



## Comtech AeroAstro, Inc.

Ashburn, Virginia-based Comtech AeroAstro, Inc., is a wholly owned subsidiary of Comtech Telecommunications Corporation (NASDAQ:CMTL) in Melville, New York. Comtech AeroAstro, Inc. (CAA) is a leader in satellite systems, components and selected payload and mission domain expertise technologies.

CAA's STPSat-1 and -2 Programs were developed for the DoD Space Test Program. CAA developed and supported the launch of the STPSat-1 in March 2007 on an Atlas V. This satellite, designed for a 1-year mission life, was decommissioned in October 2009 after successfully providing over 2½ years of valuable mission data. In December 2008, CAA delivered the first STP Standard Interface Vehicle (SIV) satellite bus; the STPSat-2 satellite launched in November 2010 on a Minotaur IV rocket. CAA was honored by being recognized by the American Institute of Aeronautics and Astronautics (AIAA) with the 2010 Space Systems Award for its accomplishments on the Space Test Program.

CAA is currently developing the U.S. Navy's microsatellite bus on the Joint Milli-Arcsecond Pathfinder Survey Program, to provide highly accurate star position data for military and civil applications. Similar in size to the STPSat-1 and -2 vehicles, this satellite bus, called the Astro 200AS, is more stable, more agile and has better pointing accuracy than vehicles in the commercial imagery business at a fraction of the cost. This capability enables a range of new high-value mission and sensor options on an affordable platform that can be rapidly developed and deployed.

CAA offers star trackers, miniature imagers, sun sensors and transceivers to the growing small satellite community. CAA is also expanding its expertise into unique mission areas, including payload and sensor development that support national security needs in ISR, space situational awareness and special communications.

Building on these successes and advancements, CAA is looking to the future. Specifically, the goals of rapid and reconfigurable spacecraft fit ideally with CAA's commitment to the value of smaller, rapidly developed systems to execute critical missions. CAA has been operating in this area since 2000 and supported the Operationally Responsive Space (ORS) Office's initial efforts, developing a detailed preliminary design for a Modular Multi-mission Space Vehicle for ORS in early 2009. This design was further refined and led to an award from AFRL for Advanced Plug-and-Play (PnP) development. CAA has been an advocate for spacecraft PnP since 2001 and believes it to be an enabling technology for spacecraft that can be configured and launched in days rather than months—a key goal for successful responsive space operations. CAA sees the technology as an enabler for a new way to develop spacecraft of all size classes by shortening schedules and reducing costs without compromising delivered performance.

In 2009, CAA unveiled its Coral CubeSat high-performance satellite; it provides very high performance for a variety of mission sets in a small, compact, low cost package. Coral uses miniaturized but sophisticated components, and affords serious experimenters the opportunity to quickly launch and test their mission and payload ideas in space.

CAA continues its advancements in miniaturization of electrical and mechanical systems; it is breaking paradigms and setting the industry standard.



# Our History

For more than 20 years, Comtech AeroAstro has remained diligent in its conviction that small satellites and related technologies can provide significant capability for effectively achieving military, civil and commercial space mission goals.

AeroAstro was founded as a small, privately owned business in 1988 and shortly thereafter won its first spacecraft contract. The ALEXIS spacecraft was built for Los Alamos National Lab to perform X-ray astrophysics and conduct ionospheric research. Launched in 1993, it was designed for a 6-month lifetime but functioned for over 12 years, returning outstanding science data for over a decade. This was followed by the HETE and TERRIERS microsattellites. Each of these programs were proof-positive that outstanding missions could be performed using a non-traditional approach to space, and broke all the existing cost models for spacecraft development with price points in the few millions of dollars.

During the 90s and the early part of this decade, AeroAstro entered additional space product and communication markets. Realizing that achieving high utility small satellites with large payload mass fractions requires smaller spacecraft components and subsystems, AeroAstro began offering new lightweight, low power, and low cost space products, including star trackers, miniature imagers, sun sensors, and radios to the growing small satellite community. We also invented the Satellite Enabled Notification System (SENS) to aid commercial, military and government customers in mobile asset tracking, Blue and Gray Force tracking, pipeline and tank monitoring, distributed sensor field data transmission and emergency locators for recreational use.

AeroAstro was also an award-winning participant in the Small Business Innovative Research (SBIR) Program, with awards from customers including the Air Force Research Laboratory, Missile Defense Agency, Defense Advanced Research Projects Agency, National Reconnaissance Office, and NASA. These programs fueled technology efforts in key areas such as RF sensing payloads, innovative bus structure and encapsulation designs, new propulsion approaches, and plug-and-play technologies. In 2000, AeroAstro received the National Tibbetts Award from the Small Business Administration highlighting the company's outstanding SBIR contributions, and holds a variety of patents associated with microspace and communication technologies.

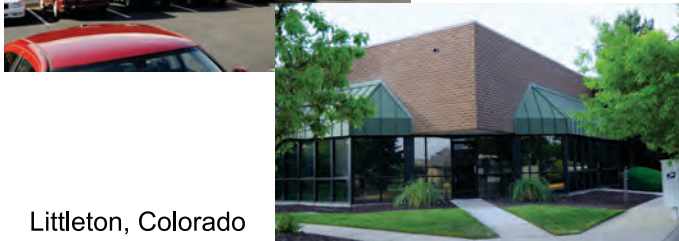
In 2001, AeroAstro entered the Department of Defense Space market with the STPSat-1 space vehicle and the STPSat-2 spacecraft bus for the DoD Space Test Program. These satellites are designed to capitalize on excess mass and volume margin as secondary missions on Atlas V and Delta IV Evolved Expendable Launch Vehicles (EELVs), instead of requiring their own expensive launch vehicle.

In 2006, AeroAstro acquired Signal Research Corporation enabling capabilities in payload and sensor development that support national security needs in ISR, space situational awareness and special communications. In 2007, AeroAstro was acquired by Radyne Corporation which itself was acquired by Comtech Telecommunications Corporation in 2008.

Today, as an independently operated business unit of Comtech Telecommunications, Comtech AeroAstro continues to develop and pursue programs that demonstrate the expanding capabilities and utility of small satellites to support new and existing missions.



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