

# Lockheed Martin Selects CubeSat Integrators For Athena To Enhance Launch Systems Integration

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DENVER, Aug. 14, 2013 /PRNewswire/ -- Lockheed Martin [NYSE: LMT] has chosen three world-class companies to provide CubeSat integration for Athena launch services. Tyvak Nano-Satellite Systems LLC of Irvine, Calif., TriSept Corporation of Chantilly, Va., and Spaceflight, Inc. of Tukwila, Wash. will provide turnkey CubeSat integration services for multi-payload and RideShare missions using Athena launch services beginning in 2015.

"We are very pleased to offer this significant enhancement for CubeSat customers using Athena launch services that leverage the proven expertise of these three companies to provide comprehensive, affordable, one-stop integration and launch services to customers worldwide," said Robert R. Cleave, president of Lockheed Martin Commercial Launch Services. "Working together, we are providing customers with efficient and affordable payload integration bundled with the launch service for the expanding range of CubeSat missions."

CubeSats are cube-shaped satellites built to standard dimensions called Units or "U," measuring 10x10x11 cm (approximately 4 inches), and weighing less than 1.33 kg (3 lbs) per Unit. They can range from one to six Units in size. Athena deploys CubeSats in the 3U configuration using a standard Poly-Picosatellite Orbital Deployer (P-POD). Initially developed in 1999 with dozens currently in orbit, CubeSats are enabling many mission planners to re-think what can be done with miniature spacecraft. CubeSats are quickly migrating from being used by universities as projects for training future engineers and scientists to supporting a variety of space missions for government, commercial and civil customers worldwide, but with significantly reduced mission costs.

Athena can boost payloads ranging from 615 kg (280 lbs) to up to 5,900 kg (13,000 lbs) utilizing launch sites at Cape Canaveral Air Force Station, Fla. and Kodiak Launch Complex in Alaska. Using ATK's flight-proven CASTOR 120® for Stage I and Stage II, the modernized launch vehicles feature a newly developed and flight proven CASTOR® 30 for the upper stage, and Lockheed Martin's modernized electronic systems. Both solid rocket motors are in production and are used on other launch vehicles. Athena's standard Orbit Adjust Module capability can perform multiple precise deliveries of CubeSats to unique orbital parameters, the initial phasing for constellation deployments, as well as deploying CubeSats in large or small groups. In addition, Athena RideShare missions planned for 2015 and 2016 from Kodiak Launch Complex can accommodate 24 P-PODs or a mix of 3U, 6U and 12U CubeSat containerized payloads, vastly expanding launch opportunities for these very small satellites to sun synchronous orbits.

For CubeSat integration services on Athena missions, Tyvak Nano-Satellite Systems LLC will provide engineering analysis, payload certification and final integration with the launch vehicle. TriSept Corporation will provide integrated CubeSat services contracts, including engineering analysis, payload certification and final integration to the launch vehicle. Spaceflight, Inc. will provide integrated CubeSat services contracts, including engineering analysis, payload certification and final integration to the launch vehicle.

Headquartered in Bethesda, Md., Lockheed Martin is a global security and aerospace company that employs about 116,000 people worldwide and is principally engaged in the research, design, development, manufacture, integration, and sustainment of advanced technology systems, products, and services. The Corporation's net sales for 2012 were \$47.2 billion.

Tyvak Nano-Satellite Systems LLC provides NanoSat and CubeSat space vehicle products and launch integration services that deliver advanced state-of-the-art capabilities to government and commercial customers for use in operationally and scientifically relevant missions. Tyvak Co-Founders Scott MacGillivray and Dr. Jordi Puig-Suari are leaders in the CubeSat community; with over 10 years' experience in developing, testing, operating and launching CubeSats. Dr. Jordi Puig-Suari is co-creator of the CubeSat standard and developer of the P-POD. For more information: [www.tyvak.com](http://www.tyvak.com)

TriSept provides Athena demonstrated experience in integrating multiple small satellites (smallsats) on single missions. They have proven their rideshare integration capabilities for Department of Defense, NASA, and commercial payloads on several highly complex missions. Currently, TriSept serves as the lead integrator for the Operationally Responsive Space (ORS) Office, managing and executing the integration of 45 distinct smallsat payloads manifested between the ORS-3 and ORS-4 multiple payload missions. TriSept applies decades of mission integration experience spanning all US launch vehicles and launch sites to tailor rideshare missions in a

manner that fully satisfies customer requirements. For more information: [www.trisept.com](http://www.trisept.com)

Spaceflight Inc. provides routine access to space for deployed and hosted payloads at affordable prices by using published commercial pricing, frequent flight opportunities, and standard interfaces. Spaceflight specializes in the launch of payloads ranging from 1kg up to 300 kg micro satellites from a variety of space launch vehicles, and has launched payloads for NASA as well as commercial customers. For more information: [www.spaceflightservices.com](http://www.spaceflightservices.com)

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