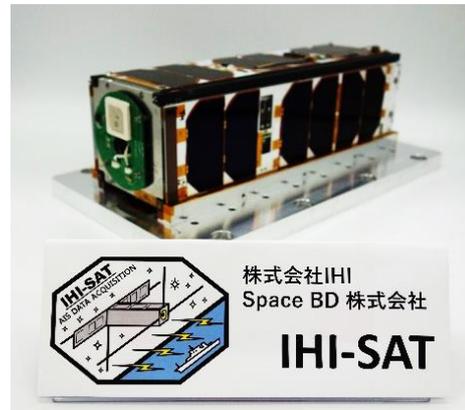


IHI & Space BD Successful Launch and Deployment of the AIS Receiving System Demonstration Satellite IHI-SAT to ISS

Addressing need for more efficient marine logistics & marine surveillance and
accelerating space utilization-business



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IHI-SAT Exterior

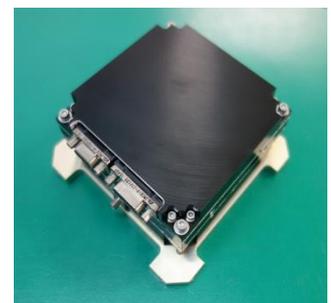
IHI Corporation and Space BD announce the successful deployment of IHI-SAT, a small satellite developed by IHI and for which all launch-related support was provided by Space BD, from the International Space Station (ISS).

IHI-SAT was launched at 2:40 am on Sunday, February 20, 2022 (JST) from the Mid-Atlantic Regional Spaceport at the NASA Wallops Flight Facility (Wallops Island, Virginia, US) in an Antares rocket, carried by a Northrop Grumman Cygnus cargo spacecraft. On Thursday March 23 (JST), IHI-SAT was successfully deployed into space through the Japanese Experiment Module Kibo by the JEM Small Satellite Orbital Deployer (J-SSOD)* and will be operated for about one year.

This IHI-SAT developed by IHI is a 3U size nanosatellite (dimensions: approx. 10 cm x 10 cm x 34 cm). It is equipped with a system to receive AIS (Automatic Identification System) signals from ships in space, and its main mission is to demonstrate this function.

90% or more of international logistics take the form of marine transport. To prevent collisions, ships are required to be equipped with an AIS, which transmits signals such as the ship's position and information of the ship's speed to nearby ships and shore stations.

The AIS receiving system digitizes the signals transmitted by many ships with high accuracy and can separate and identify individual ship signals, enabling the movement of ships to be monitored even in congested areas. Another feature of this satellite is that it has a robust system with multiple recovery means, including self-diagnosis, to enable it to continue its mission even in the event



AIS Receiving System

of a satellite equipment failure in space beyond the reach of human hands.

IHI is engaged in the space utilization-business making use of satellite information and data to solve the various problems faced by customers and contribute to the development of society. IHI will also make use of the insights gained through the operations of IHI-SAT going forward.

Space BD provided one-stop support for all technical adjustments, safety reviews, government applications, etc. related to the launch and release of IHI-SAT based on the wealth of technical capabilities and insight gained through over 50 satellite launches, including ongoing projects. Support for this first IHI satellite demonstration project started from the early stages in 2018 and the companies worked in tandem to overcome technical and other difficulties.

Space BD continues to gather technical capabilities and know-how as a private business operator in the general space business, including in satellite launch support, and in so doing is evolving the service to be more user friendly and encouraging more people to participate in the space industry.

■ Comment from Ryu Shinohara, Manager, Space Development Department, Aero Engine, Space and Defense Business Area, IHI



IHI has successfully launched our first IHI-SAT satellite. It is just a small 3U cube satellite, however it will be very important for our space utilization business in the near future. This IHI-SAT carries a receiver developed with Meisei Electric, was transported to the ISS using the Cygnus cargo spacecraft with thrusters provided by IHI Aerospace, and was deployed into space by J-SSOD, which was developed by IHI Aerospace under JAXA, and they are deeply moved to be involved. We faced many

difficulties before the IHI-SAT launch, but we overcame these difficulties with the support of many people. We will continue to work together on the upcoming operations of IHI-SAT to make this mission a success.

■ Comment from Hirokazu Yokoyama, Engineering Business Department, Launch Service Division, Space BD



We are thrilled that the IHI-SAT launch was a success. We are also deeply honored to have been able to support IHI, a company with a long history and global business, to proceed into development, operations, and demonstrations with nanosatellites. We will continue to do our best to support satellite releases from ISS Kibo.

We are greatly looking forward to working together with IHI to make the IHI-SAT mission a success and realize Space BD's vision to expand the edges of space development and promoting the utilization of Japan's various space platforms a reality.

Notes:

*J-SSOD: JEM Small Satellite Orbital Deployer. This is a mechanism on the Japan Experiment Module Kibo to release nanosatellites into space.

■ About IHI Corporation

IHI Corporation is a comprehensive heavy-industry manufacturer working to create value for customers in four main areas—Resource, Energy and Environment; Social Infrastructure and Offshore Facilities; Industrial Systems and General-purpose Machinery; and Aero Engine, Space and Defense. Under the



Realize your dreams



management philosophy of “Contribute to the development of society through technology,” IHI leverages its engineering capabilities centered on “Monozukuri” technology in promoting initiatives to contribute to resolving such social issues as becoming carbon-free, preventing and mitigating disasters, and enriching lives of all people in order to create a world where nature and technology work in unity.

■ About Space BD

Space BD is a space business development firm aims to be a company that represents Japan and develops a world-class industry. Since its foundation in 2017, Space BD has provided a one-stop service from proposing business plans to providing engineering support regarding space utilization, including the International Space Station (ISS). Space BD provides broad support as a space business development firm with over 100 projects to date, including the handling of approximately 50 satellites.

URL: <https://space-bd.com/>

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