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For Immediate Release

Space Phoenix and United Semiconductors Form Strategic Partnership

In-space manufacturer of semiconductor bulk crystals embraces high cadence, economical, efficient supply chain extension into space

Baltimore, MD: Space Phoenix Systems, Inc. (SPS) and United Semiconductors LLC (USLLC) today announced a strategic partnership under which SPS will provide USLLC certain critical space logistics services for space-manufactured semiconductor materials. The world's first in-space manufacturer of semiconductor bulk crystals will work with SPS on some of the complex and costly tasks for return-trip space manufacturing missions, enabling USLLC to focus on commercializing its industry-changing space-manufactured semiconductor materials.

USLLC leverages two decades of proven experience in terrestrial III-V compound semiconductor alloy bulk crystal production and component designs for its microgravity materials development. According to Dr. Partha Dutta, internationally renowned crystal grower and Chief Technologist at USLLC, "Our microgravity-enabled semiconductor crystals will leapfrog prior scientific investigations in the SUBSA furnace to commercial-scale process development."

While the science is established, major barriers for in-space manufacturers persist, including limited space return-trip availability and exorbitant costs—two challenges Space Phoenix Systems addresses through its Returnable-Payload-on-Demand (R/PoD) managed service.

SPS Co-Founder and CEO Andrew Parlock explains, "Semiconductor manufacturers worldwide are highly reliant on their supply chain, and with the industry now over seventy-five years old, the supply chains it relies on are highly sophisticated and efficient. The same can't be said for In-Space Manufacturing, which despite over 60 years of in-space R&D, is effectively at ground zero when it comes to product commercialization. Space Phoenix's entire focus is to provide the logistical infrastructure to allow innovative companies like United Semiconductors to get their space-manufactured products to market quickly, efficiently and economically."

SPS's approach requires that its end customers develop their payload, identify its in-space requirements such as trip duration, power and temperature, and book their mission. SPS does the rest including picking up the payload at the customer's site, transportation to its payload integration facility, payload integration, management of launches via third parties like SpaceX, monitoring in-orbit operations, payload return, retrieval, and delivery to the customer's preferred location.



Dr. Dutta added, “With Space Phoenix working on space payload logistics, semiconductor companies can focus on space manufacturing process development.”

Through such partnerships, USLLC aims to enable mass production of space semiconductors for next generation chips, strengthening the U.S.'s position as a global semiconductor leader and reducing reliance on other, sometimes geopolitically challenged nations - a key goal laid out in the U.S. 2022 [Chips and Science Act](#).

Parlock added, “Space Phoenix prides itself on a 100% sustainable business model that leaves no debris in orbit, which we believe is vital for the planet. The work that Partha and his team are doing aligns fully with our environmental perspective.”

A 10% reduction in semiconductor energy consumption translates into 723.8 GWh power saved per year, or \$599,531,800 saved based on the current global industrial electricity rate.

United Semiconductors envisions that early stage commercial manufacturing missions could commence in mid-2027, scaling to a requirement for monthly access to space within 3-5 years timeframe that aligns with Space Phoenix’s Returnable-Payload-on-Demand (R/PoD) service business development timeline.

About Space Phoenix Systems

Space Phoenix Systems (SPS) is a space logistics company, focused on providing easy, affordable, and timely access to space for the emerging In-Space Research and Development Manufacturing industry. Headquartered in Baltimore Maryland, with Product Development facilities at the University of New Hampshire John Olsen Advanced Manufacturing Center, SPS is enabling *The Art of the Achievable*, helping its customers realize the proven vast potential inherent in Manufacturing in Space. For further information visit [Space Phoenix Systems](#)

About United Semiconductors LLC

United Semiconductors (USLLC) specializes in bulk crystal growth and substrate production of III-V compound semiconductors and two-phase semimetal-semiconductor composite classes of materials. USLLC is the only domestic company with the capability for large area 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. USLLC has in recent years expanded its crystal growth capabilities to include In-Space manufacturing of bulk crystals that leverage the benefits of microgravity. For further information visit [United Semiconductors](#)

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