Chinese Long March 3B rocket to launch Belintersat-1 telecommunications satellite for Belarus

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China will carry out on Friday, Jan. 15 its first orbital mission this year, sending a Belarusian telecommunications satellite into space. The Belintersat-1 spacecraft will be lofted into orbit by a Chinese workhorse Long March 3B booster from the Xichang Satellite Launch Center in Sichuan Province. The 47-minute launch window for this mission opens

at 12:57 EDT (16:57 GMT).

Belintersat-1 will be put into a geostationary orbit (GEO), 51.5 degrees East to provide a wide range of telecommunication services, including satellite TV and radio broadcasting and broadband internet access. It will be operated by the Belarusian government's company Belintersat for up to 15 years.

The satellite is already attached to the launch vehicle and awaits its Friday liftoff. The most important tests of the spacecraft has been conducted and the mission has been OK'd for launch.

"The satellite has been fully checked and tested at the manufacturing site more than a month ago, during the so called factory tests. One of the most important of them is payload compliance with the requirements like antennas' gain contours, transponders parameters stability and linearity and so on," Dmitry Kuzmin of Belintersat told Astrowatch.net.

To be fully prepared for liftoff, the Long March 3B launch vehicle itself must yet pass a series of tests and checks hours before the ignition. These will include electrical powering on and electronics functional tests, telemetry checks, checking gas pipes of all stages and boosters and loading refined aiming data.

Chinese Long March 3B rocket with Belintersat-1 satellite stands tall at the launch pad ahead of Jan. 15 launch. Credit: Belintersat

Belintersat-1 was built by the China Aerospace Science and Technology Corporation (CASC). The car-sized satellite has dimensions of 7.9 by 6.9 by 11.8 feet (2.4 by 2.1 by 3.6 meters) and weighs about 5.2 tons. It is based on CASC's DFH-4 bus consisting of propulsion module, service modules and solar arrays spanning 72 feet (22 meters) when fully

deployed in space.

The DFH-4 platform can be used in high capacity broadcast communications satellite, new generation direct broadcasting satellite, new generation tracking and data relay satellite, regional mobile communications satellite. It is a large telecommunications satellite platform of new generation, keeping high capability in output power and communication capacity ranking with international advanced satellite platforms.

The satellite is equipped in 20 C-band and 18 Ku-band transponders delivered by Thales Alenia Space. 34 of them are 36 MHz and 4 are 54 MHz-bandwidth to provide a full set of telecommunication services. The spacecraft has an output power of 10.15 W.

Belintersat-1 was built to provide a full range of advanced satellite services in Europe, Africa and Asia, as well as ensure global coverage in

the Eastern Hemisphere. The spacecraft is part of Belarusian National System of Satellite Communication and Broadcast - the largest project in the field of telecommunications, implemented by this country. The program was designed to provide telecommunication services for governmental and commercial clients both in Belarus and overseas.

"Our project is of high innovative, economic, social and political importance to Belarus," Belintersat states on its website.

The three-stage Long March 3B rocket that will be used in Friday's flight is currently the most powerful Chinese rocket in service. The 180-foot (55-meter) tall booster is capable of launching up to 12 metric tons of payload into low-Earth orbit (LEO) or 5 metric tons of cargo into geostationary transfer orbit (GTO).

Belintersat-1 encapsulated in a payload fairing atop a Long March 3B vehicle at the launch pad. Credit: Belintersat

The 3B/E version that was employed for the mission is an enhanced variant of the rocket, featuring an enlarged first stage and boosters. This version was brought into service in 2007 to increase the rocket's GTO cargo capacity and lift heavier GEO communications satellites.

The first Chinese mission of the year will be the 223th flight of the Long March rocket series and the 35th flight overall for the 3B version.

With the Belintersat-1 launch, China starts a very busy year in terms of sending payloads to orbit. In 2016, the country intends to carry out more than 20 space missions.

China also plans to return to human space flight this year. Shenzhou-11, a planned crewed mission is slated to lift off from the Jiuquan Satellite Launch Center and dock with China's upcoming second space lab, Tiangong-2, which should be on orbit by the time the crew's Shenzhou spacecraft is sent aloft. The exact launch dates for these missions have yet to be released.

Source: Astrowatch.net