

September 6, 2018
GS Yuasa Corporation

GS Yuasa's Lithium-ion Cells to Be Delivered to the International Space Station for Second Time

GS Yuasa Corporation (Tokyo Stock Exchange: 6674; "GS Yuasa") announced that the lithium-ion cells for the International Space Station ("ISS"), manufactured by group company GS Yuasa Technology Ltd. ("GYT"), are to be loaded on to H-II Transfer Vehicle ("HTV") "KOUNOTORI" 7 which is scheduled to be launched by Japan Aerospace Exploration Agency ("JAXA") on September 11 from the Tanegashima Space Center.

The new model batteries using GYT's lithium-ion cells for ISS will contribute to the reduction in transportation cost as it can provide same capacity with 24 units, or half the number of cells when compared to the older batteries that used nickel-hydrogen cells. This was the first time a Japanese equipment is being adopted for use in the infrastructure of ISS.

GYT's space use lithium-ion cells have high energy density and long life and boast a track record and reliability of being installed in numerous spacecraft and rockets both in Japan and abroad. The cells have also been acknowledged as having optimal design for ISS operations, which require highly efficient charge-discharge, and were adopted for use in batteries for ISS in 2012.

All the energy requirements of the equipment in the ISS, such as experimental and measurement devices led by systems for maintaining life, are met by the power produced by solar panels, and the power for the nocturnal periods, which come 16 times a day in the ISS, is supplied from the batteries charged during day time.

JAXA has announced that these new batteries will be delivered to ISS in four batches and this is the second delivery following the one in December 2016.*1 The replacement of the batteries is scheduled to be carried out by the astronauts during their activities outside the space station.

GYT develops, manufactures and distributes cells, batteries and power sources for special applications and has been supplying high-performance, high-quality batteries for special environments of sea, land and air (from depths of 6,500 meters below the ocean surface to 36,000 kilometers high in space).

The GS Yuasa Group will continue to contribute to space development projects through the development and manufacturing of high performance lithium-ion batteries going forward.

*1 Click below link for Nov 21, 2016 press release "GS Yuasa's Lithium-ion Cells to be Installed in International Space Station – Shipping to Start in December 2016"
http://www.gs-yuasa.com/en/newsrelease/article.php?ucode=gs161114304930_318

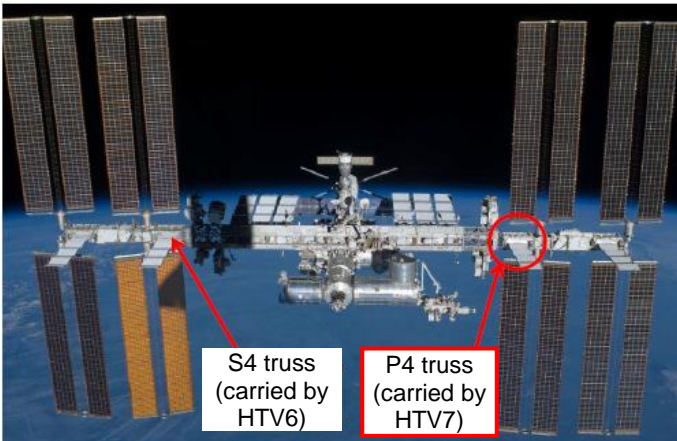
[Specifications of the lithium-ion cells for ISS]

Nominal voltage (V)	3.7
Nominal capacity (Ah)	148
Dimensions*2 (mm)	W130xD50xH263
Mass (g)	3,530

*2 H does not include stud bolt parts.

[Images]

1. International Space Station (© JAXA)



Position of batteries being replaced this time

2. GYT's lithium-ion cell for ISS



3. Exposed pallet installed with Lithium-ion batteries for ISS to be loaded in "KOUNOTORI" 7 (© JAXA)



4. Representational image of installation on the exposed pallet when "KOUNOTORI" 6 and 7 are launched (© JAXA)

