

## Interstellar Technologies' Microsatellite Launch Vehicle "ZERO" Succeeded in Fairing Separation Test —Achieved Major Development Milestone on the Road to First Launch—



Interstellar Technologies Inc. (headquartered in Taiki, Hiroo-gun, Hokkaido; Takahiro Inagawa, CEO; hereinafter referred to as "IST"), a comprehensive space infrastructure company that aims to solve Earth's problems through space transportation and utilization, conducted a fairing separation test for the microsatellite launch vehicle "ZERO" on February 10, 2023 at the Fukushima Robot Test Field. The fairing is a protective cover for satellites and other payloads mounted at the front of the launch vehicle, and after the atmosphere becomes thin enough, the fairing separates into two parts. In this test, we confirmed that the fairing separated as designed and detached from the vehicle body. Based on the data obtained from this test, we will begin to design and manufacture the flight model.

### **Use of Separation Mechanism that Significantly Reduces Shock**

IST develops the microsatellite launch vehicle "ZERO" (length 25m, diameter 1.7m, total weight 33t) as a follow-up rocket to the sounding rocket "MOMO", which has reached space three times. The fairing reduces drag during launch and protects the satellite from aerodynamic heating during high-speed flight. IST's fairing is cylindrical in shape, 3.6 m high and 1.7 m in diameter, and is made of carbon fiber reinforced plastic (CFRP), a lightweight and strong material. The separation mechanism is the first in Japan to incorporate a device that does not use explosives, which has become mainstream among commercial rocket companies overseas. This design significantly reduces shock at the time of fairing separation and is friendly to the payload.

In addition, this test was conducted in cooperation with PHOTRON LIMITED, which took high-resolution slow-motion video footage using a high-performance high-speed camera. We will analyze the footage using special software.

## Test Overview

Test name: Fairing Separation Test

Purpose of test: Verify that the fairing separates and detaches from the body as designed

Test date: February 10, 2023

Location: Fukushima Robot Test Field (Minamisoma, Fukushima prefecture)

Test result: Confirmed that the separation mechanism functioned normally and that the fairing detached with the planned behavior. Also obtained data necessary for measurement and analysis of behavior



## Interstellar Technologies Inc.

IST is a Japanese start-up company that aims to create a future where space is within everyone's reach by providing low-cost and convenient space transportation services. Headquartered in Taiki, Hokkaido, the company develops its products at four locations: the Tokyo branch, the Fukushima branch, and a laboratory with the Muroran Institute of Technology. The company has reached space 3 times with the sounding rocket MOMO, becoming the first and only Japanese private company to go into space. It is now in full-scale development of the next-generation microsatellite launch vehicle ZERO.

IST has also established Our Stars, a wholly owned subsidiary for satellite development, to become the first vertically integrated rocket and satellite service in Japan.

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Representative: Takahiro Inagawa, CEO

Business: Space Transportation Services

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