last September, found that the COVID-19 pandemic had retarded progress on nearly every indicator of the 2030 U.N. Sustainable Development Goals. But with China's leadership on inclusive innovation, I believe we can get back on track, lessen the poverty and food insecurity, and accelerate progress toward the SDGs, said Gates.

The philanthropist concluded his address by saying that by working together, continuing to support inclusive innovation, and making sure that nobody is left behind, he is confident that the human will not only end this pandemic, but also build a better fairer future.

Opinion

Let Science, Technology and People-to-People Exchanges Enhance Human Civilization

By WANG Junming and YU Haoyuan

From rubbing sticks together to create fire in ancient times to the age of interconnecting information, sci-tech development has driven the evolution of history. It provides endless power for the progression of human civilization and advances human beings from ignorance to civilization, from nomadic civilization to agrarian civilization, industrial civilization, and then the information age.

Science knows no borders. From the four ancient civilizations to the modern Asian, African, European, and American countries, scientific and technological development is the most innovative and open way to promote exchanges and mutual learning among world civilizations.

Since ancient times, the Chinese nation, with a history of 5,000 years, has made several world-famous scientific and technological achievements. Particularly, China had frequent Sci-tech communication with the western countries through the land and maritime Silk Roads and with the Arab region from the Han and Tang Dynasties to the Song and Yuan Dynasties.

According to Joseph Needham, a British historian of science, China, as a world power in science and technology, introduced 26 technologies to the West during the one thousand years of the Middle Ages, positively impacting the modern scientific and technological revolution in Europe.

The scientific revolutions of the 16th-17th centuries in Europe and the technological revolutions of the 18th-19th centuries drove the modernization of human society and led the world's progress from the agricultural civilization to the industrial civilization and from the steam age to the electricity age.

In the 20th century, the birth of quantum theory and the theory of relativity, and the transformation of information science and life sciences triggered a technological revolution with breakthroughs, including electronic communications, artificial intelligence, genetic recombination, and deep space exploration as their milestones. The network world and economic globalization have brought the world into an unprecedented modern civilization of communication and learning from one another.

Meanwhile, scientific and technological innovation to promote sustainable development has become the only way to solve some crucial global issues for all countries, such as the fight against

COVID-19 and climate change. Therefore, the need for global scientific and technological innovation and talent exchange and cooperation is more urgent now than ever before.

Science and technology constitute a primary productive force, with innovation as the primary driving force.

In today's world, science and technology, driven by the current round of sci-tech and industrial revolution, have become the determining factor in promoting a productive social force and labor productivity and the most sustainable power with which people can pursue a happy life.

As a result, the coordinated development of economy, society, culture, and ecology has been deepened. Science and technology have profoundly impacted the evolution of human civilization, along with the development of global governance systems.

To promote modern civilization's sustained and sound development through scientific and technological exchanges, three non-negotiable conditions are essential.

Firstly, we require a global consensus, global actions, and a closer cooperation mechanism among all countries. This is contrary to the so-called "decoupling" thinking, which goes against the general inclusive trend of human civilization.

Secondly, we require scientific and technological innovation, cultural and people-to-people exchanges, and the cooperation of the scientific and technological community and the business community. Global innovation networks and innovative technologies should be adopted to handle the problems besetting the sustainable development of humankind.

Lastly, we require unimpeded access to information, information sharing, and global cooperation and empowerment of the media community. The media should advocate for scientific and technological exchanges and cooperation among humankind and the sustainable and healthy development of human civilization.



China has frequent sci-tech communication with the west since the Han Dynasty. (PHOTO: VCG)

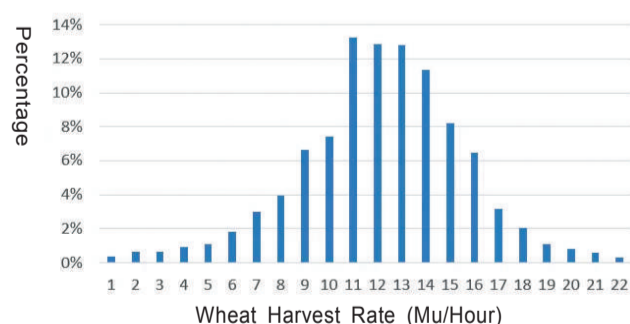
BeiDou's Big Data Revolutionizes Wheat Harvesting

By Staff Reporters

As the harvest season approaches, the mature wheat stands tall and golden, ready to harvest. As they prepared for the season, the farming industry recently received some good news. The BeiDou team of China Agricultural University announced that their "Wheat Harvest Express" now integrates the BeiDou positioning data of mainstream wheat harvesting companies in China for the first time. This data will be invaluable to farmers across the country come harvest time.

The new "Wheat Harvest Express" is the global pioneer of national-level, large-scale agricultural machinery data sharing and big data application services. It contains such useful data as the distribution of accumulative harvesting area of wheat in China and a heat map of wheat harvesting operations in China.

After scientific data collection, integration, and analysis, the BeiDou team of China Agricultural University will conduct in-depth data mining after the wheat harvest, providing detailed data analysis reports to harvester manufacturers, agricultural machinery cooperatives, and harvesters, Wu Caicong, the leader of the BeiDou team of the School of Information and Electrical Engineering of China Agricultural University and the secretary-general of the



Wheat harvesting efficiency chart in China (PHOTO: The Beidou Team of China Agricultural University)



The farm machinery is reaping the wheat fields. (PHOTO: VCG)

Precision Agriculture Technology and Equipment Branch of the China Agricultural Machinery Industry Association, told Science and Technology Daily.

"By installing BeiDou operation-end, agricultural machinery manufacturers can track position and status of agricultural machinery during operation. Thus, it can provide more accurate and timelier follow-up services to owners based on the feedbacks, such as harvester position, and heat map. Moreover, it can locate harvesters with higher har-

vesting efficiency to provide customized services, contributing to maintaining their harvesting efficiency and bringing more income for the owners," said Wu. In addition, he also demonstrated that agricultural machinery manufacturers can optimize and improve harvester and parts design, based on the machine's breakdown information.

The big data of BeiDou Navigation Satellite System (BDS) is changing the way China organizes and manages agricultural machinery production.

The potential value of the big data on these charts can be deeply excavated to improve agricultural machinery production and management efficiency in an all-around way.

For example, during the wheat harvest, the "Wheat Harvest Express" defines and publishes the Harvester Satu-

ration Index based on the crops cultivated areas and the number of harvesters. The data is just like traffic jam information, providing path guidance for mobile phone transfer across regions. Local governments can also do corresponding guaranteed work accordingly. After harvest, the cross-region index can be released to reveal the status quo, characteristics, and problems of socialization of agricultural machinery in China.

"Let's give this technology some time to develop. BDS+sensor+AI chips+5G/6G communication will finally realize unmanned agricultural machinery and unmanned farm watch. Consequently, farmers can accurately control the agricultural production system to acquire high yield and high income without going out into the fields," said Wu.

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On the same day, the WHO validated an inactivated COVID-19 vaccine called CoronaVac, developed by Sinovac R&D, a subsidiary of Sinovac Biotech, for emergency use. CoronaVac, coupled with previously certified BBIBP-CorV developed by Sinopharm CNBG, is bringing hope to alleviating the unfair distribution of vaccines around the globe.

To ease tight vaccine supplies to a larger extent, Chinese vaccine companies are speeding up to carry out authorized production and joint research with capable countries.

At the end of March, liquid bottles of inactivated COVID-19 vaccine rolled off the production line at a liquid filling & packaging production workshop jointly built by Sinopharm

CNBG and the G42 Group in the United Arab Emirates.

In terms of the effectiveness evaluation and authorized production of the COVID-19 vaccine, Sinovac has also carried out fruitful cooperation with its Brazilian partners. For example, the vaccine has been proved safe and effective in the Phase III clinical trials carried out among 12,000 medical staff; Plan S for real-world research has been implemented in the small town of Serrana in Sao Paulo; and localized production of the COVID-19 vaccine has been achieved through licensed production.

"In response to the huge vaccine demand, in addition to providing finished products, we have also exported semi-finished jabs to some countries and authorized local filling and packag-

ing," said Yin Weidong, Chairman of Sinovac Biotech.

Yin Continued saying: "Our core aim is to make the vaccine rapidly available in these countries, increase their vaccination rate and reducing the incidence as soon as possible. We expect more countries to participate in the authorized local production mode, which is the most direct and effective way for quickly improving vaccine production capacity and ensuring vaccine supply."

By June 22, three Chinese vaccine manufacturers have carried out joint production with eight countries, and they are also discussing cooperative production plans with 10 additional countries, according to Mao Junfeng, Deputy Director of the Consumer Products Industry Department of the Minis-

try of Industry and Information Technology.

In the future, China will continue to propel the technology transfer of its vaccine makers to more developing countries and support them in carrying out international capacity cooperation.

Over the past year or so, the recurrent outbreaks of the pandemic are a reminder that humanity rises and falls together with a shared destiny and a shared future.

As the safety, effectiveness, and convenience of Chinese vaccines have been fully proven, China, bearing the situation and needs of developing countries in mind, has been taking concrete actions to promote a fair and reasonable distribution of vaccines and bring more choices to the world.

Source: Xinhua