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Mitsubishi Electric Begins Developing GOSAT-2 Satellite System

Greenhouse gas observations expected to help counter global warming

TOKYO, April 9, 2014 – Mitsubishi Electric Corporation (TOKYO: 6503), the contractor selected to supply the Japan Aerospace Exploration Agency (JAXA) with a Greenhouse gases Observing SATellite-2 (GOSAT-2) for launch in 2017, signed a contract to officially begin developing the satellite system. GOSAT-2 will feature a range of highly advanced instruments, including greenhouse gas and cloud/aerosol sensors, which will contribute to the Proactive Diplomatic Strategy for Countering Global Warming announced by the Japanese government at the UN Climate Change Conference (COP 19) in Warsaw, Poland last year.

Weighing approximately 1.7 tons, GOSAT-2 will be put into a sun-synchronous sub-recurrent orbit with a design life of five years to observe concentrations and distributions of greenhouse gases and particulates in the global atmosphere.



Rendering of GOSAT-2 in Orbit

As a result of the Kyoto Protocol signed at COP3 in Kyoto, Japan in 1997, the Mitsubishi Electric-built IBUKI, also known as GOSAT, was launched as the world's first satellite dedicated to greenhouse gas observations in January 2009. As the next step, Mitsubishi Electric will now develop GOSAT-2 under the joint auspices of Japan's Ministry of the Environment, the National Institute for Environmental Studies and JAXA.

IBUKI's observational data is openly available worldwide to governmental institutions, scientists and even individuals registered online. The data is being used to ascertain the global distribution of carbon dioxide and methane gases and how the sources and sinks of these gases vary by season, year and location. GOSAT-2 will strengthen such observations by using high-performance sensors to provide even more precise measurements.

GOSAT-2 Features

1) High-performance instruments for improved measurement

- GOSAT-2's Greenhouse Gases Observation Sensor will raise the standard of accuracy in greenhouse gases measurements. Compared with IBUKI's measurement accuracy, a three-month average of 4 ppm of CO₂ in a 1,000-square-kilometer area over land, GOSAT-2 will be capable of a one-month average of 0.5 ppm of CO₂ in a 500-square-kilometer area over land or a 2,000-square-kilometer area over water.
- A new Intelligent Pointing system will enable the Greenhouse Gases Observation Sensor to autonomously search for and point to cloud-free areas for observation, dramatically increasing the amount of valid observation data available for analysis.

2) New capabilities for measurement of carbon monoxide and fine particulate matter

- The Greenhouse Gases Observation Sensor will newly monitor a waveband for carbon monoxide, in addition to wavebands for carbon dioxide, methane, oxygen and water vapor now monitored by IBUKI.
- The Cloud/Aerosol Imager sensor will monitor an additional waveband to estimate particulate matter in the atmosphere, including fine particulate matter of 2.5 micrometers or less and black carbon, an important contribution to the global monitoring of air pollutants.

3) Turnkey system for ensured data quality

- As a total observation system provider, Mitsubishi Electric will deliver a turnkey system, including the spacecraft, sensors and ground systems, as well as provide operation and maintenance services throughout the orbital design life of GOSAT-2, helping to ensure reliable, high-quality data.

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About Mitsubishi Electric Corporation

With over 90 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. Embracing the spirit of its corporate statement, Changes for the Better, and its environmental statement, Eco Changes, Mitsubishi Electric endeavors to be a global, leading green company, enriching society with technology. The company recorded consolidated group sales of 3,567.1 billion yen (US\$ 37.9 billion*) in the fiscal year ended March 31, 2013. For more information visit <http://www.MitsubishiElectric.com>

*At an exchange rate of 94 yen to the US dollar, the rate given by the Tokyo Foreign Exchange Market on March 31, 2013