News Release

Axiom Space

Resonac Holdings Corporation

October 1, 2025

Axiom Space and Resonac Sign MOU to Advance Space-Based Semiconductor Manufacturing

Axiom Space, a leader in commercial space infrastructure, and Resonac Corporation (President and CEO: Hidehito Takahashi, hereinafter “Resonac”), a leading provider of cutting-edge materials solutions in the semiconductor industry, have signed a Memorandum of Understanding (MOU) to collaborate on the research, development and manufacturing of high-performance semiconductor materials in the environment of space. This collaboration paves the way toward leveraging microgravity to advance next-generation chip technologies and accelerate the in-space manufacturing market.

Koichi Wakata from Axiom Space (left) and Masato Fukushima, CTO of Resonac (right)

“The unique environment of space offers immense potential for advancing semiconductor materials, especially in crystal growth,” said Masato Fukushima, Resonac Chief Technology Officer. “Partnering with Axiom Space, we aim to accelerate experiments and drive innovation

in materials, fostering industrial growth and societal progress."

Under the agreement, Axiom Space and Resonac will explore the potential of microgravity and low-Earth orbit (LEO) vacuum conditions to produce next-generation semiconductor materials for critical semiconductor applications and chip packaging. The absence of convection and sedimentation in the microgravity environment provides the opportunity to grow defect-free semiconductor bulk crystals, resins and 2D materials. The companies plan to leverage the International Space Station, Axiom Space's orbital platforms, and the future Axiom Station to advance from proof-of-concept to commercially viable scale manufacturing.

Space offers the potential to develop SiC (Silicon Carbide) and other power electronics materials with low defects and larger sizes.

Under this MOU, Resonac also plans to extend its current work [Resonac press article Ref] with Axiom Space where Resonac is developing molding compounds that can reduce soft errors when semiconductor devices are exposed to space radiation. Soft errors are caused when cosmic rays enter a transistor, and electrons are thrown away causing the bits to become inverted. To solve this challenge, Resonac is testing simple devices fabricated with various compositions of molding material in the external and internal environment of the International Space Station.

"Our collaboration with Resonac underscores how Axiom Space is enabling global corporations from around the world to leverage space to drive manufacturing innovation across critical technology sectors such as semiconductors," said Koichi Wakata, Axiom Space Astronaut and Chief Technology Officer.

Divya Panchanathan, Global Lead for In-Space Semiconductor Commercialization at Axiom Space, added, "Space offers pristine conditions to unlock material properties that can't be replicated on Earth, and with Resonac's strong semiconductor materials expertise, we aim to fuel in-space innovations and enable new technologies to drive industrialization in low-Earth orbit."

Axiom Space and Resonac's alliance is poised to shape the future of space-enabled manufacturing, laying the groundwork for scalable orbital production and cutting-edge semiconductor technologies that benefit industries both on Earth and beyond.

Signing ceremony between Koichi Wakata of Axiom Space and Masato Fukushima, CTO of Resonac

[About Resonac]

Resonac is a functional chemical company established as a result of the integration of Showa Denko and former Hitachi Chemical in January 2023. The Company's sales revenue of semiconductor and electronic materials business for 2024 was about 450 billion yen. The Company is a world-class leader particularly in semiconductor materials for packaging process. The integration of the two companies has enabled Resonac to design functions of materials as well as to develop them in-house, going all the way back to raw materials. The trade name "RESONAC" was created as a combination of two English words, namely, the word of "RESONATE" and "C" as the first letter of CHEMISTRY. The Company will make the most of its co-creative platform, and accelerate technological innovation with semiconductor manufacturers, material manufacturers, and equipment manufacturers inside and outside Japan.

For detail, please refer to our Website.

Resonac Holdings Corporation: https://www.resonac.com/

[ABOUT AXIOM SPACE]

Axiom Space is building the world's first commercial space station – Axiom Station. Serving as a cornerstone for sustained human presence in space, this next-generation orbital platform fosters groundbreaking innovation and research in microgravity, and cultivates the vibrant, global space economy of tomorrow. Today, driven by the vision of leading humanity's journey off planet, Axiom Space is the principal provider of commercial human spaceflight services to

the International Space Station and developer of advanced spacesuits for the Moon and low-Earth orbit. Axiom Space is building era-defining space infrastructure that will empower our civilization to transcend Earth for the benefit of every human, everywhere. For more information, visit: https://www.axiomspace.com/.