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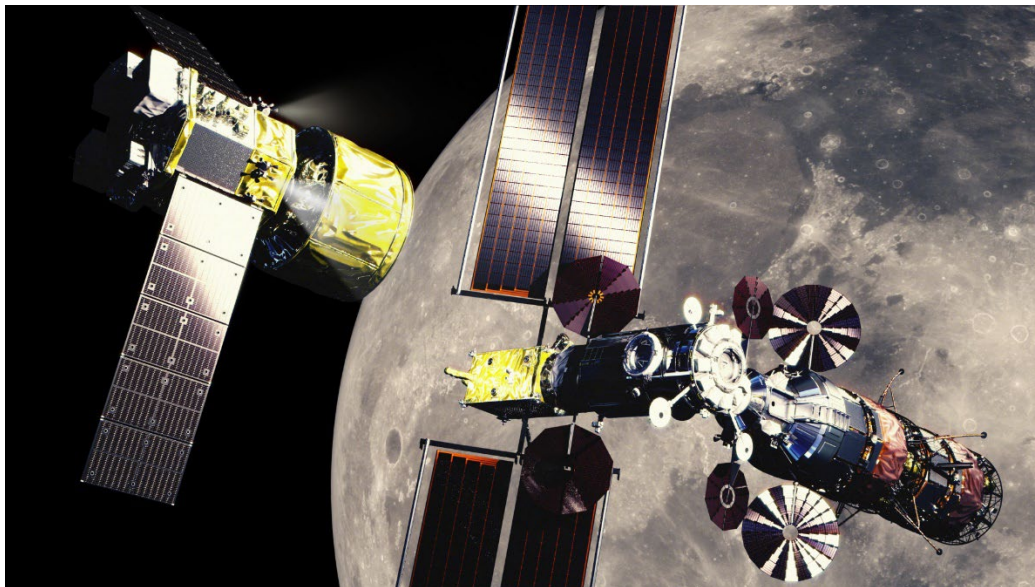
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## **Mitsubishi Electric Wins Contract to Supply Space-use Lithium-ion Batteries for “Gateway” Lunar Orbital Platform**

*Contributing to Artemis Program by leveraging experience in developing spacecraft including HTV-X*



Rendition of Gateway and “HTV-X” Transfer Vehicle (courtesy JAXA)

**TOKYO, May 9, 2024** – [Mitsubishi Electric Corporation](https://www.mitsubishielectric.com) (TOKYO: 6503) announced today that it has been awarded a contract by the Japan Aerospace Exploration Agency (JAXA) to supply space-use lithium-ion batteries for the Gateway, a lunar orbiting space station.

Under the “Joint Exploration Declaration of Intent for Lunar Cooperation (JEDI)” signed on July 10, 2020 by the Ministry of Education, Culture, Sports, Science, and Technology of Japan and the National Aeronautics and Space Administration of the United States of America, Japan has agreed to provide batteries for the Gateway space station in the Artemis Program for lunar exploration of the United States.

Mitsubishi Electric, which manufactures high-performance space-use lithium-ion batteries that have received human-rating certification\* for supporting the safe transportation of astronauts was selected based on the advanced technologies that the company deployed in developing and manufacturing the HTV-X, a new unmanned cargo transfer spacecraft, as well as the company's track record of supplying batteries for domestic and international commercial satellites and the proven reliability of such products. This will be the third time for Mitsubishi Electric to provide space-use lithium-ion batteries for the Artemis Program, including the Habitation and Logistics Outpost (HALO) and the International Habitation Module (I-Hab).

Apart from the Artemis Program in Japan, Mitsubishi Electric has also supplied lithium-ion battery cells to Maxar Space Systems in the United States for use in the Gateway's Power and Propulsion Element (PPE).

Mitsubishi Electric looks forward to further contributing to the Artemis Program by leveraging its established technologies for manufacturing power-supply equipment for use in space.

### **Product Features**

#### ***1) Structured and designed for launch environment and unexpected failures, ensuring required tolerability and functionality for space***

- The batteries' mechanical and thermal endurance are ensured with a shell-frame structure\*\* suited to extreme environments, such as rocket-launch vibration, the shock of the spacecraft separating from the rocket, the vacuum and radiation of outer space, and heat exhaustion. Individually mounted high-capacity, high-energy-density cells with a long, elliptical and cylindrical shape ensures mechanical robustness and thermal resistance, and also helps to homogenize the internal temperatures.
- The design has received human-rating certification for contributing to the safety of the spacecraft crew, including safety-response measures in the event of on-board component failures.

#### ***2) Structural modularity ensures scalability***

- Optimized the lineup to ensure sufficient numbers and types of lithium-ion battery cells in a configuration tailored to meet the on-board power and capacity requirements.
- Modularity ensures scalability by allowing the number of chassis connectors anchoring shell-frame to be increased as needed to accommodate additional battery cells.

#### ***3) Highly reliable technologies enable long-term satellite operation***

- Mitsubishi Electric's proprietary bypass switch maintains battery performance even in the event of an open-circuit failure by securing charging and discharging paths.
- Since 2005, more than 300 lithium-ion batteries supplied by the company have operated continuously and reliably in overseas commercial satellites, reflecting the company's proven expertise in manufacturing lithium-ion batteries for use in space.

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\* Certification applied specifically to spacecraft to be used for manned space activities in order to ensure the safety of astronauts

\*\* Structure in which lithium-ion batteries cells are separated by a chassis and mounted individually to make them more resistant to vibration, shock and heat

**Main Specifications**

Size	W623mm × D245mm × H359mm
Weight	61.4kg
Major Components	- 190Ah lithium-ion battery cells - Bypass switch
Design Life	More than 15 years



Lithium-ion batteries for the Gateway

**Mitsubishi Electric’s Space Business**

Mitsubishi Electric, a leader in Japan’s space development, has participated as a prime contractor in nearly half of JAXA’s satellite-development projects, including as the developer of the Smart Lander for Investigating Moon (SLIM), which successfully landed on the lunar surface on January 20, 2024. The company’s achievements in the current project are expected to contribute to further advances in lunar and planetary exploration. Going forward, Mitsubishi Electric will continue to pursue advanced technologies and contribute to sustainable space exploration and human expansion into space, including through Japan’s participation in the Artemis Program, an international space-exploration initiative.

**Patents**

Acquired one patent in Japan in regard to technologies announced in this news release.

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### **About Mitsubishi Electric Corporation**

With more than 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 5,257.9 billion yen (U.S.\$ 34.8 billion\*) in the fiscal year ended March 31, 2024. For more information, please visit [www.MitsubishiElectric.com](http://www.MitsubishiElectric.com)

\*U.S. dollar amounts are translated from yen at the rate of ¥151=U.S.\$1, the approximate rate on the Tokyo Foreign Exchange Market on March 31, 2024