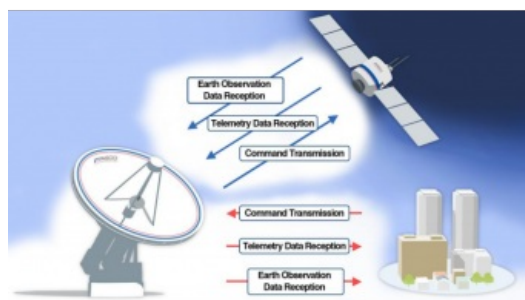


PASCO Provides Rental Service for Satellite Ground Station Facilities



PASCO has announced the launch of its ground station network service (rental services) by utilising two satellite ground stations located in Itoman City, Okinawa, and Chitose City, Hokkaido, Japan. PASCO provides facilities and operational capabilities for a wide range of satellite operators and rocket companies. The satellite ground network service offers tracking and operational services using ground stations aimed at expanding the space business market.

On 29 May 2017, the Japanese government published its 'Space Industrial Vision 2030' and identified the space industry as one of the key growth industries for promoting Industry 4.0 in Japan. The decreasing costs of satellite manufacturing and launching have resulted in a growing number of private-sector companies entering the satellite utilisation service

market. Also, private companies including investment ventures are starting to provide satellites and rocket launch services. Due to these trends, there is a further need for ground stations to provide an environment to download big data from satellites at any time and anywhere in the world. [PASCO](#) has been operating the Okinawa Satellite Ground Station since 2007 and the Hokkaido Ground Station since 2011, and has experience in downlinking satellite data, operating satellites and tracking rockets. In addition to the company's current services, it hopes to meet the market's demands even more effectively with its satellite ground network service.

Link between orbiting satellites and ground surface

The satellite ground station serves as a crucial link between Earth-orbiting satellites and the ground surface. But operating a ground station necessitates enormous investment, such as acquiring the land for operation, establishment of equipment and operational system, and advanced technical expertise and know-how. Also, the communication periods between a satellite and the ground station are limited to when the satellite passes over the ground station. Therefore, it is necessary to establish network communication opportunities with multiple ground stations around the world. The two ground stations owned by PASCO can be accessed when the satellite passes over the Far East region, including the entire area of Japan. To ensure launch safety, rockets launched from Japan must face the sea, which means that many rockets often fly within visible ranges of PASCO's ground stations. By taking advantage of such geographical features, PASCO is able to provide rocket tracking services.



By using two ground stations, PASCO is able to send command transmissions, receive telemetry, tracking and command (TT&C) and directly receive the Earth observation data.

Ground stations

PASCO owns and operates 7.3m and 5.5m antennas with radomes at Okinawa Ground Station, and a 7.5m antenna with radome in Hokkaido Ground Station. By using these ground stations, PASCO is able to send command transmissions, receive telemetry, tracking and command (TT&C) and directly receive the Earth observation data.

1. Command transmission (sends observation commands to satellite): Commands prepared by the customer's operation centre are sent to a ground station via the ground network. Then, the modulated and power-amplified radiowaves (S band) are transmitted to a satellite in space.
2. Telemetry data reception (receives satellite-function monitoring data): Receives radiowaves (S band) from a satellite and transmits the demodulated data to the customer's operation centre via the ground network.
3. Earth Observation data reception (receives remote sensing data from a satellite): Receives Earth observation data (X band) and transmits the demodulated data to the customer's data centre via the ground network.
4. Rocket telemetry data reception (receives telemetry data from a rocket): Receives telemetry data (S band) from a rocket and transmits the demodulated data to the customer's data centre via the ground network.