Webcast Titles & Abstracts

Military

Cooling Electronics: Solving Military Thermal-Management Challenges

The performance and capability of modern vehicle electronics (vetronics); radar; electronic warfare; avionics; and intelligence, surveillance, and reconnaissance (ISR) systems are enabled by commercial processors and FPGAs – all of which generate lots of heat. These systems must also survive in extreme battlefield conditions, unlike systems in a commercial server farm, where environments are regulated and there is plenty of space to house the systems. To battle the heat generated in less-than-ideal conditions, military cooling strategies range from liquid-cooled and air-cooled to conduction-cooled and air-flow-through designs. This webcast featuring thermal-management experts covers the various cooling methods and the challenges faced while implementing them, especially in ever-smaller form factors.

Cybersecurity & CSfC: Data Protection and Commercial Solutions

Cybersecurity within defense technology platforms is not something that is to be added on after design and production. Cybersecurity must be designed in from the very beginning in every weapons platform and enterprise computing system. To accomplish this end, designers are increasingly relying on commercial solutions. The National Security Agency's (NSA's) Commercial Solutions for Classified (CSfC) program is focused on ground-up security by implementing two compliant commercial security components simultaneously in a layered solution to protect the data. In this webcast, industry experts will cover how commercial technology via CSfC will enable use of open architecture to provide enhanced cybersecurity to warfighter systems.

Leveraging AI for Military Big Data Applications

The military's thirst for intelligence, surveillance, and reconnaissance (ISR) data is unquenchable; this demand for more intelligence places a burden on the warfighter to properly filter all the data the military sensor chain provides. Help is needed, and the industry is turning toward embedded artificial intelligence (AI) solutions for real-time filtering of sensor data in rugged and mobile solutions. This webcast featuring embedded computing experts details how AI and deep learning solutions that leverage signal processing and AI algorithms can help users overcome the big data challenge to provide battlefield decision-makers with actionable intelligence.

Leveraging SDR for Military 5G Solutions

As the U.S. military begins to adapt fifth-generation (5G) mobile technologies, the benefits to those in the field will include better autonomous vehicle control; enhanced radio communications; access to remote training applications; and improved intelligence, surveillance, and reconnaissance (ISR) data collection. A key technology for leveraging 5G capabilities on the battlefield will be software-defined radio (SDR): SDR's inherent flexibility enables it to be used with many different devices to leverage 5G waveforms as well as with the electromagnetic spectrum segments used by 5G systems. This webcast featuring industry experts details the benefits of 5G technology for the warfighter and discusses how SDR systems can enable these advantages, from testing to signal processing to RF components.

Webcast Titles & Abstracts

Ruggedizing COTS Systems for Extreme Military Environments

Designers of commercial off-the-shelf (COTS) electronics systems take the best of commercial technology such as processors and FPGAs and enable them to work in extreme military environments. This transformation often means ruggedization to protect the state-of-the art integrated circuit and RF components and thermal-management solutions to mitigate the extreme heat modern processors generate while operating. Thanks to increased intelligence, surveillance, and reconnaissance (ISR) demands on performance and reduced size, weight, and power (SWaP) requirements for designs, ruggedization has become a complex challenge. In this webcast, industry experts detail the challenges involved in ruggedizing COTS systems for military applications and the methods designers can use to overcome them.

Solving DAL-A Safety Certification Challenges for Military Avionics Systems

Avionics hardware and software continue to get more complex as they add capability to cockpit systems and ease of use to pilots. In tandem, complexity also mounts regarding the process of certifying these multicore, graphics-processing, and other avionics products and systems. This webcast featuring industry experts will cover various approaches and solutions for certifying these solutions to conforming to Design Assurance Level (DAL) A in military helicopters, fighter jets, VTOL platforms, and unmanned aircraft systems.

Solving Unmanned Aircraft System (UAS) Safety-Certification Challenges

The genie is long out of the bottle when it comes to unmanned aircraft populating not only battlefields, but civilian airspace as well. While progress has certainly been made from a regulatory standpoint in terms of safety certification of small and large unmanned aircraft systems (UASs), new technologies will always outpace the certification progress. How to enable compliance with FAA safety-certification standards – such as DO-178C or software and DO-254 for hardware – remains challenging for UAS embedded computing designers and integrators. In this webcast, safety-certification experts will cover these challenges and offer solutions for navigating the UAS safety-certification process.

Consortium

Deploying the SOSA Technical Standard: Benefits & Challenges

The Sensor Open System Architecture (SOSA) Consortium and its Tri-Service leadership (Air Force, Army, and Navy) and industry members are all involved in developing a Technical Standard that will be a requirement for future electronic warfare, radar, SIGINT, ISR, and other sensor systems. The joint effort will reduce overall development and deployment costs while enabling faster deployment of sensor technology to the warfighter. This webcast featuring industry experts will discuss the challenges involved in deploying SOSA-conformant hardware and software technology to the warfighter and will detail the benefits, such as faster delivery of new capabilities, shorter equipment downtimes, lower long-term life cycle costs, and more.

* *Sponsorship opportunities exclusive to members of the SOSA Consortium.*

Webcast Titles & Abstracts

How SOSA 1.0 Will Impact Radar and Electronic Warfare Designs

The arrival of Sensor Open Systems Architecture (SOSA) Technical Standard 1.0 means a realization of the efforts of not only the Tri-Services (Air Force, Army, Navy), but also industry and academia in bringing open architecture concepts to electronic warfare, radar, SIGINT, and other mission-critical military applications. The release of 1.0 (date TBD) follows upon the release of SOSA Technical Standard Snapshot 3, which continued to define the SOSA functions and behaviors of the modules and associated interfaces. This webcast featuring industry experts will discuss how Version 1.0 affects requirements and technology development for warfighters' radar and electronic warfare systems from an embedded hardware and software perspective.

* *Sponsorship opportunities exclusive to members of the SOSA Consortium.*

FACE Technical Standard – Driving Commonality in Avionics Systems

Applying open architecture and open standards to modern avionics systems has been the goal of the Future Airborne Capability Environment (FACE) since its inception. The FACE 3.0 standard enables reuse reuse software elements via common application programming interfaces (API). With 80%-90% percent of military avionics development costs coming from software, such reuse presents a huge long-term cost savings to the taxpayer and also enables faster deployment of technology to warfighters. This webcast with a panel of industry experts will detail how FACE 3.0 benefits rotary-wing, fixed-wing, VTOL, and unmanned aircraft

* *Sponsorship opportunities exclusive to members of the FACE Consortium.*

How SOSA Aligns with Current Open Standards

One of the keys to the success of the Sensor Open Systems Architecture (SOSA) is that it was developed by aligning with current open standards and open systems architectures, including CMOSS, HOST, VICTORY, MORA, OpenVPX, and similar specifications. The SOSA Consortium also works closely with such standards organizations as VITA, PICMG, IEEE, SAE International, FACE, Wireless Innovation Forum, and others. This webcast featuring industry experts will cover how the SOSA Technical Standard has adapted to and aligned with open architecture standards and how it has impacted the design of SOSA-conformant hardware and software.

* *Sponsorship opportunities exclusive to members of the SOSA Consortium.*

Enabling Security within the SOSA Technical Standard and SOSA-conformant products

The Sensor Open System Architecture (SOSA) Technical Standard applies open-architecture concepts to radar, electronic warfare, and SIGINT sensor platforms. A key part of deploying the standard will be the way in which security is built into SOSA-conformant products from the ground up, rather than as an add-on. The SOSA Consortium's Security subcommittee focuses on ensuring that cybersecurity, software assurance, and resiliency are infused into each SOSA-conformant product. This webcast featuring industry experts will cover the security challenges surrounding SOSA and the ways in which to design in protections to overcome them.

* *Sponsorship opportunities exclusive to members of the SOSA Consortium.*

Webcast Titles & Abstracts

Leveraging FACE to Provide Cybersecurity and High Assurance to Avionics Systems

Cybersecurity permeates every military electronics design today, especially in avionics systems. Enabling trusted systems in the cockpit goes hand-in-hand with ensuring that those flight controls are safe. The Future Airborne Capability Environment (FACE) Technical Standard provides assistance with ensuring this trust. This webcast featuring avionics and security experts will cover how avionics software designers and integrators can leverage the FACE standard to provide cybersecurity and ensure the design of trusted avionics systems.
* *Sponsorship opportunities exclusive to members of the FACE Consortium.*

The FACE Technical Standard and Avionics Safety Certification

Certifying avionics systems to meet FAA certification standards such as DO-178C Design Assurance Level (DAL) A is an extremely expensive and time-consuming process for avionics integrators. Having the ability to port safety-certified software from one avionics platform to another would save millions in long-term life cycle costs. Porting this code is complicated, however, especially when it comes to modern multicore and graphics processing solutions. This is where the Future Airborne Capability Environment (FACE) Technical Standard comes in: The FACE standard was designed to enable reuse of software elements across multiple avionics platforms. In this webcast, avionics software experts cover how the FACE Technical Standard enables reuse of safety-certified software across multiple avionics platforms.
* *Sponsorship opportunities exclusive to members of the FACE Consortium.*