Firmamentum Signs Contract with SSL for In-Space Manufacturing Demo

BOTHELL, WA., 26 September 2016 – Firmamentum, a division of Tethers Unlimited, Inc. (TUI), announced that it has signed a contract with Space Systems Loral (SSL), a leading provider of innovative satellites and spacecraft systems, to prepare a flight demonstration of in-space manufacture of a component on a communications satellite. Firmamentum's in-space manufacturing hardware is intended to fly as part of SSL's "Dragonfly" program, which will demonstrate in-space robotic assembly of geostationary (GEO) communications satellites, enabling dramatic improvements in GEO satellite performance and mission flexibility. The Dragonfly program is funded under NASA's Space Technology Mission Directorate's (STMD) Tipping Point initiative to work with industry to advance the goals for robotic and human exploration of the solar system through the development of critical space technologies.

Firmamentum's demonstration will validate a technology for on-orbit additive manufacturing of carbon-fiber composite structures. This technology, called the "Trusselator", enables space systems to fabricate large, lightweight, and high-performance truss structures to support antennas, sensors, solar arrays, and other key components. Manufacturing the structure after the satellite has reached orbit allows these components to be significantly larger than if they had to be stowed within a rocket shroud. Increasing the size of these key elements of a satellite enables higher data throughput, higher resolution, higher sensitivity, and higher power than achievable by satellites manufactured entirely on the ground.

"The Dragonfly program is a tremendous opportunity for us to demonstrate the readiness of in-space manufacturing technologies to enable transformative improvements in the performance of communications satellites, and we are very thankful that SSL has selected us to team with in this endeavor," said Dr. Rob Hoyt, Firmamentum's CEO.

"The evolution of next generation communications satellites and space systems depends on dramatic advances in technology and manufacturing processes," said Dr. Matteo Genna, Chief Technology Officer of SSL. "Firmamentum plays a key role on the Dragonfly team and enables us to demonstrate the importance of in-space manufacturing, which we expect will be a significant capability for future missions."

About TUI/Firmamentum

Firmamentum is a division of Tethers Unlimited, Inc. (TUI) established to develop an ecosystem of in-space manufacturing and construction services to build the infrastructure needed for a robust in-space economy. Firmamentum is currently preparing flight demonstrations of in-space recycling as well as in-space manufacturing of satellite components.

TUI, founded in 1994 by Dr. Rob Hoyt and Dr. Robert L. Forward, develops transformative technologies for Space and Defense missions. Its technology portfolio includes advanced space propulsion systems, programmable radios for small satellites, and additive manufacturing technologies. To learn more about TUI and its products, please visit www.tethers.com.

About SSL

Space Systems Loral (SSL) is a leading provider of commercial satellites with broad expertise to support satellite operators and innovative space-related missions. The company designs and manufactures spacecraft for services such as direct-to-home television, video content distribution, broadband internet, mobile communications, and Earth observation. As a Silicon Valley innovator for more than 50 years, SSL's advanced product line also includes state-of-the-art small satellites, and sophisticated robotics and automation solutions for remote operations. For more information, visit www.sslmda.com.

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