Quantum communication experiments lead China's sci-tech innovation

As the first to achieve quantum key distribution from a satellite to the ground, China is confident in making more scientific and technological breakthroughs.

The achievement, based on experiments conducted with the world's first quantum satellite – Quantum Experiments at Space Scale (QUESS), lays a foundation for building a hack-proof global quantum communication network.

QUESS, nicknamed "Micius" after a fifth century B.C. Chinese philosopher and scientist, was launched on Aug. 16, 2016.

Published in Nature magazine, the achievement was described by reviewers as "impressive" and "constitutes a milestone in the field."

Traditional public key cryptography has the risk of being hacked, while quantum key technology, used in quantum communication, rules out the possibility of wiretapping and secures the communication.

Over the past two years, in addition to QUESS, China has also launched a series of space science satellites, including the Dark Matter Particle Explorer, the recoverable satellite SJ-10, and the Hard X-ray Modulation Telescope.

Since the start of this year, Chinese have been inspired by landmark achievements in science and technology which contribute to an easier life.

A new railway line, linking Baoji in northwest China's Shaanxi Province with Lanzhou, capital of neighboring Gansu Province, began operation in early July.

The route was a result of China's continuous efforts to improve the construction of high-speed railways, enabling the western provinces to be connected to the national high-speed rail network.

It is also part of China's efforts to boost connectivity along the Belt and Road, where transportation demand is high.

Also in early July, China made breakthroughs in the search for alternative clean energy sources by completing a 60-day trial of mining gas hydrates, commonly known as combustible ice, in the South China Sea.

Starting on May 10, a mining operation in waters near the Pearl River estuary has beaten previous expectations and set world records in both the length and total amount of extraction, according to China Geological Survey Bureau.

China has set innovation as the core of its 13th five-year plan (2016-2020), with the aim to become an "innovation nation" by 2020, an international

leader in innovation by 2030, and a world powerhouse in scientific and technological innovation by 2050.

Such efforts will help the country improve the convenience of transport, raise living standards, resolve energy resource shortages, and boost economic development.

Inspired by their country, the Chinese public have also stepped up efforts in scientific and technological innovation.

In 2016, China had over 1.1 million patents for inventions, ranking third after the United States and Japan.

China's new amphibious plane passes key test

The TA600, a China-developed amphibious aircraft, passed a hydrodynamic test on Friday, marking a step forward toward its maiden flight.

The test, which aimed to ensure the safety of the aircraft during take-off and flight, was conducted by a laboratory under the Aviation Industry Corporation of China (AVIC) in central China's Hubei Province.

It used a 1:10 model to test the aircraft's performance on still water and rough water surfaces.

When an aircraft takes off from the water's surface, disturbances from waves may cause it to pitch, threatening the safety of the aircraft.

The major difficulty was the kinetic stability of the plane when there were two-meter-high waves, said Jie Yu, the chief of the TA600 testing group.

The TA600, with a maximum takeoff weight of 53.5 tonnes, is expected to serve in firefighting and maritime rescue operations.

China allocates 70 mln yuan for flood relief in northwest

The Chinese central government has allocated 70 million yuan (about 10.5 million U.S. dollars) to facilitate flood relief work in the northwestern

province of Gansu, the Ministry of Finance said Friday.

The financial aid will cover evacuation of affected locals, provide living assistance to them, rebuild damaged houses and compensate families of those killed by the floods, according to the ministry.

At least seven people have died and two others were missing after rainstorms hit Wenxian County in Longnan City of Gansu from Sunday evening to Monday morning, resulting in disasters including floods and landslides, according to local authorities.

Nearly 1,000 residents have been moved to safety. The storm also left roads blocked, houses collapsed or damaged, and power supply and communication interrupted.

Beijing-Tianjin-Hebei achieve one tenth of China's GDP

In the first half of this year, the GDP of the Beijing-Tianjin-Hebei region totaled 3,819.86 billion yuan (about US$572.58 billion), accounting for 10 percent nationwide, according to data released by Beijing municipal authority of statistics.

Beijing, Tianjin, and Hebei Province each achieved regional GDP of 1,240.68 billion yuan, 938.69 billion yuan, and 1,640.49 billion yuan respectively, increasing by 6.8 percent, 6.9 percent and 6.8 percent year-on-year respectively.

The region's overall growth was driven by the growth of its high-tech industries. The added value created by high-tech industries at or above the designated scale (annual turnover reaching 20 million yuan) in Beijing rose by 11.6 percent year-on-year and contributed to 48.5 percent of the industry's growth.

The added value of strategic emerging industries above the designated scale in Tianjin grew by 8.2 percent on a yearly basis, and that of high-tech manufacturing industry increased by 12.9 percent, driving industrial growth by 1.6 percentage points.

In Hebei Province, the modern service industry has gained momentum and the value added in service industry accounted for 41.7 percent of regional GDP. Meanwhile, the year-on-year growth of added value created in equipment manufacturing industry stood at 15.6 percent, which contributed to 77 percent of the above-scale industrial growth.

At the same time, the Beijing-Tianjin-Hebei region has seen vigorous

activities in innovation. Data shows that the gross revenue of high-tech enterprises above certain scale in Beijing’s Zhongguancun demonstration area jumped 16.7 percent in the first half of this year, of which the advanced manufacturing and environmental protection technology sector registered a revenue growth of over 20 percent.

Tianjin is home to 94,000 science and technology-based enterprises with 7,568 ones newly registered this year. Investment made in science and technology services and information services in Hebei Province each increased by 39.6 percent and 20.9 percent year-on-year.

Beijing to have 350 day care nursing homes within the year

Beijing will have a total of 350 day care nursing homes for senior citizens by the end of this year, according to the Office of Beijing Municipal Working Committee on Aging.

Last year, Beijing launched a pilot program of day care nursing homes, where senior citizens can have access to food and day care near their homes. Some nursing homes also provide basic medical care and other activities such as painting and singing classes.

The capital city’s various districts and communities provide space for such nursing homes, and the municipal government offers facilities, while leaving their operation and management to old-age service providers. By the end of last year,

Beijing was home to 150 nursing homes, 70.7 percent of which were under chain operation.

The number of day care nursing homes is expected to reach 1,000 by the year 2020, roughly covering all areas where there is a large concentration of senior citizens.