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## **Mitsubishi Electric Awarded Subsidy to Develop Full Digital Payload under JAXA's Space Strategy Fund**

*Enhancing international competitiveness of communication satellites with cutting-edge digital communications payload technology*

**TOKYO, July 1, 2026** – [Mitsubishi Electric Corporation](https://www.mitsubishielectric.com) (TOKYO: 6503) announced today that it has been awarded a subsidy for the Development of Internationally Competitive Full Digital Payload under the Development and Demonstration of Technologies for Internationally Competitive Communications Payloads, which is being financed by the 2<sup>nd</sup> phase of the Space Strategy Fund<sup>1</sup> managed by the Japan Aerospace Exploration Agency (JAXA). Mitsubishi Electric was previously selected as a representative organization for the project. Moving forward, the company aims to develop a full digital payload<sup>2</sup> that offers communication flexibility and high security.

In recent years, there has been a growing demand for satellites whose functions and performance can be modified after launch to meet user requirements. Geostationary communication satellites, which are noted for their excellent wide-area coverage, broadcasting capabilities and disaster resilience, also offer digital communications payloads that can respond to fluctuations in satellite communication demand depending on the region and time of day by utilizing digital signal processing technology and rewriting software. Currently, these payloads are primarily developed and manufactured in Europe and the United States.

Mitsubishi Electric aims to develop a full digital payload offering both communication flexibility and high security, leveraging know-how it cultivated when developing the Engineering Test Satellite-9 commissioned by JAXA. The envisioned payload will expand the target communication area to the entire visible range of Earth by using a direct radiating array (DRA<sup>3</sup>) antenna, and will enable flexible changes to the beam coverage

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<sup>1</sup> A fund established in JAXA by the Cabinet Office, Ministry of Internal Affairs and Communications, Ministry of Education, Culture, Sports, Science and Technology, and Ministry of Economy, Trade and Industry to support advanced technology development, technology demonstration, and commercialization in the space sector by private companies and universities.

<sup>2</sup> Equipment carried on a satellite for purposes such as communication, Earth observation, and positioning.

<sup>3</sup> An array antenna in which antenna elements are arranged in two dimensions. By radiating directly without using reflectors, it can transmit radio waves across the entire globe. Since all antenna elements are used for beamforming, it can form beams of arbitrary shapes, but increased elements also increase antenna size and power consumption.

area through digital beam forming (DBF<sup>4</sup>) technology, which forms radio waves in any desired direction within that range. In addition, a digital payload processor (DPP<sup>5</sup>) will enable the satellite to update its functions after launch by digitally processing communication signals and performing software-based communication control functions that were traditionally performed with fixed hardware.

Furthermore, functions that conceal communication content and protect signals from jamming will enable highly secure, stable communication that is resistant to detection and jamming by third parties. Such functions were previously difficult to implement due to the complexity and high volume of processing required, but Mitsubishi Electric will use high-performance application-specific integrated circuits (ASIC<sup>6</sup>) to develop a small, low-power payload, allowing the system to be mounted on a geostationary communication satellite.

SKY Perfect JSAT Corporation, one of Asia's largest satellite communication operators, will also participate in the technology development as a collaborative organization. It will investigate and assess potential use cases for communication satellites in the 2030s, as well as the expected requirements for satellite functionality and performance. By incorporating these insights into the design of a full digital payload, Mitsubishi Electric intends to develop communication satellites that meet future market needs.

Akira Funakoshi, leader of the representative organization and Senior Manager of the Satellite Full Digital Payload Engineering Section in the Satellite Electrical Components Department at Mitsubishi Electric's Kamakura Works, said: "We are very pleased to have been selected as the representative organization for the Space Strategy Fund project and to have received the grant. Based on the knowledge and technological capabilities we have cultivated through our satellite development to date, we expect to develop a full digital payload that uses digital signal processing technology to flexibly adjust its functions in orbit after launch. Our goal is to help realize internationally competitive satellite services and systems and ensure the autonomy of Japan's satellite systems."

### **Future Plans and Prospects**

By utilizing the full digital payload technology cultivated in this technology development, as well as by providing dual-use geostationary communication satellites both domestically and overseas, primarily in Asia, Mitsubishi Electric aims to support the autonomy and competitiveness of Japan's space industry while also contributing to accelerated space development.

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<sup>4</sup> A technique that uses digital signal processing technology to control the excitation coefficients of the received or transmitted signals of multiple antenna elements, thereby forming a beam in a specified direction.

<sup>5</sup> A digital signal processing device for communication signals. By implementing diverse communication control functions through software, flexible communication control and easy function updates are possible.

<sup>6</sup> An integrated circuit (IC) designed specifically for a particular application. High performance and efficiency are achieved through optimized design.

### **Overview of Technology Development**

Implementation Period	May 2026 to March 2028 <sup>7</sup>
Leader of Representative Organization	Akira Funakoshi, Senior Manager, Satellite Full Digital Payload Engineering Section, Satellite Electrical Components Department, Kamakura Works, Mitsubishi Electric Corporation
Objectives	<ul style="list-style-type: none"><li>- Expand communication coverage to the entire globe using a DRA antenna to irradiate a broader beam and enhance support for mobile devices, such as communication equipment mounted on aircraft and ships.</li><li>- Enable payloads to change their communication service areas flexibly by modifying the beam irradiation area with DBF communication technology.</li><li>- Enable efficient use of radiation frequencies with limited communication resources to avoid concentrated communication demand during disasters, etc., by using a channelizer to allocate frequency bands flexibly via digital signal processing.</li><li>- Ensure flexible operations by reconfiguring functionality after launch, using digital signal processing technology for software updates.</li><li>- Improve communication security by using geolocation to pinpoint locations, spectral monitoring to detect and analyze jamming signals, and nulling to neutralize jamming signals.</li></ul>

### **About SKY Perfect JSAT Corporation**

Recognizes itself as “Space Business Pioneers,” SKY Perfect JSAT operates two core businesses: Space and Media. In its Space Business, the company owns 17 geostationary satellites, providing communications services in Japan and globally. It is also expanding its Space Intelligence Business by leveraging satellite imagery data from its own low Earth orbit (LEO) Earth observation satellites scheduled for launch, delivering a wide range of solutions to government and commercial customers across diverse sectors, including national security.

### **About Mitsubishi Electric’s Space Systems Business**

Mitsubishi Electric, a leader in Japan’s space development, has participated in various domestic and international satellite development and manufacturing projects, primarily focusing on those promoted by JAXA. Going forward, the company will continue to enhance its advanced technologies, helping to achieve greater sustainability and boost prosperity by overcoming the challenges faced in the development of technology used in space.

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<sup>7</sup> The initial subsidy period is from the date of the grant decision until the end of the last day of the fiscal year in which the first stage gate evaluation is completed

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### **About Mitsubishi Electric Corporation**

Guided by its [corporate philosophy](#), Mitsubishi Electric Corporation (TOKYO: 6503) places sustainability at the core of its operations and values stakeholder trust—encompassing society, customers, shareholders and employees. In pursuing profitability, capital efficiency and growth, Mitsubishi Electric works closely alongside customers to develop value-added solutions that address today’s complex challenges while enhancing the company’s sustainable corporate value.

Founded in 1921, Mitsubishi Electric has over a century of experience in delivering reliable, high-quality products and solutions. With over 200 group companies and approximately 150,000 employees worldwide, the company is a recognized global leader in manufacturing, marketing and selling electrical and electronic equipment and systems across a broad range of sectors, including public utility systems, energy systems, defense and space systems, factory automation systems, automotive equipment, building systems, air conditioning systems & home products, digital innovations, and semiconductor & devices.

Mitsubishi Electric recorded consolidated revenue of 5,894.7 billion yen (U.S.\$ 36.8 billion\*) in the fiscal year that ended on March 31, 2026. For more information, please visit [www.MitsubishiElectric.com](http://www.MitsubishiElectric.com)

\*JPY 160=USD 1, the approximate rate on the Tokyo Foreign Exchange Market on March 31, 2026