Orbotic Systems Wins NASA Phase II Award to Advance Active Space Debris Removal System

Innovative net-and-tether solution aims to clean up orbital debris, supported by passive reentry technology.


Cleaning up space debris

THOUSAND OAKS, CA, UNITED STATES, July 28, 2025 /EINPresswire.com/ -- – Orbotic Systems Inc., a space sustainability company focused on responsible orbital operations, has been awarded a NASA SBIR Phase II contract to develop its autonomous space debris removal technology. The RIDDANCE system uses a net-and-tether architecture combined with passive reentry technology to safely eliminate non-cooperative orbital debris. The active net-based system is designed to detumble, capture, and guide small and medium sized objects safely back into Earth's atmosphere without the use of propellant-based thrusters.

The funding allows Orbotic Systems to move beyond feasibility and test a flight-ready prototype that integrates three core capabilities:
1) Autonomous detumbling, to stabilize fast, spinning debris.
2) Net capture, to securely ensnare targets.
3) Passive descent, to deorbit debris using the D3 drag device without fuel or propulsion.
In summary, RIDDANCE employs a sophisticated combination of control, capture, and deorbit in a small, cost-effective package.
"Our system doesn't just capture debris, it stabilizes it, guides it, and brings it home," said Erik Long, CEO and Co-Founder. "This Phase II contract validates both the urgency of the problem and credibility of our solution. We're honored to have NASA's support as we turn our concept into a working solution for both public and private space missions"

The RIDDANCE methodology integrates seamlessly with the passive D3 Deorbit Drag Device from Orbotic Systems. The D3 assists with orientation and controlled descent after capture, without the need for active propulsion or onboard fuel. This dual-technology approach meets international deorbit guidelines while reducing the cost and complexity of on-orbit servicing.

“Removing debris is only half the battle, bringing it down safely is the other,” added Jane Ielmini, COO and Co-Founder. “Our modular approach solves both, and this award puts us on track to demonstrate that capability in orbit.”

This NASA Phase II award adds to Orbotic Systems’ growing portfolio of space sustainability initiatives, which also includes the WIND instrument for space weather monitoring and real-time atmospheric density sensing.
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