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Changes for the Better

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Mitsubishi Electric Begins Developing the GOSAT-GW Satellite for Greenhouse Gases and Water Cycle Observation

Will contribute to scientific advancement in prevention of natural disasters due to climate change

TOKYO, March 30, 2020 – Mitsubishi Electric Corporation (TOKYO: 6503) announced today that it has been designated by the Japan Aerospace Exploration Agency (JAXA) as the contractor of the Global Observing SATellite for Greenhouse gases and Water cycle (GOSAT-GW), the third in the GOSAT series, and has already initiated development activities. GOSAT-GW will have two missions: greenhouse gases observation for Japan's Ministry of the Environment and the National Institute for Environmental Studies (NIES), and water-cycle observation for JAXA. By developing the GOSAT-GW satellite, Mitsubishi Electric will contribute to measures for preventing disasters attributed to global warming and climate change, and to advance scientific and technological methods that enable more accurate prediction of climate change.

Artist's rendition of GOSAT-GW in orbit

Key Features

1) ***New sensor for global, accurate observation of greenhouse gas concentration***

GOSAT-GW will be equipped with a sensor, named Total Anthropogenic and Natural emissions mapping SpectrOmeter-3 (TANSO-3), for observing concentrations of greenhouse gases, such as carbon dioxide and methane, over a wide area and with high precision for improved estimation accuracy of greenhouse gas emissions. The global observation mode of TANSO-3 will cover large areas of Earth's surface without discontinuity, thus enabling more observation points than with previous models. TANSO-3 also will have a detailed observation mode with a spatial resolution three times higher than that of its predecessor, GOSAT-2 ("Ibuki-2"), enabling greenhouse gases to be observed with higher accuracy.

2) ***Enhanced geophysical quantity observation for improved water cycle and meteorological monitoring***

GOSAT-GW will also be equipped with the newly developed Advanced Microwave Scanning Radiometer 3 (AMSR3), which will estimate geophysical quantity of earth's water on land, sea-surface and in the atmosphere. AMSR3 will use an increased number of frequency bands compared to its predecessors for more accurate estimation of hydro-geophysical conditions, such as precipitation, water vapor, sea ice and sea-surface temperatures. Data obtained from observations will improve the accuracy of forecasting typhoons, torrential rains and other climatic conditions by meteorological organizations around the world. In addition, by providing detailed data for assessing the effects that climate change has on the water cycle, GOSAT-GW will contribute to efforts to measure the impact climate change has on everyday life and prepare necessary countermeasures.

GOSAT-GW Overview

Launch Date	Scheduled in Japanese fiscal year beginning April 1, 2023
Orbit Type	Sun-synchronous sub-recurrent orbit
Weight	Approx. 2,600kg
Mission Duration	7 years
Mission Objectives	- Support disaster prevention through greenhouse-gas and water-cycle observations - Enhance scientific prediction of global warming and climate change

About GOSAT

GOSAT-GW is a joint project administered by Japan's Ministry of the Environment, NIES and JAXA to monitor concentrations of greenhouse gases, such as carbon dioxide and methane and water cycle from space to build more efficient measures for countering global warming. GOSAT-GW is the third and latest satellite in the GOSAT project; the first being GOSAT ("Ibuki") and the second GOSAT-2 ("Ibuki-2"), which were launched in 2009 and 2018, respectively. GOSAT was launched as the world's first satellite dedicated to the observation of greenhouse gases on a global level. By covering the earth's entire surface with its sensors, GOSAT provided data for use not only in Japan but also by many international organizations in the worldwide

effort to counter global warming.

Mitsubishi Electric, having manufactured GOSAT, GOSAT-2 and AMSRs onboard other satellites, will use its extensive experience with these proven endeavors to develop GOSAT-GW and further advance earth-observation technologies. As expressed in the company's Eco Changes environmental statement and Environmental Sustainability Vision 2050, Mitsubishi Electric is committed to scientific development aimed at improving climate-change prediction and global-warming prevention.

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About Mitsubishi Electric Corporation

With nearly 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. 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 a revenue of 4,519.9 billion yen (US$ 40.7 billion*) in the fiscal year ended March 31, 2019. For more information visit:
www.MitsubishiElectric.com

*At an exchange rate of 111 yen to the US dollar, the rate given by the Tokyo Foreign Exchange Market on March 31, 2019