

JOINT MEDIA RELEASE:

Zenno Astronautics and Faraday Factory partner on high-temperature superconducting magnets to electrify space

Collaboration targets the world's first bespoke superconducting magnetic systems for space

AUCKLAND, NZ and TOKYO, Japan, April 9, 2024 – New Zealand headquartered space-flight systems company [Zenno Astronautics](#) (Zenno), a developer of world-first superconducting electromagnets for space applications, and [Faraday Factory](#) Japan LLC, the world's leading superconducting tape maker, have partnered to collaborate on the development of bespoke high-temperature superconductor (HTS) magnets for space applications.

Zenno and Faraday Factory Japan will combine their respective technologies and fields of expertise to develop a high-temperature superconductor (HTS) magnet product that uniquely suits space. Faraday Factory will manufacture the bespoke space HTS tape to conduct electrical currents with zero electrical resistance and an extremely high current density of several hundred amperes per square millimetre. Zenno will implement the new technology in its superconducting magnet platform, designed to enable reliable, scalable, and fully electric space applications – including in-orbit satellite manoeuvrability to radiation shielding - for close proximity operations and farther afield.

Zenno co-founder and CEO Max Arshavsky says, “Zenno is excited to join forces with Faraday Factory to create game-changing superconducting electromagnet technology to take to space. Our mission is to electrify space and fuel-free technologies are what the space industry needs to open up new possibilities for satellite and spacecraft design and mission length. Zenno was the first company to take superconducting electromagnets to space, so working with Faraday Factory on bespoke superconducting magnetic systems is an important next step. HTS technology is already being embraced by other industries to decarbonise and improve, and we want the space industry to be the next industry to benefit.”

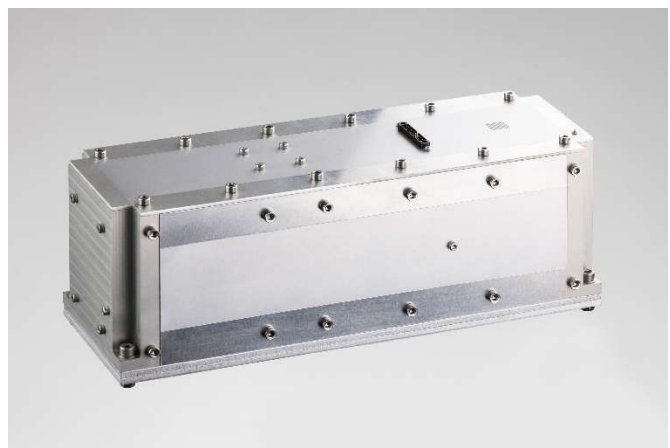
Faraday Factory Japan CEO Dr Sergey Lee says, “Faraday Factory is cooperating with Zenno to improve mankind's capabilities in space with new HTS-based technologies. As it always has been, advancements in space will improve millions of lives down here on Earth. In the frame of our cooperation, we will bring in our leading competence and expertise in HTS tape technology to improve Zenno's space-related devices. Space will always be a place for the most advanced, most ahead-of-time technologies; that's why using or not using HTS for space is out of the question for us. High-temperature superconductors are materials that alter the track of technology development – and we share the belief with our partners that this will happen in space technologies, too. We are excited to be on this way with our partner Zenno, which in December 2023 became the first company to take the HTS magnet system to space.”

ENDS

IMAGES: Download high-resolution images [here](#).



Caption: Zenno's CEO and co-founder Max Arshavsky; and (*right*) with Z01™, the world's first superconducting magnetic torquer for fuel-free spacecraft attitude control



Caption: Photo credit SpaceX. Zenno's Z01™ SuperTorquer lifted off on its first space launch on December 1, 2023, on a SpaceX Falcon 9 rocket

Caption (*right*): Z01™, the world's first superconducting magnetic torquer for fuel-free spacecraft attitude control



Caption: In 2023, Faraday Factory Japan produced 2,400 km of high-temperature superconductor tape, which is used mostly for high field magnets

About Zenno Astronautics

Zenno Astronautics Limited is a New Zealand, Europe and US-based company pioneering the future of sustainable and safe spacecraft operations utilising a range of superconducting magnet applications.

Zenno enables fully autonomous and fuel-free satellite positioning and precision interactions between satellites. Zenno is creating multiple applications of superconductivity in space, including radiation shielding, plasma control, close proximity operations and beyond, for the benefit of the entire space sector. www.zenno.space

About Faraday Factory Japan

Faraday Factory Japan LLC runs the largest manufacturer facility of high-temperature superconductor (HTS) tape worldwide. The company has developed a successful PLD-based technology, which has operated 24/7 for the last several years. The company received the 2021 and 2022 Financial Times Awards and Nikkei Top-500 rankings for high-growth companies in Asia-Pacific. It plans to multiply its production capacity, to address the rapidly growing demand from fusion, grid, wind power, and other zero-carbon technology markets. For more information, please visit www.faradaygroup.com

Media contacts:

Zenno Astronautics: Sandra Lukey (PR for Zenno), media@zenno.space; +64 21 2262 858

Faraday Factory Japan: Sergey Samoilenov (Director of Strategy for Faraday), ssv@faradaygroup.com; +81 70 4489 1202