



The McHale Report, by militaryembedded.com Editorial Director John McHale, covers technology and procurement trends in the defense and aerospace electronics community. [View our archive](#) of recent and past issues of the McHale Report e-mail newsletter.

DRIVING VPX
MARKET INNOVATION
With the SOSA™
Technical Standard

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PODCAST

Short VPX and the military's demand for smaller form factors



Reduced size, weight, and power (SWaP) requirements are pervasive throughout defense electronics platforms. So, it's not surprising that the VITA Standards Organization (VSO) is looking at new form factors, such as Short VPX. In this podcast, Jay Grandin, Vice President of Product Development at Annapolis Micro Systems discusses demand for small form factors, how Short VPX can meet that demand and how it fits into the Open VPX ecosystem. Grandin also explores what military applications would be best suited for the new standard and how it could potentially work within the Sensor Open Systems Architecture (SOSA) Technical Standard, of which version 1.0 is expected to be completed this year.

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INDUSTRY SPOTLIGHT

FACE combats existential threats to advance global competitiveness in airborne systems



As the costs of creating advanced avionics software continue to increase and program funding continues to be constrained, a new business and acquisition approach along with a new technology foundation needs to be adopted to maintain competitiveness with near-peer adversaries; in short, everything must change. To meet this challenge, the government and defense/aerospace industry have joined forces to create the Future Airborne Capability Environment (FACE), which redefines the landscape for developing, procuring, integrating, and maintaining next-generation military avionics platforms.

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TOP STORY

Next-gen EW system to equip F-16 fighter under L3Harris Technologies contract



L3Harris Technologies has won a contract from Lockheed Martin for development of a new advanced electronic warfare (EW) system to protect the international F-16 multirole fighter aircraft against emerging radar and electronic threats.

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EDITOR'S PERSPECTIVE

Military avionics market flying steady



The last 12 months have not been kind to commercial avionics suppliers, as the pandemic ended up grounding many flights and slowing aircraft purchases, consequently meaning fewer orders for avionics systems like displays and computers. Those commercial avionics suppliers – whether prime contractors or embedded computing suppliers – that are staying afloat are ones with a strong military business to offset the losses from the commercial market, as the military avionics market remains healthy.

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[Quartz Gen 3 RFSoc SOSA Aligned 3U VPX Board Adds Greater RF Performance](#)

The [Quartz Model 5553 3U VPX board](#), based on the Xilinx® Zynq® UltraScale+™ RFSoc Gen 3, provides full sub-6 GHz direct-RF I/O support and greater flexibility with more decimation and interpolation options. The Model 5553 is ideal for 5G and LTE wireless, SIGINT, EW, communications and radar applications. Complementing the RFSoc's on-chip resources are the 5553's sophisticated clocking section for single board and multiboard synchronization, a low-noise front end for RF input and output, 16 GBytes of DDR4, a 10 GigE interface, a 40GigE interface, a gigabit serial optical interface capable of supporting dual 100 GigE connections and general purpose serial and parallel signal paths to the FPGA.

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MARKET RESEARCH

Military-simulator systems market will be driven by spending in emerging economies, study says



Market demand for military-simulator systems is anticipated to be driven by high levels of expenditure by emerging

economies in the Asia-Pacific region, including India and China, according to a new study by GlobalData, "The Global Military Simulator Systems Market to 2030."

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TOP STORY

Abaco Systems to be bought by Ametek



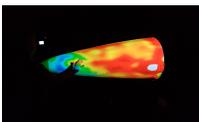
Officials from Ametek announced that the company has entered into a definitive agreement to acquire Abaco Systems, Inc., a provider of

mission-critical embedded computing systems for electronic warfare, radar, avionics, communications, and other military applications from Veritas Capital in an all-cash transaction valued at \$1.35 billion.

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TOP STORY

Automated hypersonic missile production line to better achieve consistent assembly



Aerobotix, a robotics integrator and metrology company, has begun utilizing a next-generation hypersonic production line. A

robotic assembly line scans, sands, paints, and measures complex missile components achieving critical tolerances required for hypersonic flight.

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TOP STORY

DevSecOps solution by Parasoft chosen for Department of Defense programs

TOP STORY

Military GPS testing to go forward as U.S. Space Force lends allies M-Code receivers



Parasoft, company specializing in automated software testing, announced that its DevSecOps solution for building security into critical Department of Defense (DoD) programs was selected for use by the DoD's Joint Federated Assurance Center (JFAC). JFAC is a federation of DoD organizations promoting and enabling software assurance technologies and expertise to defense acquisition programs and their supporting activities.

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TOP STORY

Autonomous mobile C-UAS system enabled with AI and ML



Milrem Robotics, a European robotics and autonomous systems developer, and Marduk Technologies, a provider of Counter-Unmanned Aerial System (C-UAS) solutions jointly launched a mobile autonomous C-UAS platform intended to offer protection against loitering munition and surveillance drones.

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MARKET RESEARCH

Unmanned surface vehicle market to reach \$3.1 billion by 2031, study reveals



The worldwide market for unmanned surface vehicles (USVs), currently worth \$2.1 billion (in 2021), is projected to be worth \$3.1 billion by 2031, according to a new market study by GlobalData, "Thematic Research -- Defense: Unmanned Surface Vehicles."

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TOP STORY

CAE to acquire L3 Harris Military Training business for \$1.05 billion



Training and technology company CAE will acquire the L3Harris Military Training business for \$1.05 billion, subject to customary adjustments.

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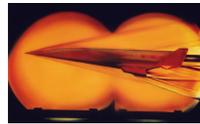


The U.S. Space Force (USSF) is loaning allied and partner nations the use of M-Code precise positioning service receiver cards for use in military GPS capability testing as part of a three-year multinational initiative established by USSF's Space and Missile Systems Center.

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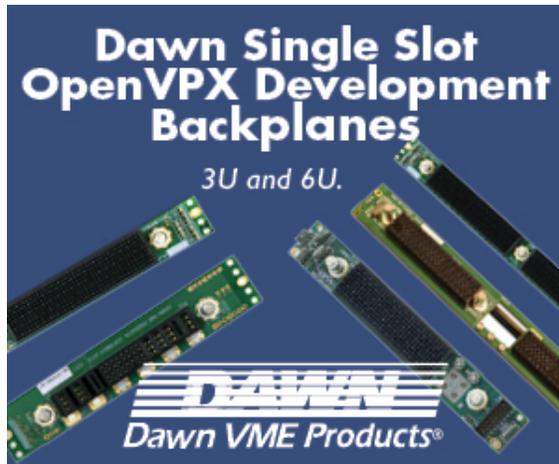
TOP STORY

Hypersonics prioritized for modernization by Defense Department



Officials announced that the U.S. Department of Defense (DoD) has identified hypersonics as one of the highest priority modernization areas in response to adversaries like Russia and China developing their own capable systems.

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SPECIAL REPORT

Digital avionics displays from the cockpit to the helmet to the holograph



The digital cockpits of military aircraft today have increased in complexity and capability by leveraging commercial processing, graphics, and navigation in open architecture designs, bringing

unprecedented awareness and advantages to military pilots.

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TOP STORY

U.S. Army navigation-warfare, situational-awareness technology work moves forward



The U.S. Army reports approval of a capability-development document that aims to speed up the experimentation and

development of navigation-warfare and situational-awareness technologies.

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TOP STORY

SOSA-aligned development platform to speed integration tasks released by Pentek



Pentek, Inc., announced a development platform, the Model 8256, that is aligned to the SOSA Technical Standard.

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TOP STORY

Hypersonic antenna development contract won by CAES



Cobham Advanced Electronic Solutions (CAES), provider of mission critical electronic solutions, has received a contract

from the United States government to develop advanced antenna technology solutions for hypersonic applications. Work will be performed by the CAES facilities in Lansdale, Pennsylvania and Exeter, New Hampshire.

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INDUSTRY VIEWPOINT

Commercial Solutions for Classified (CSfC) – A primer



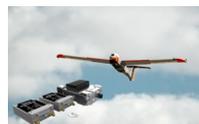
The National Security Agency's (NSA's) Commercial Solutions for Classified (CSfC) program enables integrators to leverage

two distinct CSfC-approved commercial off-the-shelf (COTS) components to protect classified data at rest or in transit. Prior to the introduction of CSfC, programs with classified data requirements had to either develop or use an existing Type-1 solution.

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TOP STORY

Detect and Avoid system to equip AiRanger UAS



Sagetech Avionics, an aerospace technology company providing situational awareness solutions for Unmanned Aerial Systems (UAS), and American Aerospace ISR (AA ISR) have signed a Memorandum of Understanding (MOU) to integrate Sagetech's Detect and Avoid (DAA) system into the AA ISR AiRanger unmanned aircraft.

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TOP STORY

TOP STORY

Space-based 5G global network explored under Omnispace, Lockheed Martin agreement



Omnispace, LLC and Lockheed Martin, have entered into a strategic interest agreement to explore jointly developing 5G capability from space. The proposed global 5G standards-based non-terrestrial network (NTN) would aim to offer commercial, enterprise, and government devices ubiquitous communications worldwide.

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Development Tactics and Techniques for Small Form Factor RF Signal Recorders

PENTEK This paper describes the engineering considerations and design techniques used to develop a small form factor rugged recorder that can handle the extremely high data rates associated with very wide bandwidth RF signal recording.

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Intelligent infantry fighting vehicle to replace Bradley fleet in 2028



Raytheon Technologies and American Rheinmetall Vehicles announced that the companies are developing an infantry fighting vehicle that can conduct close-combat operations, survive modern threats like anti-tank guided missiles and cyber attacks, and use artificial intelligence (AI) to aid decision making.

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SPONSORED WHITE PAPER

A Bottom-Up Approach to 5G Network Slicing Security in User Equipment

Anritsu envision: ensure Anritsu's white paper provides an overview of Network Slicing, as well as how to use testing and verification of network slicing functionality as part of a bottom-up strategy for designing secure and reliable products.

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