



NEWS RELEASE

MISSION TO THE MOON: STRATASYS JOINS FORCES WITH LOCKHEED MARTIN AND PADT TO ENGINEER ADVANCED 3D PRINTED PARTS FOR NASA'S ORION MISSION

Stratasys 3D printers and materials provide extremely high levels of strength, durability and thermal properties to power missions to deep space

Variant of new Stratasys Antero™ 800NA, PEKK-based material offers electro-static dissipative (ESD) functionality for advanced mechanical, chemical, and thermal properties

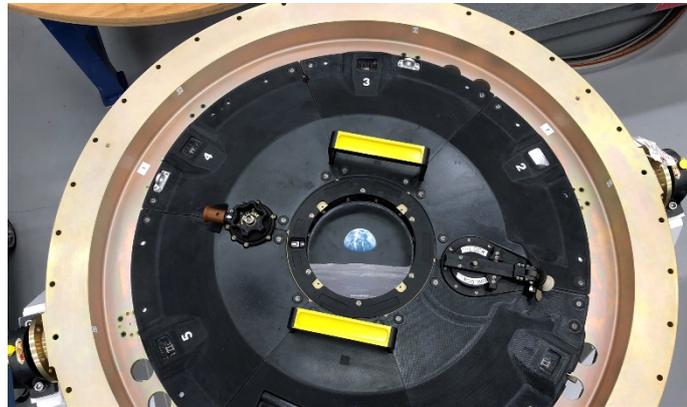
MINNEAPOLIS, MN & REHOVOT, Israel and TEMPE, AZ., April 17, 2018 – [Stratasys Ltd.](https://www.stratasys.com)

(NASDAQ: SSYS), a global leader in applied additive technology solutions, and Phoenix Analysis & Design Technologies, Inc. (PADT) jointly announced the companies are teaming with Lockheed Martin Space to deliver next-generation 3D printed parts for NASA's Orion deep-space spacecraft. Key to the project are Stratasys advanced materials – including an ESD variant of the new Antero™ 800NA, a PEKK-based thermoplastic offering high performance mechanical, chemical, and thermal properties.

Orion is NASA's spacecraft that will send astronauts to the Moon and beyond. Orion's next test flight,

dubbed Exploration Mission-1 (EM-1), will be the first integration mission with the world's most powerful rocket, the Space Launch System, where an un-crewed Orion will fly thousands of miles beyond the Moon during an approximately three week mission.

The following flight, EM-2, will also go near the Moon, but with astronauts on-board, a first since 1972 and will enable NASA to prepare for increasingly complex missions in deep space. The mission will use more than 100 3D printed production parts on board – engineered in conjunction with Lockheed Martin, Stratasys and PADT.



The Orion spacecraft leverages a variant of new Stratasys Antero 800NA to build an intricately-connected 3D printed docking hatch door

The production-grade, thermoplastic 3D printed parts on NASA's Orion vehicle are produced at the Additive Manufacturing Lab at Lockheed Martin in conjunction with PADT, which now includes the latest in Stratasys 3D printers and materials. Using advanced materials such as



Lockheed Martin is one of the first customers leveraging Stratasys' Antero material – a PEKK-based thermoplastic with advanced mechanical, chemical and thermal properties.

ULTEM 9085 and the new Antero material incorporating critical electro-static dissipative (ESD) functionality – NASA could meet key requirements for 3D printed parts to perform in the extremes of deep space. Antero is ideally suited to meet NASA's requirements for heat and chemical resistance, along with the ability to withstand high mechanical loads.

"Working with PADT, Stratasys, and NASA has enabled us to achieve highly consistent builds that move beyond the realm of prototyping and into production," said Brian Kaplun, Manager of Additive

Manufacturing at Lockheed Martin Space. "We're not just creating parts, we're reshaping our production strategy to make spacecraft more affordable and faster to produce."

The Lockheed Martin, Stratasys and PADT-engineered collaboration is differentiated by an ability to create consistency and repeatability in mass scale across the entire additive manufacturing part production process. Lockheed Martin is also one of the first customers leveraging Stratasys' Antero, using the new thermoplastic for a critical part situated just outside of Orion's docking hatch. The complex part consists of six individual 3D printed components locked together to form a ring on the craft's exterior. The part is currently on display in the Lockheed Martin booth #603 at the 34th Space Symposium in Colorado Springs, CO April 16-19.

"The demands of space travel require extremely high performance materials and the most rigorous manufacturing processes in the industry. Part integrity and repeatability are essential and must pass NASA's demanding testing and validation process," said Scott Sevcik, Vice President of Manufacturing at Stratasys. "Based on decades of experience delivering strong and lightweight additive manufacturing solutions for leaders across the aerospace industry, Stratasys technology is ideally suited to match the high-reliability manufacturing processes required for production parts in space exploration."

“It’s exciting to be a part of the Orion mission and Lockheed Martin’s efforts to transition additive manufacturing from prototyping to production,” said Rey Chu, Principal and Co-Owner at PADT. “Additive manufacturing technology and materials have come a long way to become a full-fledged end-use manufacturing option.”

PADT is currently joining Stratasys in their booth #537 at this week’s 34th Space Symposium. For further detail on how Stratasys is transforming aerospace and space exploration through 3D printing please visit: <http://www.stratasys.com/aerospace>.

Stratasys (NASDAQ: SSYS) is a global leader in applied additive technology solutions for industries including Aerospace, Automotive, Healthcare, Consumer Products and Education. For nearly 30 years, a deep and ongoing focus on customers’ business requirements has fueled purposeful innovations—1,200 granted and pending additive technology patents to date—that create new value across product lifecycle processes, from design prototypes to manufacturing tools and final production parts. The Stratasys 3D printing ecosystem of solutions and expertise—advanced materials; software with voxel level control; precise, repeatable and reliable FDM and PolyJet 3D printers; application-based expert services; on-demand parts and industry-defining partnerships—works to ensure seamless integration into each customer’s evolving workflow. Fulfilling the real-world potential of additive, Stratasys delivers breakthrough industry-specific applications that accelerate business processes, optimize value chains and drive business performance improvements for thousands of future-ready leaders. Corporate headquarters: Minneapolis, Minnesota and Rehovot, Israel. Online at: www.stratasys.com, <http://blog.stratasys.com> and [LinkedIn](#).

Phoenix Analysis and Design Technologies (PADT) is an engineering product and services company that focuses on helping customers who develop physical products by providing Numerical Simulation, Product Development, and 3D printing solutions. PADT’s worldwide reputation for technical excellence and experienced staff is based on its proven record of building long-term win-win partnerships with vendors and customers. Since its establishment in 1994, companies have relied on PADT because “We Make Innovation Work”. With over 80 employees, PADT services customers from its headquarters in Tempe, Arizona, and from offices in Torrance, California, Littleton, Colorado, Albuquerque, New Mexico, Austin, Texas, and Murray, Utah. More information on PADT can be found at www.padtinc.com.

Lockheed Martin, headquartered in Bethesda, Maryland, is a global security and aerospace company that employs approximately 97,000 people worldwide and is principally engaged in the research, design, development, manufacture, integration, and sustainment of advanced technology systems, products and services.

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