

4Links Limited**Booth Space: 13**

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4Links design and sell test equipment for SpaceWire that users report is easy to use, reliable, and accurate, and that enabled them to detect and diagnose bugs that simulation and other testers did not expose. The products include simulators, interfaces, analysis and recording, with a wide range of diagnostics and instrumentation of performance and time. Customers world-wide have extolled the quality and usefulness of 4Links SpaceWire test equipment. 4Links is exhibiting along the main aisle between the entrance and registration, and 4Links test equipment is distributed in North America by Aeroflex, exhibiting in booths 74-75.

AAC Microtec North America, Inc**Booth Space: 1-2**

Jorge Freyer, CEO

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Our goal is to commercialize the use of low cost satellites for a wide range of applications which include geo-information services and microgravity research.

AAC has developed low cost, scalable, and highly configurable satellites, based on Space Plug-and-Play Avionics (SPA) standards which incorporate features for multi-processor and multi-network behavior. AAC offers complete solutions based on low cost and robust electronics under the trade name Rapid Integration Architecture™ (RIA).

In addition, AAC is a leading supplier of miniaturized and robust multifunctional electronics systems for aerospace, military and industrial applications. By combining proprietary design and packaging techniques we offer solutions based on state-of-the art microelectronics and MEMS technology, and expert support for optimal life cycle performance.

Aeroflex Colorado Springs**Booth Space: 74**

Teresa Farris

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Aeroflex Colorado Springs is a supplier of integrated circuits and custom circuit card assemblies. We supply a broad range of standard products for HiRel applications including LEON 3FT Microprocessors, logic, FPGAs, 4M, 8M and 16M memories, serial communication interfaces for MIL-STD-1553, 1773, clocks, Muxes, an LVDS and SpaceWire family of products and a new line of Non-Volatile Memories (MRAMs and NOR Flash). Our RadHard-by-Design ASICs handle design complexities up to 3,000,000 usable gates, offers advanced technologies down to 0.90nm and are RadHard to 1 Mega rad. Aeroflex offers Circuit Card Assembly capabilities, which consists of full assembly, test and coat in a high mix/low to medium volume operation.

Aeroflex RAD offers radiation testing services along with HiRel offerings such as A-to-D Converters and Power MOSFETs.

Aeroflex Motion Control**Booth Space: 74A**

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Aeroflex Motion Controls offers a wide range of capabilities in the design and manufacture of components and systems for the space market. Our products include rotary and linear actuators, brushless DC motors, gimbals, scanners, electronic controllers, slip rings and twist capsules. Aeroflex provides stepper (both hybrid and permanent magnet), brushless, full and limited-angle torquers, arc segment, zero-cogging, solenoid and voice coil motors.

We offer precision gimbals for pointing and tracking, stabilized platforms and pedestals. Coupled with our electronic motion controllers and adaptive software, Aeroflex can provide a complete turn-key multi-axis system to meet your requirements.

Aeroflex Airflyte slip rings are made in every configuration ranging in size from 0.250 inch diameter capsules to large assemblies with through bores in excess of 36 inches. Our slip rings have been used extensively in pan & tilt cameras, radar platforms, tracked vehicles, rate gyros, down hole equipment, and packaging machinery.

Aeroflex Plainview

Booth Space: 75

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Aeroflex Plainview is a manufacturer of advanced microelectronic Multi-Chip Modules (MCMs) for airborne, space, shipboard, ground based avionics. Our products include Mil-STD-1553, PWM controllers, Resolver-to-Digital converters, Analog Multiplexer modules, and Voltage Regulators.

Our Battery Electronics Unit (BEU), a Li-Ion battery balancer and cell telemetry electronics unit, performs autonomous cell balancing, high cell limit indication and low cell limit indication. Our latest product family, RadHard-by-Design Analog Function Series offers MUXs, comparators, op amps and AtoD/DtoA Converters.

Air Force Research Laboratory

Booth Space: 87

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The Space Vehicles Directorate The Space Vehicles Directorate serves as the Air Force's "Center of Excellence" for space research and development.

The Space Vehicles Directorate is headquartered at Kirtland Air Force Base, N.M. In addition, the organization operates a research site called the High Frequency Active Auroral Research Program (HAARP) located near Gakona, Alaska.

The Space Vehicles Directorate is comprised of a talented and dedicated team of 941 military, federal, and contract employees and has an annual budget of approximately \$378 million.

The mission of the Space Vehicles Directorate is to develop and transition space technologies for more effective, more affordable warfighter missions.

Aitech Defense Systems, Inc.

Booth Space: 6

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Aitech is a leading supplier of radiation hardened and ruggedized Space qualified embedded computer subsystems for satellite bus, payloads and launch vehicles. Aitech offers rapidly available product solutions with its Space electronics product line including Space Single Board Computers (SBC), Gigabit Ethernet, Digital & Analog I/O, SpaceWire, Solid State Memory and power enclosures to fit your immediate mission needs. This year we are excited to introduce a new Single Board Computer and our innovative Remote I/O Next Generation solution.

Celebrating its 29th Anniversary this year, Aitech has a long and impressive track record delivering superior cost-performance, reliability, and time-to-market benefits to our worldwide customers for launch vehicle, missiles and satellite applications. With a line of Space products performing up to 100krad TID and latch-up immune electronics, Aitech delivers the most cost effective solutions with expected robust functionality and performance you demand.

AMERGINT Technologies

Booth Space: 101

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AMERGINT Technologies specializes in software-based satellite ground and test products. Our softFEPTM products deliver telemetry/command data capture, processing and storage functions for satellite builders, control centers and antenna sites. We support standard USB and SGLS waveform processing, CCSDS and SLE protocols, telemetry and commanding over IP. AMERGINT's innovative products include software-defined TT&C modems, front-end processors, crypto control, network interfaces, and telemetry/command recording. Our FEPlabTM toolkit provides the building blocks for developing sophisticated test and ground processing capabilities. TestExec offers a suite of test scripts uniquely designed for verification and sustainment of satellite data processing systems. AMERGINT is demonstrating its softFEP-1000 and TestExec products.

Andrews Space

Booth Space: 30-31

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Andrews Space, Inc. was founded in 1999 to be a catalyst in the commercialization and development of space. The company is an affordable integrator of aerospace systems and developer of advanced space technologies. To learn more, please visit: www.andrews-space.com (206) 342-9934

In 2009, Andrews Space, Inc. formed SpaceFlight Services (SpaceFlight); a service company focused on providing routine access to space for small payloads. SpaceFlight has an affordable price structure by using standard flight interfaces and a streamlined integration process. SpaceFlight's process allows payloads to be rapidly manifested, certified, integrated and flown to space by simplifying launch integration planning and providing a single customer interface. www.spaceflightservices.com (206) 342-9934

Applied Technology Associates

Booth Space: 39-40

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Applied Technology Associates (ATA) is a precision sensing, measurement and controls company providing custom hardware solutions and services to government, aerospace and commercial customers. Our market applications span Acquisition, Tracking & Pointing (ATP); Guidance, Navigation & Control (GN&C); and Test & Evaluation (T&E) solutions for ground, air and space systems. ATA has expanded to include a new satellite assembly, integration and test facility,

and works alongside Space Dynamics Laboratory. ATA is teamed with Northrop Grumman on the Operational Responsive Space (ORS) Modular Space Vehicles program to build and integrate spacecraft at ATA.

ATA Aerospace, ATA's joint venture with ASRC Aerospace, is the prime contractor on the AFRL Space Technology Research, Analysis, Integration and Test (STRAIT) contract. On this contract ATA Aerospace provides the Program Management, Engineering Services, Integration and Test, Launch Support, On-Orbit Support, and Test Facility O&M for satellite and high altitude systems and subsystems including buses and payloads.

Astro-und Feinwerktechnik Adlershof GmbH

Booth Space: 71

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Small satellite busses (up to 200 kg) and components for small satellites (1 to 400 kg) are the core business activities of Astro- und Feinwerktechnik Adlershof GmbH. In this area we focus on high reliable and smart systems for LEO and deep space applications. We are specialized in attitude control components (reaction wheels, IMUs, GPS systems, MFS) and subsystems, power subsystem components (PCU, PDU), structures and mechanism (like booms, solar panels or deployment mechanism) and scientific and optical payloads (primary VIS and IR). Additional to that we offer ground support equipment (EGSE, MGSE, OGSE), like transport containers or AOCS test beds.

The scope of services comprises the complete environmental qualification of space hardware, according to NASA or ESA standards, which also includes vibration, pyro shock, thermal vacuum testing.

ATK

Booth Space: 10,11,12

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ATK Aerospace Systems is an industry leader in small and micro-satellites; satellite components and subsystems; lightweight space deployables and solar arrays; and low-cost, quick to market launch solutions. ATK developed the platform for the successful Earth Observer-1, THEMIS, and TacSat-3 satellites and provided the spacecraft bus for the first Air Force Operationally Responsive Space satellite. Aerospace Systems is the world's top producer of solid rocket propulsion systems and a leading supplier of military and commercial aircraft structures, flares and decoys, energetic materials, and related technologies. The group also has extensive experience supporting human and space payload missions.

Austin Satellite Design, LLC

Booth Space: 82T

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Austin Satellite Design (ASD)'s mission is to create and manufacture products related to small low cost satellites, such as Cubesats and Picosats with integrated attitude control systems, propulsive thrusters and GPS receivers. These components may be purchased individually or used in satellites that we produce. We also provide technical support and expert consulting in the areas of space systems and satellite design.

AXELSPACE Corporation

Booth Space: 97

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AXELSPACE is a nano-satellite manufacturer in Japan. We are focusing on satellites with mass of not more than 100kg and satellite components for nano- and micro-satellites. In our booth, we will exhibit the overview of our on-going nano-satellite project, WNISAT-1 and Hodoyoshi-1, and, a high precision star-sensor AxelStar-2, a coarse sun-sensor AxelSun-1, a GPS receiver AxelNav-1 and other components for nano- and micro-satellites.

Berlin Space Technologies GmbH

Booth Space: 84

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Berlin Space Technologies (BST) is a specialist for small satellite systems and technology. BST offers reliable and cost efficient solutions for high resolution earth observation with up to 1.5 m GSD. All our products including the unique real time video mode can be bundled with comprehensive training and technology transfer programs.

Berlin Space Technologies was founded by senior staff of the Department of Aeronautics and Astronautics of TU Berlin. Our personnel holds key positions in the TUBSAT™ Program of TU Berlin since 2005. We were responsible for the design of key subsystems and operation for multiple missions. These missions include LAPAN-TUBSAT, Orbcomm 2nd Generation, LAPAN-A2 and LAPAN-ORARI.

Boeing

Booth Space: 21

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Nearly a century of expertise and continuing innovation make Boeing the leader in the aerospace and defense industry. Boeing combines global resources and a spirit of innovation to provide best-of-industry, network-enabled solutions to military, government and commercial customers around the world.

From battle-proven aircraft, unmanned vehicles, space systems and beyond, Boeing is the world's leading space and defense business and the world's largest and most versatile manufacturer of military aircraft. Boeing also is the world's largest satellite manufacturer, an emerging leader in support systems and services, and a leading global supplier of human space exploration systems and services.

Broad Reach Engineering

Booth Space: 66-67

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Broad Reach Engineering develops hardware and software for spaceflight missions and ground systems. Products include spacecraft avionics, science payload electronics, spacecraft flight software, guidance & control software, ground and space borne GPS receivers for precision orbit determination (POD) and occultation science, ground support hardware and software, ground control software, mission simulation systems, and mission design and analysis services.

CDA Intercorp

Booth Space: 70

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CDA InterCorp has been an industry leader in the design and manufacturing of highly engineered, extremely reliable, Controllable Drive Actuators for technologically advanced control systems for over 40 years. CDA offers seven standard frame sizes of motors from 0.75"-3" (Brushless Permanent Magnet, AC Induction, or DC Stepper motor), nine standard frame sizes of gearheads (0.75"-6"), linear actuation, and velocity/position feedback devices manufactured in Deerfield Beach, Florida.

Clyde Space

Booth Space: 43

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We are best known for the success of our CubeSat and small satellite products; as one of the first companies to be involved in CubeSats, we are considered by many as the thought leader for future CubeSat missions and technologies. Our core activities include the design and production of high performance power subsystems, lithium polymer batteries and high efficiency solar panels for small satellites and CubeSats. We provide Attitude Control and Determination Systems and have developed a full CubeSat platform with design advanced payloads with demanding bus system requirements.

We have an award winning team at Clyde Space with a wealth of small satellite experience. This experience ranges from the design and production of systems for small satellite and CubeSat missions to rad-hard SmallGEO power systems for ESA/NASA type programmes up to 5kW. Our combined experience in over 50+ space programmes makes us a trusted partner to support missions at all levels, from conceptual design, development, subsystem supply, spacecraft integration, through to on-orbit operations. Please drop by our booth to find out more...

COM DEV

Booth Space: 60

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Established in 1974, COM DEV has designed and manufactured equipment, subsystems and payloads for more than 800 spacecraft. Customers and partners include academia, research institutions, space agencies, commercial primes and the military. The COM DEV Missions group offers responsive turnkey solutions from mission analysis to design, manufacture, integration and testing, launch procurement and operations of nanosatellite, microsatellite and hosted payload missions. COM DEV successfully launched and operated NTS (Nanosatellite Tracking Ships) and is currently developing M3MSat (Maritime Monitoring and Messaging Micro-Satellite) for the Canadian Space Agency (CSA) and Defense Research and Development Canada (DRDC). For more information, please visit www.comdev.ca

Comtech AeroAstro, Inc.

Booth Space: 24-25

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Comtech AeroAstro is a full service aerospace company combining revolutionary technologies and unique systems engineering to provide low-cost, high-performance spacecraft and robust, space-qualified components to government and commercial customers. We are pioneers in modular, rapidly reconfigurable space systems developed in efficient, agile and highly responsive design environments. Founded in 1988, Comtech AeroAstro's heritage is one of engineering innovation, simplicity of design, reliability and rapid space-readiness well above the industry standard. With two primary locations in Virginia and Colorado, Comtech AeroAstro maintains sophisticated laboratory, integration and testing, and manufacturing facilities. Additionally, Comtech AeroAstro provides unique capabilities in support of national security

space missions offering a wide range of spacecraft and components capabilities. The experienced staff knowledge base includes communications, science, imaging, weather, LEO, MEO, GEO, HEO and several deep space programs. Comtech AeroAstro is dedicated to customers' mission success while continuously promoting quality, safety and security.

CTD

Booth Space: 90

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Design Net Engineering

Booth Space: 44-45

Gerry Murphy

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Design Net Engineering specializes in the design, development and production of custom electronics and software for aerospace instrumentation and avionics. By focusing on responsive space and providing end-to-end system engineering/development, Design Net consistently delivers innovative, low-cost solutions on time and on budget. A mission driven systems design approach with supporting disciplines including FMECA, Structural, Radiation, and Thermal analyses, supports the demanding life cycle needs of our customers. Our instrumentation, electrical, and software designs support DoD client missions including Operationally Responsive Space (ORS), AFRL TacSats, NRL responsive space initiatives and NASA missions. Our software team is a well recognized asset in the responsive space community supporting development and implementation of Space Plug-and-Play (SPA) standards. Additionally, Design Net is a pioneer in the rideshare community, developing flight hardware for multiple launch vehicles and enabling technologies like the deployer sequencer subsystem. Contact Design Net to learn how our mission driven approach can help.

EyasSat

Booth Space: 46

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EyasSAT LLC provides classroom satellites and related educational materials for education and workforce development. Our current Rev C+ EyasSAT has power distribution subsystems, a 3000mAh Li-ion battery, torque rods, coarse sun sensors, fine sun sensors, configurable solar arrays, a momentum wheel, thermal experiments, housekeeping with temp, voltages and currents and arming plugs / separation switches which model prototypical satellite design/behavior. In addition, the EyasSAT has a data handling section, a communications section, an ADCS section, an experimental section, and optional magnetometer and GPS. Each of these can be utilized as a stand-alone module for training. Using the AFA developed coursework; the student can explore most aspects of current satellite technology in the classroom without risking flight hardware in experimentation. With the radio downlink and the free-fall stand (a one axis of freedom environment) the student can experience what actually happens when a command is sent to a satellite and observe real time data being relayed to the "ground". Additional modules that allow the student to explore on-board data management, PID control loops, optimization of direct energy transfer systems, and simulation of orbital conditions are in developments and will be available soon.

EyasSATs are used by numerous universities, professional organizations such as the Lockheed, training organizations such as TSTI, and many international space agencies in Japan, S. Korea, Spain, England (Surrey), Denmark, Canada (Royal Air Force) and South Africa.

GDP Space Systems

Booth Space: 86

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GDP Space Systems designs and manufactures ground-based telemetry and communications equipment. GDP provides products that support a wide range of applications such as satellite tracking and control, data transport, acquisition, and processing. Products include Bit Synchronizers, Best Source Selectors, Telemetry over IP, Communications Multiplexers, Decommunators, Simulators, Data Link Testers, Receivers, Modulators and Demodulators.

Glenair, Inc

Booth Space: 72

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Glenair Lightweight Interconnect Cable Systems

It's possible to reduce the weight of interconnect cabling in satellite systems by pounds—with huge \$ savings at launch—by replacing heavy, metal shielding materials with lightweight composite thermoplastics. Glenair has dozens of weight saving interconnect technologies, from composite EMI braid to ultra miniature circular and rectangular connectors—all designed with one thing in mind: saving weight in mission-critical interconnect systems. If someone were to offer you \$1 bills for 50 cents each, would you say “yes”? That's our offer. When you trade the cost of a one pound weight reduction in interconnect hardware for the much more valuable \$ savings you'll enjoy at launch, you'll literally be buying \$1 bills for 50 cents each. Visit Glenair at booth 72 for the samples and materials that will make you a weight-reduction hero in your organization. Glenair: A World of Lightweight Interconnect Solutions.

GomSpace

Booth Space: 95

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GomSpace is a worldwide leading provider of subsystems, software and turn-key platform solutions for nano-satellite and Cubesat missions.

Our subsystem offerings include: On-board computers, electrical power supplies and distribution units, battery modules, solar panels, communication systems, antennas and camera payloads. The elements combined with One-Step Integration and software frameworks for Command and Data Handling and Attitude Determination and Control present a very capable nano-satellite platform to perform mission development rapidly with low risk and high versatility.

GomSpace has had experience with Cubesat and nano-satellite projects since 2001 and is today established with base in Denmark and with representation in the US. The company serves customers in more than 20 nations providing commercial-off-the-shelf nano-satellite systems, as well as specialised engineering services to provide fully customized solutions.

IHI Aerospace

Booth Space: 69

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IHI Aerospace (IA) is an aerospace and defense company. Space systems include development and manufacture of suborbital/orbital rockets, experiment racks and facilities for the International Space Station, re-entry system for recovery of space experiments and samples. Also, we get aboard development of H-II Transfer Vehicle(HTV), space

station supply vehicle. We are in charge of developing the propulsion system, the Exposed Pallet (EP), the related mechanisms, and the HTV Resupply Rack (HRR) containing the supplies used inside the ISS.

One of important strategic objectives is to successfully develop small launch vehicle to meet emerging applications of small space systems. IA, as a prime contractor, is leading the development of JAXA Epsilon solid rocket. First flight is slated for the year 2013. IA's technical expertise also is vital to METI Air-Launch System Enabling Technology (ALSET) program for micro/mini payload delivery and commercial nano-satellite launch system development.

ISIS

Booth Space: 4,5

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ISIS – Innovative Solutions In Space is a leading provider of nanosatellite missions, products, and services. Founded in 2006, the company currently employs over 35 engineers and operates state-of-the-art facilities which include a class 10,000 clean room, environmental test facilities, a small satellite ground station and a multi-mission control room. ISIS provides turnkey missions for institutional, governmental and commercial customers around the world, specializing in low-cost (< 1,000,000 USD), rapid development (<6 months) missions based on standardized systems and components. For new entrants into the space domain extensive support programs with training, development kits and engineering support are also available.

Most of these systems are also available through ISIS' online portal for CubeSat and Nanosatellite component, (www.cubesatshop.com). Furthermore, the company offers launch brokering services to third parties as well (www.isilaunch.com), next to the development of cost-effective data gathering satellite constellations for various markets such as shiptracking and sensor network read-out.

JHU/Applied Physics Laboratory

Booth Space: 7

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The Johns Hopkins University Applied Physics Laboratory (JHU/APL) has built pioneering space missions since its inception in the 1940s. In partnership with NASA and other federal agencies, APL has designed, developed, and launched 64 spacecraft and more than 150 space instruments. Since 2000, JHU/APL has built and launched some of NASA's most efficient and technically challenging missions, including MESSENGER to Mercury, New Horizons to Pluto, and RBSP to measure the harsh radiation belts around Earth. The Laboratory has also built a pair of operational 3U CubeSats that will launch in early 2013.

L-3 Communications

Booth Space: 54-55

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L-3 Communications is represented by 3 divisions:

Electron Technologies, Inc. (ETI) is featuring their space-qualified, high-reliability, low SWaP, TWTs, EPCs, TWTAs and their XIPSTM , Electric Propulsion Systems. For additional information, go to L-3com.com/eti

L-3 Telemetry-West is featuring InControl™, Satellite Command and Control Software for On-Orbit, Factory Test and Ground System Monitor and Control. For additional information, go to L-3com.com/TW/Incontrol

L-3 Communication Systems-West, with headquarters in Salt Lake City, Utah, is a world leader for high-performance intelligence collection, imagery and satellite communications. CSW provides high-data rate, wideband, secure, real-time, network enabling communications systems for surveillance, reconnaissance, other space and airborne intelligence collection systems, and situational awareness directly to tactical users. For additional information, go to L-3com.com/csw

Lockheed Martin

Booth Space: 37-38

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Headquartered in Bethesda, Md., Lockheed Martin is a global security and aerospace company that employs about 123,000 people worldwide and is principally engaged in the research, design, development, manufacture, integration and sustainment of advanced technology systems, products and services.

Magellan Aerospace

Booth Space: 65

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Micro Aerospace Solutions, Inc

Booth Space: 79T

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Micro Aerospace Solutions, Inc. (MAS) is a small business based in Melbourne, Florida on Florida's spacecoast. Our goal is to provide low-cost yet innovative solutions to new and difficult small satellite challenges. Some of our areas of expertise include R&D and system development for small spacecraft attitude detection/control, propulsion systems and sensor systems. Other areas include the development of command and data handling, software, embedded systems and electronics systems. We offer consulting services to help with your system design and test needs. We can assist in system design and analysis during any phase of the system life cycle from initial concept through operations including product and engineering development planning. Our talented staff can provide knowledgeable engineering support on a variety of projects. Our solutions offer great performance with low mass, power and cost. One of our specialties is exploration beyond low-earth orbit using low-cost small satellite systems (cubesat to nanosat) and design techniques.

Microcosm Astronautics Books

Booth Space: 68

Pam Esquinca

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www.astrobooks.com

Our unique bookstore carries over 300 titles of technical astronautics books. We also publish our own books, these include Space Mission Analysis and Design and our newest addition Space Mission Engineering: The New SMAD. We pride ourselves on providing the space industry with high quality books, low prices, and assistance in finding the right book for your needs. It's easy to order on-line, by phone, or by email or visit our near-to-LAX location. Our goal is to make access to our books and services incomparable. We have wholesale prices for resale and institutes of higher learning. Special conference prices!! If you have a book idea, ask me about publishing it.

Micro-RDC

Booth Space: 80T

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Micro-RDC will be exhibiting the Radiation Hardened Structured ASIC System on a Chip (SoC) (7x7 mm) based on the 8051XC supporting SpaceWire/USB/I2C/SPI and Power Management. We will also demonstrate the 3x3mm SoC chip (3x3 mm). Both chips were successfully taped out using the IBM 90nm CMOS 9LP process. Within the Space Plug-and-Play Avionics (SPA) systems, these SoC's chips are compatible with SPA-S, SPA-U and SPA-1. The Mini-PnP chip is a SPA-1 compatible chip. The operation of both chips running at 50 MHz clock using Micro-RDC developed development boards will be demonstrated. Micro-RDC will show case the 16x16 Chip Scale Package (0.8mm pitch) for the 8051XC based SoC and the 10x10 Chip Scale Package for Mini-PnP in ultra compact development boards for spaceborne microcontrollers and sensor systems requiring very small form factors and robustness in harsh space environments.

Moog CSA Engineering

Booth Space: 22-23

Joseph Maly
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Moog designs and manufactures motion and fluid control components and systems, combining a long heritage with innovations that enable new missions. Spacecraft fluid control systems, subassemblies and components support chemical, electric and cold gas propulsion including green propulsion. Spacecraft attitude control and mechanism products include reaction wheels, sun sensors, solar array deployment actuators, antenna positioners and instrument motion control. Launch vehicle components and systems include thrust vector and steering controls, electric and hydraulic actuation and avionics including build-to-print. Moog CSA Engineering delivers spacecraft vibration and shock isolation systems including SoftRide, payload adapters including ESPA, CubeSat carriers supported by multi-payload sequencers, hexapod positioning systems, vibration absorbers, electromagnetic actuators, and ground test equipment including suspension systems that simulate zero gravity environments, on-orbit jitter simulators and shock testing services. These components, combined with systems expertise, allow Moog to offer major subsystems for satellites, launch vehicles and new concepts for propulsive carriers and stages.

NASA Launch Services Program

Booth Space: 96

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The Launch Services Program (LSP) was established for NASA's acquisition and program management of Expendable Launch Vehicle (ELV) missions. A skillful NASA / contractor team is in place to meet the mission of the Launch Services Program, which exists to provide leadership, expertise and cost-effective services in the commercial arena to satisfy Agency wide space transportation requirements and maximize the opportunity for mission success. The principal objectives are to provide safe, reliable, cost effective and on-schedule processing, mission analysis, and spacecraft integration and launch services for NASA and NASA sponsored payloads.

NASA Office of the Chief Technologist

Booth Space: 28

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The NASA Office of the Chief Technologist and its associated Space Technology Program (STP) is chartered with improving the ways NASA explores and discovers our universe. Edison and Franklin are 2 of the 10 programs within the STP that are specifically targeted toward small satellite technology development. Spanning Technology Readiness Levels

(TRL) 3 to 7, the combined programs work to address the TRL "valley of death" as related to Small Spacecraft technology development and demonstration. The programs will work together to annually develop a technology needs assessment with the highest priority given to those technologies with the greatest "pull" or infusion potential with an eye toward leveraging existing investments, synergistically aggregating overlapping technology needs, and catalyzing the development of crucial new technologies for NASA and the nation.

NASA Ames Research Center Mission Design Division

Booth Space: 56-57

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NASA-Ames Research Center, with support from NASA HQ, Operationally Responsive Space, Air Force STP, and Cal Poly SLO, helped to establish the Nanosatellite format as a viable platform to conduct science and technology demonstration missions. Partnerships, such as these, have enabled frequent access to space, and demonstrate innovative, higher risk technologies, and development and operations approaches. Ames developed the Genesat 1, PharmaSat, and OOREOS' missions and plans three new missions. The Mission Design Division and the Small Spacecraft and Payload Technologies Office develop small, low-cost, fast response spacecraft, instruments and missions in support of NASA objectives. Ames' Mission Design Center, Multi-Mission Operations Center and other resources provide a highly integrated, space mission life cycle development and utilization environment.

NASA Goddard Space Flight Center/Wallops Flight Facility

Booth Space: 47

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NASA's Wallops Flight Facility (WFF), located on Virginia's Eastern Shore, provides low-cost, responsive suborbital and orbital flight project services to government, industry, and academia customers. As WFF is dedicated to furthering science, technology, and commercial responsive access to space, WFF provides facilities and expertise to enable frequent flight opportunities worldwide. WFF manages an array of research carriers, including sounding rockets, scientific balloons, science aircraft, unmanned aerial vehicles, and small spacecraft systems. WFF provides operational support through its launch range, mobile range, research airport, and orbital tracking station. In addition to flight projects, WFF is also home to Earth Science researchers as well as engineers responsible for developing flight systems and advanced technologies. WFF has highly capable flight hardware fabrication and testing capabilities used to support both its NASA and non-NASA customers.

National Reconnaissance Office (NRO)

Booth Space: 73

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An R & D Funding Program - The National Reconnaissance Office's Director's Innovation Initiative invests in advanced technologies, fosters innovation, and provides seed funding to push the boundaries of technology to dramatically improve our overhead reconnaissance capabilities. It presents an opportunity for developers not traditionally associated with the NRO to participate in building the National Reconnaissance Office of the 21st Century.

Naval Research Laboratory

Booth Space: 99-100

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The Naval Research Laboratory (NRL) operates as the Navy's full-spectrum corporate laboratory, conducting a broadly based multidisciplinary program of scientific research and advanced technological development directed toward maritime applications of new and improved materials, techniques, equipment, systems and ocean, atmospheric, space sciences and related technologies. The Laboratory, with a total complement of nearly 2,500 personnel, is located in southwest Washington, DC, with other major sites at the Stennis Space Center, MS; and Monterey, CA. With 85 years of growth and development, NRL shines as the Navy's corporate laboratory and as one of the Federal Government's leading in-house centers for innovative research in the national interest.

NEA Electronics, Inc.

Booth Space: 3

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NEA Electronics, Inc. (NEA), a leading global supplier of mechanisms for launch vehicles and spacecraft, is pleased to provide this summary of NEA's technical capabilities and offerings of space-proven products. For over a decade, NEA has been supplying aerospace companies worldwide with an extensive offering of products including non-explosive separation mechanisms, battery cell bypass switches, interconnect devices, and non-pyrotechnic valves to over a hundred satellites fielded with no failure. NEA's management and our corporate parent, Ensign-Bickford Aerospace & Defense Company, have continuously demonstrated an unparalleled commitment to the space industry and mission success through "Right for Your Mission" designed products. NEA is a wholly owned subsidiary of Ensign-Bickford Aerospace and Defense Company.

Northrop Grumman

Booth Space: 102

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Northrop Grumman Aerospace Systems is a premier provider of manned and unmanned aircraft, space systems, missile systems and advanced technologies critical to our nation's security. The sector's Space Park site in Redondo Beach and Manhattan Beach, Calif., is a world leader in the development and production of military and civil space systems, satellites, and advanced technologies.

Operationally Responsive Space

Booth Space: 51

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The Operationally Responsive Space Office (ORS) is working with the broader space enterprise to provide assured space power focused on the timely satisfaction of Joint Force Commanders' needs. The overarching objective is to address emerging, persistent, and/or unanticipated needs through timely augmentation, reconstitution, and exploitation of space force enhancement, space control, and space support capabilities.

ORS is implementing a rapid innovation process using a Modular Open Systems Architecture (MOSA) to facilitate rapid acquisition, integration, test, deployment, and operations of space assets into the current space architecture in operationally relevant timelines. ORS focuses on material (spacecraft) and non-material (acquisition) solutions and collaborates with national and international agencies to leverage existing investments and develop long-term partnerships.

In just five years, ORS has launched three operational satellites including Tacsat-3, Tacsat-4 and ORS-1, successfully completed the modular space vehicle and payload design; and made ample progress towards developing a cost effective space-based range.

Orbital Sciences Corporation

Booth Space: 41-42

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As the industry leader in small space and rocket systems, Orbital provides a complete set of reliable, cost-effective products. Our satellites include low Earth orbit (LEO) spacecraft that perform remote sensing and scientific research, small and medium geosynchronous Earth orbit (GEO) satellites for communications and broadcasting, spacecraft for national security missions, and planetary probes to explore deep space. We also provide light- and medium-class launch vehicles to transport satellites into orbit, interceptor booster vehicles to protect against enemy missile attack, and target rockets to test missile defense systems. Orbital is also supplying commercial cargo resupply services for the International Space Station using our new Antares™ rocket and Cygnus™ advanced maneuvering spacecraft. In addition, Orbital provides full service engineering, production and technical services for NASA, Department of Defense, commercial and academic space programs. Since 1982, Orbital has developed, built and delivered nearly 750 satellites, launch vehicles and other space systems.

PASCO Corporation

Booth Space: 92-93

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At Small Satellite Conference 2011, we are pleased to present ASNARO System, Japanese high resolution small satellite and its ground operation system. We will display following system compositions.

1. High Resolution Small Satellite (miniature model)
2. Small Satellite Bus (NEXTAR)
3. ASNARO Satellite Series
4. ASNARO Integration System
5. Mobile Data Processing System

Please visit our booth #92-93 to meet our representatives.

Planetary Systems Corporation

Booth Space: 53

Ryan Williams

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Planetary Systems Corporation (PSC) provides lightweight, reliable, and test verified separation systems for the aerospace industry. Products include Motorized Lightband (MLB) for large payloads and Canisterized Satellite Dispensers (CSD) for cubesats. PSC has 100% on-orbit success over 10 years and 32 missions.

PnP Innovations

Booth Space: 63-64

Patrick McGuirk

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PnP Innovations provides the hardware components and software modules to enable users to rapidly develop modular Plug and Play (PnP) satellites.

Our modular PnP is based upon research and standards originated by the Air Force Research Laboratory (AFRL). A modular approach to designing and building satellites offers a considerable cost and assembly time advantage when compared to traditional satellite architectures. This design and build approach is a key technology to rapidly deployable tactical satellites. The enabling components to support PnP satellites can be found in the SPA Component Catalog, which includes individual PnP satellite support devices (such as reaction wheels, torque rods, magnetometers, etc), PnP structural panels containing embedded power & data routers on which devices may be mounted, and flight software modules consisting of core support elements and autonomy agents that can run on networked PnP processors.

Pumpkin, Inc.

Booth Space: 16

Andrew Kalman

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Pumpkin is the leading provider of space-proven CubeSat components and technologies. Pumpkin's CubeSat buses, solar panels and solar arrays, electronics and test equipment all form a comprehensive architecture for science, technology, defense and experimental nanosatellite missions. Hundreds of Pumpkin customers world-wide – including QbX, Caerus/Mayflower, DICE, Delfi-C3, and Libertad-1 – benefit from the most cost-effective, strongest, lightest, most modular, scalable and customizable space-proven bus available.

Pumpkin set the standard for CubeSat electronics, configurable structures, the DoD's Colony-class busses and the highest power-to-weight ratio of any solar-powered satellite. Pumpkin end-users benefit from COTS pricing and delivery, a wide range of possible configurations, the CubeSat Kit open standard, and comprehensive electronics, software and CAD support. Third-party support includes ADACS, EPS, BATT, COMM and propulsion solutions tailored to the Pumpkin architecture. Pumpkin's new Colony-class bus -- MISC 3 -- exhibits best-in-class payload capacity (2U) with enhanced ADACS, a choice of radios, and >50W power levels.

QinetiQ North America

Booth Space: 78T

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QinetiQ, a global company, delivers world-class technology, responsive services, and innovative solutions for the aerospace industry including NASA, ESA, DoD, and commercial customers. We provide a full range of products, scientific support and engineering services that leverage detailed mission knowledge and proven, reliable tools and methodologies to meet the rapidly changing demands for the challenges of space exploration, national defense, homeland security and information access. QinetiQ provides advanced engineering, mission assurance, independent verification and validation, risk assessment, launch operations and support for Government and commercial customers in the space industry. We also design, build, and test advanced small satellites (100 kg class), scientific instruments/facilities for microgravity research, advanced subsystems and ground operations. So far, we are the sole supplier of small satellites for the European Space Agency and we gradually built up the skills to develop small complex systems as small systems integrator / prime for the European Space Agency.

Raytheon Missile Systems

Booth Space: 50

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Raytheon Company is a space systems provider with global space sales ranking number five in 2011. The combined strength of Missile Systems, Space and Airborne Systems, Network Centric Systems, Intelligence and Information Systems, Integrated Defense Systems and the Raytheon Technical Services Company provides a vast array of innovative full system solutions for the space community including the emerging Operationally Responsive Space and growing Space Control markets.

Raytheon offers leading technologies in areas including satellite command and control, mission and resource management, end-to-end information and network management, modeling and simulation, systems engineering, producibility and space sensors.

Other areas of expertise include space packaging and quality, radar and communication technologies, directed energy, plug-and-play designs, networking technologies, missile/space vehicle and avionics design, mission assurance and manufacturing.

Raytheon's focus on low-cost, versatile products and programs allows our customers to expand the envelope of space capabilities.

Rockwell Collins

Booth Space: 62

Wolfgang Kupferschmitt

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Rockwell Collins is a world leader in the production of momentum and reaction wheels for spacecraft applications and the European market leader in airborne data processing for tactical military aircraft.

Our standard wheels feature lightweight design, 15+ year life time. Delivery time is less than 12 months for off the shelf products.

Rockwell Collins TELDIX[®] Space Wheels are available in five different sizes with an angular momentum storage capacity spanning a range between 0.04 Nms and 68 Nms. The wheels accommodate the requirements of attitude control systems for satellites weighing less than 65 kg as well as for geostationary satellites reaching a mass of three tons or more.

To date, 1042 wheels installed in 370 satellites have been launched, representing more than 5,200 years of in-orbit operation (as of January 2012).

RT Logic

Booth Space: 17

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RT Logic will demonstrate its T400CS Channel Simulator that enables comprehensive RF/IF testing of ground and flight communication systems and components without actual flights. The instrument adds precise signal propagation effects to user- or T400CS-generated signals, including smooth phase-continuous Doppler shift (carrier and signal), range delay, range attenuation, fading, and noise.

An advanced signal generator produces test and interference signals in many modulation formats. A sophisticated spectrum/interference analyzer displays modulation type, data rate, C/No, BER, Eb/No and C/I along with advanced carrier-under-carrier analysis.

The instrument is controlled locally or remotely by GUI, TCP/IP connections from user-written software, from pre-created profiles, and through Analytical Graphics, Inc.'s STK software.

The T400CS is used for laboratory test, classroom/lab demonstration and instruction, and on-air work with on-station satellites. Channel simulation is ideally suited to the fast and thorough testing, characterization and optimization, satellite communication systems, critical to the success of University, commercial, military and government space programs.

RUAG Space

Booth Space: 9

Michael Miller

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As the largest independent supplier of space technology in Europe, RUAG Space develops, manufactures and tests subsystems and equipment for satellites and launch vehicles. From our locations in Switzerland, Sweden, and Austria, RUAG's space division offers a comprehensive portfolio of products and services for institutional and commercial space missions. Heritage and flexibility as well as outstanding reliability have made RUAG Space a long lasting partner of choice for satellite and launcher primes worldwide.

RUAG Space offers a broad product portfolio which is structured into the following product areas:

- Launcher Structures
- Satellite Structures, Mechanisms & Mechanical Equipment
- Digital Electronics for Satellites and Launchers
- Satellite Communication Equipment
- Satellite Instruments

The skills and services RUAG offers cover all the essential aspects of space projects, ranging from mission analysis, systems engineering and project management through engineering services, assembly and integration, to support and testing at the launch site.

SEAKR Engineering

Booth Space: 15

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SEAKR Engineering, Incorporated is a world-leading provider of advanced state-of-the-art electronic avionics for space and airborne applications. Since its inception in 1982, SEAKR has delivered over one hundred flight units. More than ninety of these units have launched and are operating as designed. SEAKR's leading edge space electronics includes IP routers, reprogrammable MODEMS, high-performance payload processors, modular command and data handling systems, solid state recorders, and manned space avionics. SEAKR has a reputation for high-level performance and reliability in severe environments. SEAKR is a small business proud to serve its customers and country.

For more information about this and other SEAKR products, call, or write SEAKR Engineering, Incorporated, 6221 South Racine Circle; Centennial, CO. 80111-6427, 303.790.8499 or email at info@seakr.com and visit our Web Site at www.seakr.com.

Sierra Nevada Corporation

Booth Space: 32-34

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Sierra Nevada Corporation's (SNC) Space Systems group provides customers with innovative, responsive and cost effective space products including: Spacecraft Systems, which includes the 18-satellite ORBCOMM Generation 2 constellation; Propulsion Systems, which include SNC's own green, safe, reliable, hybrid rocket motor currently used on Virgin Galactic's SpaceShip2; Space Technologies, sending a mechanism or component to space every 14 days on average totaling 4000 devices flown on 300 missions without a failure; and Space Exploration, partnering with NASA as part of the Commercial Crew Development Program to design and build a commercial system capable of transporting crew and cargo to and from low Earth orbit.

Sinclair Interplanetary

Booth Space: 77

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Sinclair Interplanetary has supplied sensors and actuators to satellite programs ranging in scope from large commercial constellations to small university missions, with 14 satellites currently on-orbit. Qualified off-the-shelf products include star trackers, reaction wheels, and magnetic torque rods. Custom avionics such as power supplies, actuator drives and C&DH components are available on extremely aggressive schedules.

Whether you are getting ready to start phase A of your satellite project, or you are in a last-minute panic as the launch looms, Sinclair Interplanetary can lend a hand. Please take a moment to visit the booth, say 'hello,' and see if we can solve your problems.

Southwest Research Institute

Booth Space: 61

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Southwest Research Institute® (SwRI®) was founded in 1947 as a public service scientific corporation to provide contract R&D to both industrial and government clients. The Institute provides extraordinarily technical capabilities through 11 technical operating divisions, with approximately 3000 staff members and gross annual revenue of \$581 million.

SwRI's Department of Space systems has a long and distinguished track record of producing high quality, high reliability spacecraft avionics for NASA, DoD, ESA, and commercial space missions. Since the first SC-1 spaceflight computer was developed in 1979, SwRI has developed hardware for over 53 space flight missions without a single on-orbit failure. The track record of the last 32 years is a product of a strong commitment to support the current and future needs of the space community. SwRI is recognized as one of the leaders in space instrument design and development, command and data handling (C&DH) systems and mission management.

Space Dynamics Laboratory

Booth Space: 26-27

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Celebrating over five decades as a leading university-affiliated research and engineering laboratory, the Space Dynamics Laboratory (SDL) develops innovative solutions for scientific and defense remote sensing challenges. SDL's expertise includes space, air and ground-based IR, visible, UV, and hyperspectral sensors, small-satellite technologies, concept validation studies and demonstrations, and solutions for all stages of intelligence, surveillance, and reconnaissance operations – from data acquisition to end-user data exploitation. SDL's products include a family of miniaturized spacecraft systems and components such as the Digital Imaging Space Camera (DISC), a compact modular avionics system (MODAS), and the PEARL CubeSat platform. SDL is also developing NanoSat technologies to fill capability gaps in attitude control and processing performance required for high-value science missions. Headquartered in Logan, Utah, SDL also has facilities in Albuquerque, NM; Bedford, MA; Huntsville, AL; Colorado Springs, CO; Los Angeles, CA; Houston, TX; and Washington, DC, and employs over 400 professional and technical personnel.

Space Electronics LLC

Booth Space: 52

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Space Electronics is the Leader in Mass Properties Measurement Instruments. Our products include high accuracy instruments to measure mass, center of gravity (CG), moment of inertia (MOI), and product of inertia (POI) and accommodate test items weighing from a few grams to over 10 tons. In addition we provide measurement and balancing services. Over the last 50 years our innovative approach has allowed our customers to achieve significant advances in their technology.

Space Electronics also manufactures spherical and hemispherical air bearings used as space simulating platforms for testing attitude control systems. Some of the specialty products we offer include igniter circuit testers, gimbal balancing instruments, moment weight scales, and inertial decay measurement systems.

Space Micro

Booth Space: 29

Edward Li

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www.spacemicro.com

Space Micro offers best-in-class affordable Radiation Hardened/Tolerant Digital and RF products for size, weight and power (SWaP) utilization. For Small and Nano Satellites:

Digital Products:

- ProtonX-Box™ Avionics Suite with choice of processors from Multi-core PowerPC to DSP and accessory board from valve/.relay drivers, DIO, AIO, GPS, EPS, Power Switch, 1553, Spacewire /router
- Proton Series Radiation Hardened Space SBCs with choice of RTOS from VX Works™ to Integrity™ and language support from C to Linux
- IPC5000 Image Processing System takes high speed sensor inputs and compress or custom process to user needs. Programmable on ground or in space. An application of Proton300k FPGA based Reconfiguration Computer

RF Products:

- S-Band : USB; STDN and SGLS Transponders
- X-Band: Transmitter/Receiver/Power Amps
- Ka-Band: Transmitter
- UTR: Universal Transmit/Receive multi-frequency radios in development

Our Heritage:

- ORS-1
- NASA LWS
- NASA LADEE
- NASA IRIS
- Tacsat2
- Tacsat4

SpaceX

Booth Space: 35-36

Jessica Taylor

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SpaceX designs, manufactures and launches the world's most advanced rockets and spacecraft. With a diverse manifest of launches to deliver commercial and government satellites to orbit, SpaceX is the world's fastest growing space launch company. In 2010, SpaceX became the first commercial company in history to put a spacecraft into orbit and return it

safely to Earth. With the retirement of the space shuttle, the SpaceX Falcon 9 rocket and Dragon spacecraft will soon carry cargo, and one day astronauts, to and from the Space Station for NASA.

Founded in 2002 by Elon Musk, SpaceX is a private company owned by management and employees, with minority investments from Founders Fund, Draper Fisher Jurvetson, and Valor Equity Partners. The company has over 1,700 employees in California, Texas, Washington, D.C., and Florida. For more information, and to watch the video of the Falcon 9 and Dragon launches, visit SpaceX.com.

Spectrum Laser & Technologies, Inc.

Booth Space: 88

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Spectrum Laser & Technologies, Inc. is an ISO 9001:2000 and ITAR registered, small business contract manufacturer building highly reliable electronic assemblies since 1997. Capabilities include prototype to production quick-turn circuit card assembly, cable manufacturing, and box integration. SMT & PTH Soldering, staking, conformal coating, and crimping to J-STD-001, WHMA-A-620, and NASA-STD-8739.1/2/3/4. Consignment, partial, and turnkey material options. 4,000 square feet of satellite harnessing area and class 100 flow benches for clean unit, box, or chassis assembly for aerospace programs. New product development support. Successful programs include Deep Impact, Orbital Express, Mars Exploration Rovers, Worldview I/II/III, GeoEye, JWST, Kepler, Eglin AFB FPS-85 Upgrade, Predator, Guardian, and Navy MH-60 Weapon Control System. Process technologies include convection and vapor phase Soldering (215,240,260C fluids), 2D xray, AOI, selective soldering, and SMT placement to 0201 device sizes. Visit www.spectrumlaser.com or email inform@spectrumlaser.com

SSBV Space & Ground Systems

Booth Space: 59

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SSBV SGS designs and manufactures on-board sub-systems for high reliability smallsat and cubesat applications. Products include Attitude Sensors and Actuators, GPS receivers and TM/TC units. SSBV SGS also supply a wide range of space related ground based products such as TM/TC modems, high speed (>1Gbit) modems for EO data reception and spacecraft and RF systems test equipment.

SSBV SGS has an extensive network of partners and sub-contractors across the globe, which enables the company to offer products in a highly cost efficient way. SSBV SGS is part of the multi-national SSBV Aerospace & Technology Group. The parent company is based in The Netherlands with SSBV SGS based in Portsmouth on the South coast of Great Britain.

SSC

Booth Space: 48-49

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As a trusted partner, SSC enables hundreds of customers to make better use of space by providing cost-effective, mission-critical solutions for advanced space programs worldwide. SSC's broad range of systems, products and services is unmatched in the market. Built on decades of experience in developing programs from concept to operation, the SSC Group offers proven expertise in space subsystems and satellite operations, as well as development of rocket systems and experiment payloads. Through SSC's companies: Universal Space Network – an industry leader and world's largest commercial satellite ground network service provider; ECAPS – an innovative green propulsion company with flight-

demonstrated technology; and NanoSpace – a Micro Electro Mechanical-based product developer focused on propulsion systems; SSC propels customers to the leading edge of space enterprise with trusted experience, extensive competence and a broad range of solutions.

STAR-Dundee Ltd.

Booth Space: 76

Gregor Cranston

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STAR-Dundee Ltd is dedicated to the development and advancement of SpaceWire providing expert support to users and developers of SpaceWire technology. We have the largest product line of SpaceWire test and development equipment of any manufacturer. Our products cover: chips and industry leading IP cores; enabling customers to develop flight subsystems and provide custom IP cores to fulfil specific needs. Interface devices, Debug and Analysis Tools; enabling development, simulation and testing of SpaceWire networks and devices. Bespoke Design Services; design of electronic circuit boards for custom requirements. SpaceWire Training; tailored, onsite expert tuition direct from our experienced engineers.

STAR-Dundee prides itself on the quality of products and is continually enhancing their capability; currently expanding our portfolio to cover all levels of the SpaceWire protocol. Our commitment is to help customers quickly and efficiently get up to speed with SpaceWire technology providing continued support through the full development life cycle.

Surrey Satellite Technology

Booth Space: 18-19

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More than 25 years of space innovation, through our pioneering approach to the design, build, launch and operation of satellites, has propelled Surrey to the forefront of the small satellite industry. Our successful heritage of 36 satellites delivered is testament to the reliability of our systems. Surrey's drive to bring affordable access to space to our customers means we continue to challenge conventions, exploiting advances in technologies and developing innovative business models to change the economics of space. Surrey delivers complete mission solutions for remote sensing, science, navigation and telecommunications as well as supplying avionics suites, subsystems and ground infrastructure, plus launch services and consultancy. Surrey's vertically integrated projects have given us a reputation for delivering to short schedules and within tight budgets. Surrey's 40th satellite is scheduled for launch by the end of 2012. SST-US serving the US market www.sst-us.com; SSTL-UK serving the rest of the world www.sstl.co.uk.

Telecommunications Systems, Space & Component Tech

Booth Space: 98

Hovette Ellis

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www.TCSspace.com

TCS' Space & Component Technology division is a worldwide full service provider of integrated solutions for launch vehicle telemetry, satellite/vehicle tracking and command. TCS offers cost effective and reliable site management solutions, detailed systems engineering and specialized developments built to meet compliance requirements. With more than 35 years in the industry, TCS is devoted to providing customers with comprehensive solutions that will ensure mission success even under the most difficult environmental, social and political conditions.

In addition to Ground station services, TCS has a line of mid-range antenna positioning and control products that provide customers with the option to size the cost and precision that best fits their needs. These products include antenna control units, antenna positioners and handheld antenna systems, each allowing for flexible selections and multiple

configurations. TCS prides itself in its ability to match every customer's requirements while still providing low-cost, reliable solutions.

Tethers Unlimited Inc.

Booth Space: 94

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Tethers Unlimited Inc. (TUI) develops advanced propulsion, power, and communications technologies to provide revolutionary capability enhancements and dramatic cost savings for applications in space, sea, and air. TUI was founded in 1994 to develop spacecraft propulsion systems based upon space tether technologies. Since then, TUI has expanded its capabilities to address needs for high-performance components for small satellites, optical fiber deployment for mobile robots, as well as on-orbit manufacturing and assembly of space systems.

Thermal Management Technologies (TMT)

Booth Space: 83T

Ann Batty

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Thermal Management Technologies (TMT) is a small business focused on applying thermal-mechanical solutions to everyday challenges. TMT brings broad thermal, mechanical, and systems engineering experience and a willingness to work closely with customers to provide valuable engineering services and products for challenging industries. As the core of our business, Thermal Management Technologies is developing technologies for the space industry. Two recent items of interest are Thermal Control Panels and Advanced Deployable Radiators. These technologies, developed principally under SBIR funding managed by AFRL, enable highly efficient thermal control of space systems. TMT is also recognized for technologies developed for other industries including non-intrusive thermal flow meters, and industrial process water purification solutions. As a small business we are personal with customer needs and our focus is on our customer's success.

TriSept Corporation

Booth Space: 58

Jason Armstrong

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TriSept Corporation is a leading technical services small business comprised of elite industry and technology veterans possessing broad-based space experience to integrate the full program lifecycle. TriSept's primary areas of expertise (space systems, software engineering and security services) provide the satellite and launch vehicle communities with seasoned program managers, systems engineers, and technical consultants. TriSept's personnel have an average of 28+ years experience in all aspects of mission integration. Having performed launch integration services for a wide variety of missions on many different boosters at a variety of different launch sites, TriSept has successfully integrated payloads ranging from over 22,000kgs to CubeSats, including dedicated primary, multi-payload, and rideshare missions. Launch brokering through TriSept enables seamless multi-payload mission planning, execution and contracting, allowing each individual payload to buy their own piece of a mission. We have missions in the planning stage, so please ask about our open slots. TriSept Corporation: Integrity, Expertise, Innovation...

United Launch Alliance

Booth Space: 89

Thom Davis

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United Launch Alliance is the nation's rocket company, launching the most reliable and successful launch vehicles—Atlas and Delta—that have supported America's presence in space for more than 50 years. Atlas and Delta expendable launch vehicles carry payloads to space ranging from weather, telecommunications and national security satellites to deep space and exploration missions. Program management, engineering, test and mission support functions are headquartered in Denver, Colo. Manufacturing, assembly and integration operations are located at Decatur, Ala., and Harlingen, Texas. Launch operations are located at Cape Canaveral Air Force Station, Fla., and Vandenberg Air Force Base, Calif.

US Army Space and Missile Defense Command/ARSTRAT

Booth Space: 85

Cindy McCoy

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USASMDC/ARSTRAT conducts space and missile defense operations and provides planning, integration, control, and coordination of Army Forces and capabilities in support of US Strategic Command missions. The SMDC/ARSTRAT Technical Center is focused on the development and transition of space technologies for the Army and Joint Warfighter. Due to the increasing demand by Army and Joint commanders for persistent and responsive Intelligence, Surveillance and Reconnaissance (ISR), and Beyond Line of Sight (BLOS) communications, the Technical Center is investing in technology development of small satellites and launch options that can help relieve some of those Warfighter demands. Our role is to provide our Soldiers and Joint Warfighters with superior technical advantages in time to meet rapidly evolving threats.

UTIAS Space Flight Laboratory

Booth Space: 20

Dr. Robert E. Zee

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The Space Flight Laboratory (SFL) is Canada's premier microspace organization. SFL builds low-cost microsatellites and nanosatellites that continually push the performance envelope. Missions are typically developed with stringent attitude control and data requirements that are striking relative to the budget available. SFL must be innovative while adopting a highly focused approach to development in order to achieve costs as low as 1/100th the price of similar satellites developed elsewhere. SFL's credits include: MOST, Canada's first space telescope; CanX-2, a technology demonstrator and atmospheric science satellite; NTS, a ship-tracking satellite developed in only six months and launched in the seventh; and AISSat-1, Norway's first maritime monitoring satellite. SFL arranges launches through its Nanosatellite Launch Service (NLS) and provides customizable separation systems called "XPODs" for those launches. As part of its complete end-to-end mission capabilities, SFL maintains a mission control center consisting of multiple ground stations. Come visit us to discuss your microspace mission needs today!

Vanguard Space Technologies

Booth Space: 14

Duane Krumweide

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www.drtechnologies.com

Vulcan Wireless, Inc.

Booth Space: 8

Kevin Lynaugh

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www.vulcanwireless.com

A Proven Partner in Digital Communications.

Vulcan Wireless Inc. provides complete turnkey wireless designs for our domestic and international customers. We provide comprehensive, cost effective, engineering services as well as product development. We enable our customers to smoothly transition from marketing concept to mass production. We enable our customers to meet the critical market window and aggressively support our customers scheduling needs.

Vulcan Wireless Inc. is focusing on advanced communications and software defined radios for the small satellite and CubeSat applications. Vulcan provides turnkey software defined radios, antenna systems, encryption, and ground terminals for small satellite systems.

Our designs are capable of operating in harsh space as well as small form factor. We have designs that cover VHF to Ka-Band. Please visit our booth for demonstrations and products that meet your overall needs.

Wyle

Booth Space: 91

Burt Sanchez

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Wyle El Segundo, CA - a leading provider of test services to the U.S. and International Space market. Test services include, but not limited to, Vibration, Shock, Acoustic Noise and Thermal Vacuum. Wyle is committed to the Small Satellite market as a test facility that supports testing for Nanosatellites, Picosatellites, and CubeSats. Wyle is also a provider of Rocket Engine testing for smaller payload launch vehicles. Please stop by our booth to discuss your testing needs.

ZARM Technik AG

Booth Space: 81T

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ZARM Technik AG was founded in 1997 as a spin-off from the Centre of Applied Space Technology and Microgravity, an institute at the University of Bremen.

As the institute successfully contributes to German and European Space missions the field of work of ZARM Technik focused on the development and manufacturing of components for the attitude control system of satellites. Since its founding ZARM Technik became one of the leading manufacturers of magnetic torquers in Europe and worldwide.

Components produced for satellites are in use on most European and numerous international spacecraft. ZARM Technik AG manufactures for most large system integrators, and several universities and Space agencies worldwide. By now more than 70 missions have been supplied with high performance products.