NEXT GENERATION SPACE SUIT SYSTEM PROTOTYPE FOR FUTURE MISSIONS

News / Manufacturer

Collins Aerospace Systems and ILC Dover unveilled a Next Generation Space Suit system prototype designed for future missions. The unveiling took place at a United Technologies event on Capitol Hill featuring the company's past, present and future contributions to manned space exploration as part of a celebration of the fiftieth anniversary of the Apollo 11 lunar mission.

Drawing on their extensive collaboration dating back to the Apollo program and continuing through the Space Shuttle and International Space Station programs, the two companies funded and designed the Next Generation Space Suit system as a forward-looking prototype and demonstrator of innovative future suit technologies. The system was designed with NASA and commercial customer applications in mind, including lunar surface missions in partial gravity, orbital space station missions in microgravity and future planetary missions.

Compared to Collins Aerospace's existing space suit used by astronauts today on the International Space Station—the Extravehicular Mobility Unit (EMU), which ILC Dover also collaborated on—the Next Generation Space Suit system boasts a number of enhanced features, including:

- New carbon dioxide removal technology that is perpetually regenerated while in use. This breakthrough technology enables extended-duration missions, reduces dependency on

resupply and significantly reduces crew maintenance time.
- Improved mobility joints and an ambulatory lower torso that will allow astronauts to traverse hazardous terrain, perform complex assembly tasks and closely examine, handle and collect geological samples from the surface.
- Upper torso structural component with advanced sizing features to enable a larger anthropometric range of astronauts to have an optimal fit in as few as two sizes. The upper torso can be resized quickly without tools.
- Significantly more efficient motors and electronics that reduce size and weight, and enable the incorporation of additional avionics and data capabilities into the suit.
- Pathways to integrate parallel development of cutting-edge information technology and display systems that will provide astronauts with a digitally connected experience, including advanced displays and voice-activated controls, real-time access to data, and HD video recording and communication capabilities.
- Open, evolvable architecture that allows the space suit to be easily upgraded with technologies that keep the suit state-of-the-art and aligned with mission objectives.

“Collins Aerospace is proud to collaborate with ILC Dover on the Next Generation Space Suit system,” said Gail Baker, president, ISR & Space Solutions at Collins Aerospace. “Together, we have a rich history of advancing human space exploration, and as we celebrate the fiftieth anniversary of the Apollo 11 lunar mission, we have already begun writing the next chapter.”

“Collaborating with an innovative company like Collins Aerospace is a perfect match,” said Patty Stoll, division manager, Space Systems at ILC Dover. “Our depth of experience and knowledge of suit technology at ILC Dover joined with Collins’ life support capabilities makes us a formidable team. Together, we’re going back to the Moon and on to Mars.”

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