



FOR IMMEDIATE RELEASE

**Paragon Space Development Corporation® CELSIUS  
Technology NASA Tipping Point Contract Award**

TUCSON, AZ (June 27, 2019) – Paragon Space Development Corporation (Paragon) and partner Thin Red Line Aerospace (TRLA), are now under contract to mature their Cryogenic Encapsulating Launch Shroud and Insulated Upper Stage (CELSIUS) Technology through a NASA Tipping Point Award. NASA's Tipping Point Awards focus on technology collaborations with commercial space companies that leverage emerging markets and capabilities to meet NASA's exploration goals.

CELSIUS is an expandable softgoods Multi-Layer Insulation (MLI) and Micro-Meteoroid and Orbital Debris (MMOD) protection system that can be installed on the windswept surfaces of cryogenic space launch vehicle tanks. Unlike traditional MLI, the rugged, high performance CELSIUS can survive the thermal, aerodynamic, and vibration loads of rocket launch and flight. CELSIUS is subsequently deployed to minimize cryogen boil-off to extend loiter duration on-orbit while simultaneously providing mass optimized MMOD protection to the underlying tank.

“We are honored to once again partner with TRLA and to provide NASA and the space launch community with unique and innovative technologies that will make exploration of deep space safer and more reliable” said Grant Anderson, Paragon President and CEO. “We intend to prove that our solution will not only extend the on-orbit life of propellant depots but also provide increased mission flexibility for future NASA and commercial space exploration missions,” added TRLA President Maxim de Jong.

The scope of the CELSIUS contract includes a flight test to demonstrate CELSIUS survivability through launch aerodynamic loads and subsequent deployment. Paragon has selected Firefly Aerospace, Inc. (Firefly) to provide the vehicle for the flight test.

“One of our primary missions at Firefly is to facilitate the expansion of the cis-lunar economy through providing launch solutions to innovative technologies. Firefly is pleased to work with Paragon to flight-demonstrate their innovative thermal control technology in support of NASA's exploration goals,” said Firefly CEO Dr. Tom Markusic.

For over 25 years, Paragon has been a trusted leader in providing extreme environment life support and thermal control solutions – including spacecraft life support systems, thermal control radiators, and next generation cooling systems – to support mission critical operations for space, military, and commercial customers around the world. For more information and other news, visit [www.paragonsdc.com](http://www.paragonsdc.com).

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