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Mitsubishi Electric Completes Initial Verifications of QZS-1R, Successor to the Original Michibiki Quasi-Zenith Satellite

Will support society with centimeter-level high-precision positioning

TOKYO, March 24, 2022 – [Mitsubishi Electric Corporation](https://www.mitsubishielectric.com) (TOKYO: 6503) announced today that it has completed initial verification of the functions and performance of equipment aboard the QZS-1R satellite, which the company built and delivered to the Cabinet Office of Japan and is now in quasi-zenith orbit as the successor to the original [Michibiki](#) Quasi-Zenith Satellite (QZS-1).

With Quasi-Zenith Satellite System Services Inc. also having completed testing of related ground systems, the Cabinet Office will begin launching various positioning services via the QZS-1R today.

Mitsubishi Electric, in addition to supporting these services, will continue developing satellite systems that the company intends to provide for forthcoming satellites (QZS-5 to QZS-7) that will support advanced, sustainable, high-precision positioning in Japan.



Illustration of QZS-1R



QZS-1R logo

Overview of QZS-1R

The QZS-1R was launched on October 26, 2021 from Tanegashima Island in Kagoshima Prefecture. Compared to the first Michibiki satellite, the QZS-1R has improved durability that is expected to extend the satellite's design life by about five years compared to its predecessor. The QZS-1R, together with the QZS-2, 3 and 4 (all launched in 2017), will support positioning, high-precision positioning augmentation and other satellite services.

Name	QZS-1R
Mass	Dry mass* : approx. 1.6 tons; At launch: approx. 4.0 tons
Dimensions	Stowed: approx. 5.4m x 2.9m x 2.9m; Wing span: approx. 19m
Orbit	Quasi-zenith orbit
Design life	More than 15 years

*Dry mass is the satellite mass without propellant.

Future Initiatives

By around fiscal 2023, the Cabinet Office is scheduled to complete its constellation of seven Quasi-Zenith Satellite System (QZSS) satellites for autonomous-driving positioning, enhanced positioning accuracy and other services. Mitsubishi Electric is pursuing related opportunities in various fields, including the development and sale of receiver terminals and antennas for the Centimeter-level Augmentation Service ([CLAS](#)) and high-precision three-dimensional maps, ultimately to help popularize the wider use of high-precision positioning in society.

Background of QZS-1R Development

On September 30, 2011, the Japanese government approved a basic policy for the implementation of QZSS by Cabinet decision, based on which the Cabinet Office has been promoting QZSS development and implementation since fiscal 2012. The Basic Plan on Space Policy, which is based on the Basic Space Law, provided for the deployment of the QZS-1R to maintain a four-satellite system for satellite positioning following the design-life expiration of the first Michibiki satellite, which was launched in 2010. Since November 2018, when four-satellite services were commenced, government ministries and agencies, companies, research institutes and other organizations have conducted tests and demonstrations targeting various fields, including automobiles, logistics, agriculture, ships, construction, engineering and disaster prevention, resulting in the deployment of diverse new products and services.

Contribution to the Environment

Mitsubishi Electric will contribute to decarbonization through its support of automated driving, efficient traffic control and enhanced public transportation realized with QZSS.

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About Mitsubishi Electric Corporation

With 100 years of experience in providing reliable, high-quality products, Mitsubishi Electric Corporation (TOKYO: 6503) is a recognized world leader in the manufacture, marketing and sales of electrical and electronic equipment used in information processing and communications, space development and satellite communications, consumer electronics, industrial technology, energy, transportation and building equipment. Mitsubishi Electric enriches society with technology in the spirit of its “Changes for the Better.” The company recorded a revenue of 4,191.4 billion yen (U.S.\$ 37.8 billion*) in the fiscal year ended March 31, 2021. For more information, please visit www.MitsubishiElectric.com

*U.S. dollar amounts are translated from yen at the rate of ¥111=U.S.\$1, the approximate rate on the Tokyo Foreign Exchange Market on March 31, 2021