



OCTOBER 7-8 2021
LONG BEACH CALIFORNIA

Day 1 - Spearheading Collaboration and Innovation Across Industries

9:20 AM - Welcome Remarks

Speakers

Mike French, Vice President, Space Systems, Aerospace Industries Association

9:30 AM - Opening Keynotes

Speakers

Kathy Lueders, Associate Administrator for Space Operations, NASA

Bulent Altan, Investment Partner, Alpine Space Ventures and CEO, Mynaric

10:15 AM - Cleaning Break - Opportunity to Explore Exhibits on the Show Floor

10:45 AM - Panel: Strengthening the US Position in Space Through Efficient, Fast and Reliable Collaboration Between Commercial, Civil and National Security

Civil and national security space programs have been a key driver for the commercial space supply chain – and it is expected this will only grow over the coming years as the Department of Defense (DoD) is revamping its [acquisition strategy](#) and as NASA is requesting [\\$24.8bn](#) in the 2022 presidential budget.

It was the [civil, DoD and prime](#) organizations that helped keep the space supply chain moving during the outbreak of the COVID-19 pandemic in March 2020 through increased progress payments. As we navigate our way out of this challenging time, what is the status of the interplay between commercial, civil and national security space? How will the 2022 presidential budget and the Space Force's new acquisition strategy impact the commercial space supply chain and how can the three utilize each other in the best way possible?

This panel session brings together commercial, civil and national security players to discuss the following topics and challenges:

- Impact of the 2022 presidential budget on commercial, civil and national security space
- DoD acquisition strategy with an eye to the future – from managing adversaries to becoming dependent on a strong US-based supply chain
- How will commercial industry reshape future requirements of national security and civil programs?

- The impact of the COVID-19 pandemic on the space supply chain

Moderator

Mike French, Vice President, Space Systems, Aerospace Industries Association

Speakers

Blake Bullock, Vice President, National Security Systems, Northrop Grumman

Lisa Jones, Vice President, US Government Programs, Maxar Technologies

Melanie Stricklan, Co-founder & CEO, Slingshot Aerospace

11:45 AM - Cleaning Break - Opportunity to Explore Exhibits on the Show Floor

12:15 PM - Panel: A Maturing Market: Investing in Innovative Technologies to Build and Maintain Reliable and Sustainable Downstream Space Applications

Despite the pandemic, the space industry has experienced a boom in private investment: between March 2020 and March 2021, [a record \\$8.7bn](#) was invested globally – a figure that doubled compared to the 12 months prior. A big part of the investment came from the special purpose acquisition company (SPAC) activity during late 2020 and the [first quarter of 2021](#).

With the increasingly large investments in the industry, how is the US space technology supply chain maturing and what does this mean of the implementation of space applications in various downstream verticals such as logistics, agriculture, insurance and many other industries? What are the particular challenges that the market will be facing in the years to come, when we compare the industry's development with other industries that have experienced a similar growth, such as the advanced technology industry in the early 2000s? This panel brings together experts discussing the following topics and challenges:

- How has the early 2021 SPAC boom matured and developed the space industry and its investment climate
- What will start-ups, small businesses, primes, national security and civil space gain from the changed investment climate?
- Will national security hinder future SPAC investments and if so, what will that mean for the space industry?
- The future of investment: from innovation to sustainability and environment to cross-industry investments
- How to ensure the SPAC boom does not cause a burst bubble for the space technology industry

Moderator

Lindsey Polley, Defense & National Security Accounts, Starburst Aerospace

Speakers

Eric Stallmer, Executive Vice President, Government Affairs and Public Policy, Voyager Space Holdings

Bulent Altan, Investment Partner, Alpine Space Ventures and CEO, Mynaric

J. Brant Arseneau, Founder, 9Point8 Capital

Anton Brevde, Partner, Prime Movers Lab

1:00 PM - Lunch Break & Cleaning Break - Opportunity to Explore Exhibits on the Show Floor

2:00 PM - Panel: Increasing Engineering Efficiency Through Advanced Digitization Capabilities to Speed Up Commercial, Civil and National Security Space Programs

The term 'smart manufacturing' and 'industry 4.0' have gained traction across the aerospace and defense industries, as well as many others, as they hold great promise for the optimization of engineering and manufacturing capabilities from a time and cost perspective. However, the adoption of new technologies within the space and defense industry tends to be slow due to long certification and testing processes.

Which next steps should industry take to take an advantage of these promising technologies?

Experts on smart manufacturing capabilities and digital transformation get together on stage to discuss the following topics and challenges:

- The need for aligned protocols and standardisation in manufacturing machine-to-machine communication capabilities
- Incorporating systems thinking and systems design from the get-go to include advanced simulation and model-based system engineering practices
- The importance of breaking up large systems design into smaller components
- Simulation optimization: how can we use software developers and their knowledge to help us build better spacecraft and satellites

Moderator

Rick Hefner, Program Director, California Institute of Technology

Speakers

Alex Dunn, Space Systems Engineer, Redwire

Slade Gardner, President & Founder, Big Metal Additive

Mark Gallagher, Director, Engineering Operations, Xometry

2:45 PM - Cleaning Break - Opportunity to Explore Exhibits on the Show Floor

3:15 PM - Panel: Unlocking Flexible Missions and Downstream Terrestrial Capabilities with Advanced Onboard Processors and Software Innovation

Space systems are becoming more software-defined – there is tremendous development on [satellite systems](#), exploration vehicles and rendezvous and proximity operations missions. Developing

spacecraft that are increasingly software-defined requires a workforce who can integrate coding into systems engineering and design thinking.

Integrating advanced onboard processors to generate increased software capabilities comes with its own technical challenges: they require advanced power systems, need to be radiation-hardened and withstand extreme temperature fluctuations.

This panel brings together experts on the integration of software into systems and design thinking and how the space industry will successfully integrate these capabilities into its future spacecraft, and will address topics including:

- The future of the space system engineering workforce: skills ranging from coding to manufacturing to scaling
- Digital payload technology development: from antennas to power management
- The need for more advanced onboard processors and the challenges of physics
- What can the space industry learn from other industries when it comes to preparing and rolling out a software-defined future

Moderator

Rick Hefner, Program Director, California Institute of Technology

Speakers

Walter Englund, Deputy Associate Administrator for Programs, Space Technology Mission Directorate, NASA

Avi Shabtai, CEO, Ramon.Space

Eric Quist, Data Scientist, Onboard Processing Lead, Capella Space

Jorge Nicho, Research Engineer, Southwest Research Institute

4:00 PM - Networking Drinks Reception on the Show Floor

Day 2 - Constructing Building Blocks for an Efficient, Inclusive and Sustainable Future in Space

9:20 AM - Panel: Innovating, Manufacturing and Implementing Advanced Space-grade Materials to Better Withstand In-space Challenges

Advanced materials bring great solutions to challenges such as radiation-harshness management, temperature management and conductivity. Implementing new materials comes with challenges as they are not always space-certified: a recent example of this includes the use of metal powder-beds for additive manufactured components which required an [overhaul in standards](#).

This session brings together materials experts to discuss the following:

- Which new materials coming on the market are interesting for large scale applications?
- Developing innovative material solutions with an eye to future necessary properties including radiation harshness, temperature management and conductivity
- Availability, versatility and challenges of manufacturing and utilizing materials manufactured in space

Moderator

Timothy S Dyer, President, Elcon Precision LLC

Speakers

Daniel Sullivan, Account Executive, Eurofins EAG Laboratories

Robert Marchiando, Business Director, H.C Starck Solutions

10:00 AM - Cleaning Break - Opportunity to Explore Exhibits on the Show Floor

10:30 AM - Panel: Developing Electronics and Electrical Systems to Accelerate Onboard Power Management for Efficient, Software-defined Future Systems

The capability of onboard processors on satellites and other spacecraft is increasing, allowing ground station operators and data service providers to offer more specific and digested data to customers. In order for spacecraft to handle more data analysis onboard, it needs to be able to rely on electrical systems and power management capabilities that can handle the increased capabilities of these processors without overheating. At the same time, these subsystems need to manage the extreme temperatures in space while also handling radiation harshness.

Experts on the development of electronics and electrical systems come together to discuss the following topics and challenges:

- The future of microelectronics for national security, civil and commercial space missions
- Developments on electrical systems for future missions – from radiation to cost to reliability
- The impact of higher acceptance rates for COTS components for national security and civil

missions

Moderator

Douglas Mackey, Business Development & Capture Manager, Electrical Power Systems, Aerojet Rocketdyne

Speakers

Chris Clardy, Vice President Space Business Development, Strategy & Technology, Cobham

Dr. Ron Logan, Vice President and Chief Technology Officer, Electronics and Photonics, Glenair

Jack Mawson, U.S. Sales Director, Sensoror

11:15 AM - Cleaning Break - Opportunity to Explore Exhibits on the Show Floor

11:45 AM - Panel: Reducing Engineering and Manufacturing Processes Through Next-gen Testing and Analysis Techniques

The testing process is a lengthy procedure within the aerospace and defense industry, due to the stringent requirements set for systems. As industry is trying to cut cost and timelines by becoming more efficient and faster, various organizations are exploring new ways of testing including digital tomography.

This session brings together experts in the field of testing and analysis to discuss the following topics and challenges:

- In-situ testing to reduce testing lead times
- On the spot data processing and analysis to increase efficiency and reduce manufacturing times
- Innovations in material and component testing capabilities and how to supplement existing methods with new techniques

Moderator

Jeff Hay, CEO, RDI Technologies

Speakers

Dennis Witz, President, SPECTRAL EVOLUTION

Brad Belote, Director of Sales & Engineering, Zemarc Corporation

Rahul Alreja, Director of Global Sales and Marketing, VJ Technologies

12:30 PM - Lunch Break & Cleaning Break - Opportunity to Explore Exhibits on the Show Floor

1:30 PM - Panel: Getting Our Heads Together to Establish a Diverse, Equal

and Inclusive Next-gen Workforce to Lead US Efforts in Space

As the general US workforce and the workforce within the aerospace and defense industry is aging, there is a high demand for new STEM and non-STEM positions to be filled to fuel the future US space economy with the best human capital. In 2020, the [State of the Space Industrial Base report](#) recommended that business and the US government engage with the education system to develop the STEM workforce.

As industry and government are working together to fill the gap, now is the time to put in place strong building blocks to ensure an inclusive and diverse workforce where people of all backgrounds and genders have equal chances to enter this industry: from financial support to supportive environments to help people grow in their passion for the US' future civil, commercial and national security space programs.

Topics to address:

- Putting in place financial and supportive environments to establish, grow and support gender- and racial diversity in a future space workforce that is here to stay
- How to encourage the next generation to commit to STEM education in an industry that is open to dialogue about diversity, equality and inclusion
- The benefits of an equal and diverse workforce

Moderator

Tess Hatch, Investor, Bessemer Venture Partners

Speakers

Anita Gale, CEO, National Space Society

Khristian Jones, Co-founder, The Patti Grace Smith Fellowship

Lucy Chen, Marketing Director, Zemarc Fluid Power

Renee Frohnert, Leader of Business Development - Space and Airborne Systems , L3Harris Technologies

2:30 PM - Cleaning Break - Opportunity to Explore Exhibits on the Show Floor

2:45 PM - Closing Panel: From LEO to Lunar: Establishing Strong Partnerships to Develop a Thriving and Collaborative Economy

As the economy in low-Earth orbit (LEO) continues to take shape, civil and commercial organizations worldwide are looking towards the next frontier: establishing a collaborative, reliable and thriving lunar economy. For this lunar economy to work, it is important to take into consideration the current developments in LEO regarding infrastructure setup, commercialization and services that are provided from this growing economy.

Lunar technology development is moving fast, with many commercial organizations taking great steps in their ambition to develop lunar orbiters, landers and settlements. How can international civil and commercial organizations collaborate to establish a thriving market?

Experts on the topic of lunar technology development and in-space commercialization join together on this panel, discussing a variety of topics, challenges and opportunities, including:

- Return on investment on technology development
- The importance of public-private partnerships and the need for increased collaboration
- The need for a symbiotic relationship between the low-Earth orbit and lunar economy – why one cannot thrive without the other

Moderator

Brad Grady, Principal Analyst, Northern Sky Research

Speakers

Frank Slazer, President & CEO, Coalition of Deep Space Exploration

Al Tadros, Chief Growth Officer, Redwire

Alain Berinstain, Chief Innovation Officer, Space Tango

Steven Lindsey, Senior Vice President, Strategy, Sierra Space

Dave Barnhart, CEO & Co-founder, Arkisys

3:45 PM - End of Day 2 and End of Space Tech Expo Conference 2021

Smarter Shows reserves the right to amend speakers, topics and scheduling at any time. This document is updated regularly to reflect such changes.