



Latest launch grows network for navigation

First Beidou satellite placed in orbit in 3 years to backup existing system

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China launched a Long March 3B carrier rocket on Wednesday to transport a satellite into space for the country's Beidou Navigation Satellite System, marking the first deployment of a Beidou satellite in three years.

As the countdown ticked down to zero at 10:49 am at the Xichang Satellite Launch Center in the southwestern mountainous region of Sichuan province, eight engines on the Long March 3B's first stage and four boosters sprang to life and unleashed dazzling orange flame as they lifted the 20-story vehicle into clear skies.

Shortly after liftoff, the rocket successfully placed the satellite — 60th in the Beidou system and the first backup craft for the third-generation Beidou network — into a geostationary orbit, said Deng Hongqin, director of the Xichang center.

Designed and built by the China Academy of Space Technology in Beijing, the satellite has typical functions for a third-generation Beidou satellite — positioning, navigation and timing.

Compared with previous Beidou satellites, it has some upgraded hardware and features a stronger signal, faster transmission speed and higher operational stability, said Chen Zhonggui, chief designer of Beidou's third-generation satellites.

Despite being called a backup, the satellite is designed to start working as soon as it enters orbit. Its primary tasks are to expand the service areas of Beidou's short-messaging function, enhance Beidou's positioning accuracy as well as improve the network's operational continuity and reliability, he noted.

"The new satellite will help to increase the Beidou network's short-messaging service capacity for nations and regions involved in the

Belt and Road Initiative. Its operation will also enable Beidou users to access rapid, high-precision positioning service," said Wang Dong, deputy project manager of the third-generation Beidou network.

"Before the end of this year, another two backup Beidou satellites are scheduled to be launched to further strengthen the reliability of the network," he noted.

Beidou is currently China's largest civilian satellite system and one of four global navigation networks, along with the United States' GPS, Russia's GLONASS and the European Union's Galileo.

Since 2000, a total of 60 Beidou satellites, including the first four experimental ones, have been lifted on 45 Long March 3 series rockets from Xichang.

In June 2020, the final satellite to complete Beidou's third-generation network was lifted by a Long March 3B rocket at the Xichang center. The following month, President Xi Jinping announced that the system had been completed and had begun providing full-scale global services.

Currently, there are 46 satellites in active service, including the latest one.

According to the most recent statistics from the Global Navigation Satellite System and Location-Based Services Association of China, by the end of 2021, the overall value of satellite-enabled navigation and positioning services in China stood at 469 billion yuan (\$67 billion), a 16.3 percent increase year-on-year.

China plans to establish the next generation of the Beidou system by 2035. The new version will be "omnipresent, smarter and more integrated" and upon its completion, there will be Beidou service not only on land and sea, but also in the sky, outer space and deep within the oceans, according to the China Satellite Navigation Office.