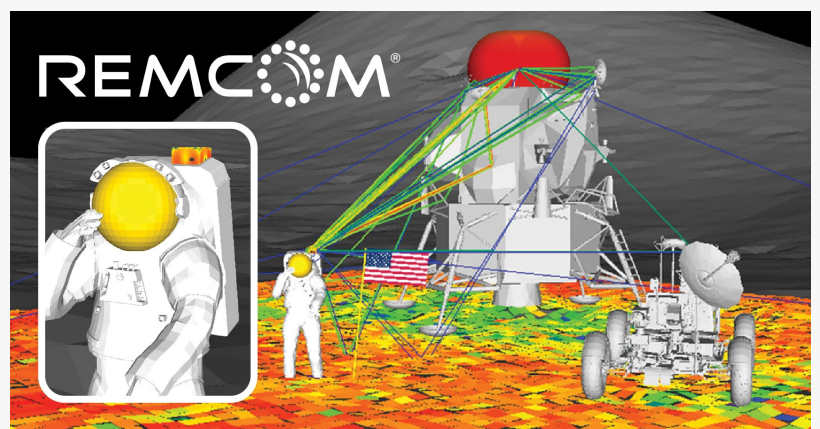


Remcom Receives NASA SBIR for Simulation of Wireless Channels for Artemis Spacesuits and Lunar Rovers

Remcom received an SBIR Phase I contract from NASA to develop wireless channel modeling capabilities for antennas on astronaut spacesuits and lunar vehicles.

STATE COLLEGE, PA, UNITED STATES,
September 23, 2025 /

EINPresswire.com/ -- Remcom has received a new Small Business Innovation Research (SBIR) Phase I contract from NASA to develop enhanced wireless channel modeling capabilities for antennas mounted on astronaut spacesuits and lunar vehicles. The award expands on Remcom's previous work supporting NASA's Space Communications and Navigation (SCaN) program and the [Artemis lunar exploration missions](#).



Remcom will develop enhanced wireless channel modeling capabilities for antennas mounted on astronaut spacesuits and lunar vehicles.

While earlier efforts centered on macro-scale lunar network planning, the current focus helps NASA engineers design and verify robust communication links for astronauts operating on the Moon's surface via enhancements in [Wireless InSite® 3D Wireless Prediction Software](#). New innovations will address challenges created by complex, layered materials in modern spacesuits and their impact on antenna radiation and transmissions. Wireless InSite will leverage Huygens surfaces to integrate near-field and far-field antenna behavior around astronauts and the structures they interact with in the lunar environment. This will reveal performance tradeoffs for various antenna placements and protocols, such as 3GPP sidelink, to optimize device-to-device (D2D) communications between astronauts. Additionally, acceleration methods will be employed to significantly reduce simulation runtimes by one to two orders of magnitude, allowing for more expedient analysis of propagation in dynamic scenarios.

The project will address Artemis mission-specific needs with resulting technologies that will also benefit commercial wireless device design, especially for wearables and on-body sensors in complex environments.

"Modeling antennas in close proximity to complex structures like spacesuits introduces new



This contract provides the opportunity to prototype solutions that ensure astronauts stay connected, providing NASA with a more realistic view of communication performance in dynamic lunar scenarios."

*Greg Skidmore, Director of
Propagation Software and
Program Manager*

electromagnetic challenges that are not well addressed by traditional simulation approaches," said Greg Skidmore, Remcom's director of propagation software and program manager of the effort. "This contract provides the opportunity to prototype unique solutions that ensure astronauts stay connected, whether they're exploring craters or conducting operations outside line-of-sight, providing NASA with a more realistic understanding of communication performance in dynamic lunar scenarios."

About Remcom: For 30 years, Remcom has provided [electromagnetic simulation and wireless propagation software](#) for commercial users and U.S. government sponsors. Our innovative software tools, combined with

exceptional support, have enabled the world's most advanced engineering teams to deliver their devices to market by simplifying EM analysis for a wide variety of applications. Remcom is committed to its customers' unique needs, offering flexible licensing options for installations of all sizes as well as custom-engineered solutions.

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