

e5 Lab Conducts Demonstration Test of High-speed Satellite Communication System for Maritime Use



TOKYO—e5 Lab Inc. (President: Tomoaki Ichita; Headquarters: Chiyoda-ku, Tokyo) today announced that it has completed a joint telecommunication test—using an existing high-speed communication satellite—as the first phase of a demonstration test project aimed at improving maritime broadband services. e5 Lab, which works to develop and commercialize zero-emission electrically powered vessels in cooperation with SoftBank Corp., is examining ways to enhance maritime broadband services using existing communication satellites as well as next-generation satellite technology. The goal of this project is to create a more effective onboard telecommunications environment, a critical issue for Japan’s ocean shipping industry.

The joint test was conducted by nine companies including seven marine equipment manufacturers, as well as SoftBank.

Using a high-speed data communication environment (maximum effective speed: 10Mbps), the participating companies acquired the necessary onboard data related to their equipment, and confirmed their ability not only to monitor but also control information on vessel operations in real time from the shore side. They also verified new methods to operate associated equipment and so on remotely, by analyzing large volumes of data transmitted to the shore side. e5 Lab and other participants achieved better-than-expected test results, gaining confidence as they work to develop the next phase of their businesses.

Based on the test results, e5 Lab and SoftBank will advance their joint research on commercializing and promoting the widespread application of marine broadband services using existing and next-generation communication satellites to drive the sustainable growth of the Japanese ocean shipping industry while creating new value.

[Outline of Demonstration Test]

1	Test method	Installed planar antennas and a local station onboard and conducted high-speed communication tests using an existing communication satellite as the means of transmission																
2	Details of test	<ol style="list-style-type: none"> 1. Validated the feasibility of marine high-speed satellite communication 2. Validated the feasibility of satellite/cellular hybrid communication 3. Studied the feasibility of installing/operating small, lightweight planar antennas 4. Tested to validate the usage efficiency of satellite bandwidth 5. Validated the effects of vessel digital/medical solutions/IoT equipment 																
3	Date	February 17-19, 2020																
4	Target vessel	<i>Kyokuko Maru</i> (owned by Asahi Tanker Co., Ltd.)																
5	Test sea area	Japan coastal waters/Off Shikoku																
6	Participating companies	<table style="width: 100%; border: none;"> <tr> <td style="width: 60%;">Aidea Inc.</td> <td>(Vessel control system)</td> </tr> <tr> <td>SoftBank Corp.</td> <td>(Satellite communication/networks)</td> </tr> <tr> <td>Daikin MR Engineering Co., Ltd.</td> <td>(Air conditioning equipment)</td> </tr> <tr> <td>Tokyo Marine & Nichido Fire Insurance Co., Ltd.</td> <td>(Insurance/Risk management)</td> </tr> <tr> <td>Nakashima Propeller Co., Ltd.</td> <td>(Propulsion equipment)</td> </tr> <tr> <td>Japan Radio Co., Ltd.</td> <td>(Telecommunication, nautical equipment)</td> </tr> <tr> <td>Hanshin Diesel Works, Ltd.</td> <td>(Internal combustion engine)</td> </tr> <tr> <td>BEMAC Corporation</td> <td>(Telecommunication)</td> </tr> </table>	Aidea Inc.	(Vessel control system)	SoftBank Corp.	(Satellite communication/networks)	Daikin MR Engineering Co., Ltd.	(Air conditioning equipment)	Tokyo Marine & Nichido Fire Insurance Co., Ltd.	(Insurance/Risk management)	Nakashima Propeller Co., Ltd.	(Propulsion equipment)	Japan Radio Co., Ltd.	(Telecommunication, nautical equipment)	Hanshin Diesel Works, Ltd.	(Internal combustion engine)	BEMAC Corporation	(Telecommunication)
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7	Reference video	https://www.youtube.com/channel/UCYovzRhRIYyxHr7MoYCUU3g (e5 project official channel on YouTube)																

About e5 Lab Inc. (Headquarters: Chiyoda-ku, Tokyo)

A provider of ocean shipping solutions based on electrification and digitalization of ocean-going vessels. e5 Lab's mission is to create sustainable coastal shipping, which is the lifeline of Japan. The company aims to contribute to society through its efforts on safe operation of vessels and global environmental conservation, by combining cutting-edge technologies and ideas to create added value, and solving the issues facing coastal shipping.



Ships for the future
ミライのフネを考える。

▼ Website

<http://e5ship.com>

▼ “e5 Lab Inc.” promotion video

<https://youtu.be/6sJzCbRFWw>

For further information, please contact:

E-mail : project@e5ship.com

[Photos of Demonstration Test]

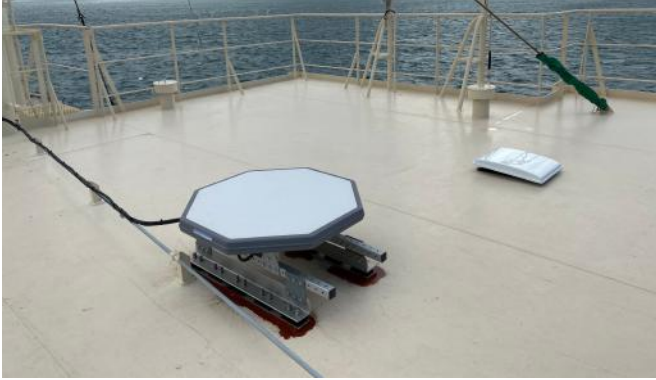


Photo 1: Installing two types of planar antenna for testing

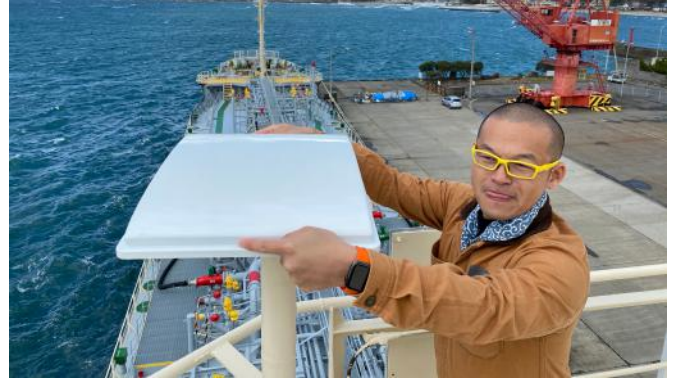


Photo 2: Installing a planar antenna



Photo 3: High-speed communication (max. 10Mbps) during voyage



Photo 4: High-speed communication (max. 10Mbps) during voyage



Photo 5: Wireless vital sign sensor monitors the health of crewmembers



Photo 6: Real-time video communication between the lowest level of the engine room and the shore side

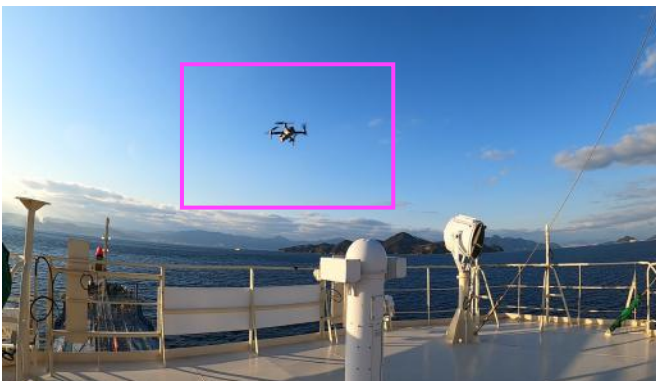


Photo 7: Remote drone operation test

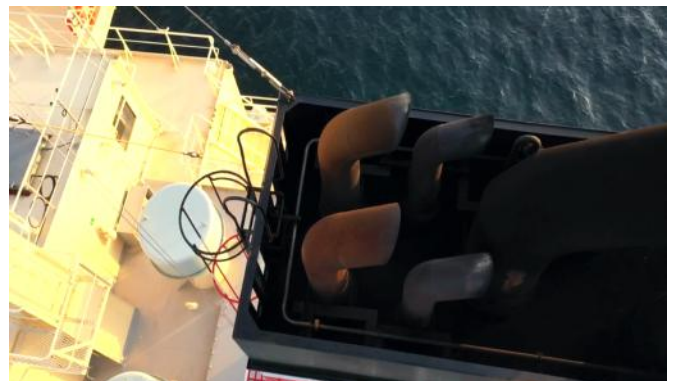


Photo 8: Using a birds-eye view from the drone to inspect the upper part of the funnel