

GDOTS Lincoln Operations and UNL NNF Collaborate on Moon Mission

UNL NNF provided materials characterization support for GDOTS Lincoln Operations, in support of National Aeronautics and Space Administration (NASA)'s Artemis program.

General Dynamics Ordnance and Tactical Systems (GDOTS) is a global aerospace and defense company. We are committed to providing the U.S. military and its allies with an extensive range of overarching products that provide a cutting-edge advantage to our war fighters. GDOTS has two facilities in Lincoln, Nebraska, which produce composite structures for aerospace and defense applications.

NASA's Artemis program is focused on exploring the Moon for scientific discovery, technology advancement, and to learn how to live and work on another world as we prepare for human missions to Mars. Artemis II will send four astronauts on an approximately 10-day mission around the Moon demonstrating a broad range of capabilities needed for deep space missions.

On the Artemis II test flight, astronauts will travel farther from Earth and closer to the Moon than any human has been in more than half a century, building the foundation for future exploration missions to the lunar surface and Mars in the Golden Age of exploration.

Lincoln Operations supports the Artemis program by manufacturing a shipset of five helium Composite Overwrapped Pressure Vessels (COPVs) for the core stage of NASA's Space Launch System (SLS). These COPVs are crucial for operating the Main Propulsion System (MPS). The Lincoln Operations

Engineering Team utilized the University of Nebraska-Lincoln's NNF facilities to test various materials and identify composition of components that are part of the Artemis program.

"NNF worked with Lincoln Operations to analyze a COPV liner by identifying material composition. This precise characterization provided essential data, allowing GDOTS, Boeing, and NASA to advance subscale and flight-level qualification procedures for the COPV liner. NNF's ongoing support is a valuable resource to our industry."

– Matt Niven, Principal Project Engineer

