



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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SPECIAL REPORT

Soldiers in GPS-denied environments require sensor-powered navigation tech



Knowing your exact location, how you got there, and how to get back are luxuries that the military on the move doesn't always have the option to exercise. The satellite-based Global Positioning System (GPS) – such a staple of modern navigation – is undeniably a technological feat but can become an exploitable weakness when manipulated by an adversary. Technologies designed to operate in GPS-denied environments are being engineered in response to the U.S. Department of Defense's (DoD's) need to operate in areas where navigational infrastructures simply cannot exist.

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TOP STORY

Simulation and training company BISim to be acquired by BAE Systems



BAE Systems has entered into a definitive agreement to acquire Bohemia Interactive Simulations (BISim), a global software developer of simulation training solutions for military organizations.

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TOP STORY

FACE and SOSA aligned avionics demoed by Collins Aerospace



Collins Aerospace, in collaboration with General Atomics Aeronautical Systems Inc., Parry Labs, Tektonux and Palantir Technologies, conducted a multi-domain operation (MDO) demonstration at the recent Open Group Future Airborne Capability Environment (FACE) and Sensor Open Systems Architecture (SOSA) Consortia Technical Interchange Meeting to highlight open systems architecture benefits.

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TOP STORY

Mercury Systems announces acquisition of Atlanta Micro



Mercury Systems announced that it has acquired Atlanta Micro, a designer and manufacturer of high-performance RF modules and components that is based in Norcross, Georgia.

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[SOSA aligned platform accelerates development with a proven solution](#)

Learning a new standard can take time to understand and implement. The [8257A](#) enables engineers to immediately start development in an easy-to-use, proven SOSA aligned single-slot desktop environment. It is specifically designed to accommodate Mercury's Quartz® Model 5550 or 5553, eight-channel A/D and D/A converter 3U OpenVPX modules based on the Xilinx® Zynq®

UltraScale+ RF system-on-chip (RFSoc), both aligned with the recently released Technical Standard for SOSA Reference Architecture 1.0. Prototyping in this environment helps determine system requirements and supports creation of IP and software that can ultimately be used in the deployed SOSA aligned system.

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MARKET RESEARCH

Military EO/IR systems demand to be spurred by improvements in technology, study says



The global market for military electro-optical/infrared (EO/IR) systems -- valued at \$9.2 billion in 2021 -- is anticipated to increase at a CAGR of 3.43% to reach a total of \$12.9 billion by 2031, according to new market research from GlobalData, "Global Military Electro-Optical/Infrared (EO/IR) Systems Market to 2031."

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TOP STORY

Unmanned off-board sensing station in development with GA-ASI



General Atomics Aeronautical Systems, Inc. (GA-ASI) received a \$17.8 million award from the Air Force Research Laboratory (AFRL) to design and develop an unmanned off-board sensing station (OBSS) aircraft.

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SPONSORED CONTENT

PRODUCT OF THE WEEK: WILD VPX Chassis Manager (WABGMO)



This week's product, the WILD VPX Chassis Manager (WABGMO), is aligned to VITA 46.11 and enables critical chassis

control, maintenance, and security functions. Developed in alignment with The Open Group Sensor Open Systems Architecture (SOSA) Technical Standard, Edition 1.0, the WABGMO is available as a commercial-off-the-shelf (COTS) solution.

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INDUSTRY SPOTLIGHT

CMOSS: Building-block architecture brings speed, cost benefits



The C4ISR/Electronic Warfare Modular Open Suite of Standards (CMOSS) enables engineers and developers of systems used by the warfighter to move toward much faster technology insertions and refreshes, with a corresponding reduction in long-term life cycle costs.

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TOP STORY

Medallion MR e-Series visual display systems to supplement RAF Typhoon program



CAE announced that it is installing the first two CAE Medallion MR e-Series visual display systems with BAE Systems as part of the

Typhoon Future Synthetic Training (TFST) program for the Royal Air Force (RAF).

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Small Form Factor VPX Packaging



Conduction cooled packaging for EW and ISR applications

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EMBEDDED SYSTEMS, INC.



TOP STORY

Counter-hypersonic interceptor in development with Raytheon and MDA



Raytheon Missiles & Defense has been selected by the Missile Defense Agency (MDA) as one of the companies to develop and test

the first interceptor designed to defeat hypersonic threats.

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TOP STORY

Multisensor for autonomy contract signed by AFRL, Parallax Advanced Research



Parallax Advanced Research -- a nonprofit technology accelerator -- garnered a contract worth \$2 million from the Air Force

Research Laboratory (AFRL) Sensors Directorate to participate in the Multi-Sensor Exploitation for Tactical Autonomy (META) program under the AFRL Autonomy Capability Team 3, or ACT3, program.

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VITA NEWS

Salute to VMEbus!



This October we celebrated the 40th anniversary of the introduction of VMEbus! Who would have thought with the announcement on October 21, 1981, of VMEbus that we would see it have such an impact on the industry forty years later? In a newly released market report on

key VITA technologies, "The world market for VITA standard-based boards and systems – 2021 edition," VMEbus is still demonstrating a 2.8% growth in boards revenue and holding stable at 1.7% growth in systems revenue. Granted, the unit shipments continue to decline but the rising cost in supporting products is leading growth in overall revenue.

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VITA NEWS

VMEbus: Forty and Fit!



Very few computer-related technologies exist in the industry for more than a few years. This past October 21st marked the 40th anniversary of the announcement of VMEbus. This event is especially significant given the fact

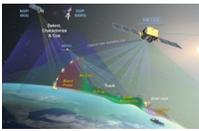
that VMEbus is still an extremely practical solution for critical embedded computing. VMEbus has had a profound impact on the open standards community, playing a key role as an influencer in modular open system architecture (MOSA) initiatives.

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TOP STORY

Hypersonic and ballistic tracking

space sensor completes review



Northrop Grumman Corporation completed the critical design review of the Hypersonic and Ballistic Tracking Space Sensor (HBTSS) prototype for the U.S. Missile Defense Agency (MDA). The review establishes the company's technical approach for sensor coverage to defeat ballistic and hypersonic missiles.

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TOP STORY

Space-based missile-warning system successfully tested by Lockheed Martin and U.S. Space Force



Lockheed Martin and the U.S. Space Force report that they have conducted the system-level critical design review (CDR) for the Next Generation Overhead Persistent Infrared Geosynchronous Earth Orbit (NGG) Block 0 space program, one more important step toward launching the first NGG satellite in 2025.

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TOP STORY

Quantum tech for military antennas to be bolstered by BAE Systems



BAE Systems has won multiple development contracts from the Defense Advanced Research Projects Agency (DARPA) to advance quantum technology and radio frequency (RF) sensing by updating legacy antenna designs for the military.

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SPECIAL REPORT

AN/ASQ-236 Dragon's Eye radar pod undergoes flight test on operational F-16



The Air National Guard has flown the Northrop Grumman Corporation AN/ASQ-236 Dragon's Eye Active Electronically Scanned Array (AESA) radar pod on an operational F-16 for the first time. Officials claim that the Air Force intends to deploy the pod operationally to both its Guard and Reserve F-16 fleets.

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TOP STORY

Hybrid electric HUMVEE concept aimed at reducing carbon footprint



QinetiQ has entered into a strategic collaboration agreement with automotive manufacturer AM General to accelerate the development of electrification technologies for military vehicles.

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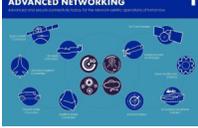
TOP STORY

JADC2 to be supported using open architecture SATCOM-enabled SDR

Northrop Grumman Corporation has won an expanded scope of work contract that further enables Joint All

TOP STORY

Electronic warfare system to be upgraded for Space Force with L3Harris



Radio.

Domain Command and Control (JADC2) with the development of a satellite communications (SATCOM)-enabled Freedom

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L3Harris Technologies received a \$125 million multi-year contract to produce space electronic warfare (EW) systems that will be intended to safeguard U.S. military operations and warfighters.

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Considering the Make vs. Buy Decision for Flight-Certifiable Embedded Electronics



Aircraft designers and systems integrators are faced with an important question when it comes to embedded electronics. Is it better to develop the platforms inhouse or does it make sense to

work with outside experts? General computer platform vendors can save these companies millions in costs and reduce developmental time.

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New Supercomputer Enables Rugged, Real-Time AI at the Edge



The current generation of AI compute platforms fail to integrate and optimize high performance computing with compact, rugged form factors. They force program managers to trade performance for rugged design or vice versa.

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