



NEWS RELEASE

# United Semiconductors Reserves Payload Space With Starlab to Advance Commercial-Scale In-Space Semiconductor Manufacturing

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Microgravity crystal growth production aboard the Starlab space station will help strengthen U.S. semiconductor supply chains and next-generation technology development.

HOUSTON--(BUSINESS WIRE)-- **Starlab Space LLC**, the commercial space station developer expanding access to low Earth orbit research, today announced a payload reservation agreement with **United Semiconductors LLC** (USLLC) to support the transition of its space-based semiconductor crystal growth technology from demonstration aboard the International Space Station (ISS) to sustained commercial-scale production in low Earth orbit.

Building on a successful crystal growth mission in microgravity, USLLC will leverage Starlab's internal and external payload platforms to expand payload throughput, shorten logistics timelines, strengthen intellectual property protections and reduce production costs associated with space-manufactured semiconductor materials. The collaboration supports long-term U.S. leadership in advanced materials manufacturing and critical technology supply chains.

USLLC's ISS mission demonstrated microgravity as a uniquely stable environment for bulk and thin-film crystal growth of complex semiconductor and semimetal alloys, enabling improved material uniformity, higher yields and enhanced device performance compared to terrestrial manufacturing. Orbital external platforms provide pure vacuum, which can be critical for limiting defects in specific stages of the semiconductor manufacturing process and reducing safety risks associated with manufacturing certain materials in a closed environment. USLLC's proprietary crystal growth platform, designed to leverage reduced gravity conditions, is expected to support



production of high-performance semiconductor materials for applications in aerospace systems, AI-enabled platforms, advanced sensing technologies, energy-efficient computing and national security infrastructure.

“United Semiconductors has demonstrated space manufacturing of bulk crystals with strong support from NASA’s In-Space Production Applications program, delivering a compelling value proposition for in-space semiconductor products,” said Dr. Partha Dutta, Chief Technologist of United Semiconductors. “As we establish long-term partnerships with leading aerospace companies and integrate commercial supply chains for terrestrial and space-based fabrication services, our partnership with Starlab provides a stable, reliable manufacturing platform to accelerate our rapidly expanding crystal production and service portfolio.”

“Advanced materials manufacturing is one of the most strategically important frontiers in low Earth orbit,” said Marshall Smith, CEO of Starlab Space. “United Semiconductors has already demonstrated the performance advantages of microgravity-grown crystals. Through Starlab’s commercial platform, we are enabling the infrastructure needed to move from successful missions to scalable, repeatable production that strengthens domestic supply chains and supports next-generation semiconductor technologies.”

This announcement highlights one piece of Starlab’s expansive network dedicated to advancing scientific research and technological development in orbit. Additionally, Starlab’s market-driven business model is designed to reduce cost, complexity and risk for researchers and commercial partners. Its single-launch, no-assembly-required architecture enables full certification and operational readiness within weeks from launch, minimizing delays and maximizing efficiency for payload customers. Through its joint venture partners, customers can conduct research and manufacturing activities aboard the International Space Station today, ensuring a seamless transition to Starlab as its next-generation capabilities come online.

## About Starlab

Starlab Space is a U.S.-led, global joint venture among **Voyager Technologies** (NYSE: VOYG), **Airbus**, **Mitsubishi Corporation**, **MDA Space**, **Palantir Technologies**, and **Space Applications Services**, with strategic partners including Hilton, Journey, Northrop Grumman, and The Ohio State University. Starlab is developing a next-generation, AI-enabled commercial space station, aiming to ensure continued human presence in low-Earth orbit and a seamless transition of microgravity science and research alongside the retirement of the International Space Station. Starlab's advanced, user-driven design and robust capabilities make it a premier platform for scientific discovery and technological advancement in space. For more information, visit [starlab-space.com](https://starlab-space.com).

## About United Semiconductors LLC

United Semiconductors LLC (USLLC) is a small business with its semiconductor substrate production facility in Los



Alamitos, California. USLLC has been supplying the U.S. defense sector and U.S. national laboratories with critical substrates since 2005 for a variety of applications. USLLC is the only domestic company with the capability for 6-inch diameter substrate production of III-V binary semiconductors and the only global company with the capability for large area substrate production of III-V ternary semiconductors. In recent years, USLLC has expanded its crystal growth capabilities to establish in-space manufacturing of bulk crystals, leveraging the benefits of microgravity and space environment. For more information, visit [unitedsemiconductorsllc.com](http://unitedsemiconductorsllc.com).

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