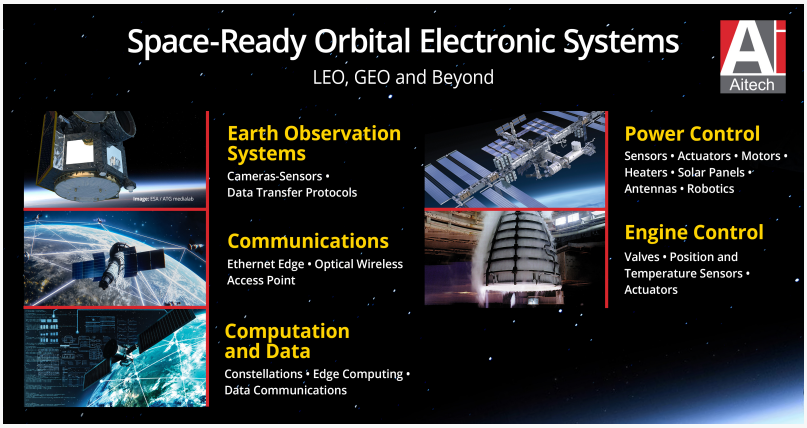
Aitech’s Space-Ready Orbital Systems Enhance Capabilities in Space Applications

COTS-based technologies provide high computing and connectivity performance for systems across all orbit levels



CHATSWORTH, CA, UNITED STATES, October 30, 2024 /EINPresswire.com/ -- Aitech Systems, a leading provider of rugged boards and system level solutions for military, aerospace and space applications, has expanded its space-rated unified system architectures to meet the growing demands for shorter development times and lower costs among satellite busses, subsystems, and payloads.

Using a Space Digital Backbone (DBB) approach, which provides a flexible, scalable communication pathway for the increasing number of IoT (Internet of Things) technologies being implemented into space missions, the company provides selection of space-rated subsystems for common space platforms:

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>
> *Ralph Grundler, Aitech Director of Space Business Development*

- Earth Observation: Integrated and qualified hardware and software along with the engineering analysis of commercial off-the-shelf (COTS) space-ready systems enable improved reliability, real-time data processing, high resolution imagery, and rapid situational awareness for space superiority.

- Communication: The space DBB enables seamless integration and high-speed reliable, secure connectivity between internal/external communications systems, cameras, local edge computing, and shared storage elements throughout all levels of orbit.

- Communications, Computation & Data Handling (CCD&H): To empower payload sharing and

interface satellite buses, as well as satellite swarm, constellation positional, and mission management, I/O boards are used to dedicate multiple high-speed data streams and provide high-capacity memory to reduce latency.

• Power Control: In order to achieve the high reliability needed for mission critical systems, power control subsystems are added to subsystem controllers to limit the ultimate output power and the power on/off switching times to prevent transients from coupling to the system backplane.

• Robotics: Provides power and signal to control a motor or servo device to enable autonomy and improved decision-making across space applications for higher adaptability in rugged conditions.

Ralph Grundler, Director of Space Business Development and Space R&D, at Aitech, commented, "Accelerated timelines in space innovations have led to the transition from custom space-qualified systems that require extensive design, testing, and qualification processes to economical COTS technologies without sacrificing key performance indicators of radiation tolerance, reliability, spaceflight pedigree, and risk management."

Commercial space companies are seeking space-ready orbital systems with computational, input/output, and communication functionality to control specific satellite functions such as image data processing, communications, and navigation.

Space-ready systems with high computing and connectivity performance are fueling the future of space exploration, at Aitech we harness the power of scalable, versatile interconnects and open standards-based computing using COTS to provide reliability within space electronic systems in critical areas including Earth observation, computation and data handling, and communication.

For over 30 years, Aitech has led the industry in providing space-ready orbital system applications across various programs and missions including the Multi-User System for Earth Sensing (MUSES), a commercial Earth observation platform on the ISS to more recently providing a complete system CC&DH flight computers and peripherals for successful orbit.

For more information, please call 888-Aitech-8 (888-248-3248), visit https://bit.ly/Space-Ind or e-mail sales@aitechsystems.com.

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About Aitech Systems:
In business for more than four decades, Aitech is one of the world's first, independent, open systems architecture, COTS/MOTS innovators offering open standards-based boards and integrated computing subsystem products, with customization services for rugged and severe

environment, military, aerospace and space applications...i.e. products for Air, Land, Sea, and Space. For more information, please visit www.aitechsystems.com.

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