



The McHale Report, by [militaryembedded.com](http://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.

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### SOSA

## 2022 SOSA Special Edition



Welcome to the 2022 SOSA Special Edition, our second of what is an annual issue, highlighting editorial content on the Sensor Open Systems Architecture (SOSA) from the pages and website of Military Embedded Systems Magazine, as well as the products aligned and conformant to the technical standard – all put together exclusively by our staff. Learn about it all in the 2022 SOSA Special Edition!

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### TOP STORY

## Surface-to-air missiles for Ukraine to be built by Raytheon under U.S. Army contract



Raytheon Missiles & Defense has won a \$182 million contract from the U.S. Army to provide surface-to-air missiles slated for Ukraine, the company announced in a statement.

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### INDUSTRY SPOTLIGHT

## Optimizing the edge through distributed disaggregation



The paradigm for scaling rugged mission-critical processing resources at the edge is evolving rapidly. Disaggregating processing is now enabling low-latency, network-attached everything at the edge with high-speed Ethernet connectivity, from GPU servers to NVMe-over-fabric storage devices.

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### MOSA CONFERENCE

## MOSA in-person conference in Atlanta, Nov. 2022



Leveraging Modular Open Systems Approach (MOSA) strategies is the theme for the MOSA conference track at Aerospace Tech Week Americas being held November 8-9, 2022 at the JW Marriott Buckhead in Atlanta. Speakers such as C. Patrick Collier, co-founder of the SOSA Consortium, Jeff Howington of Collins Aerospace, and David Michelson, program manager for the Defense Innovation Unit's (DIU's) BlueUAS program highlight the MOSA agenda.

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

The [Quartz Model 5553](#) SOSA aligned 8-channel A/D & D/A 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 pre-loaded with a suite of data capture and processing IP modules and is ideal for SIGINT, EW, radar and 5G wireless 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 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

### Directed-energy weapons market to reach \$26.46 billion in next decade, study says



The global market for directed-energy weapons -- valued at \$3.94 billion in 2021 -- is projected to grow at a CAGR of 19.07% during the time period 2022 to 2032, according to a study from Visiongain, "Directed Energy Weapons (DEW) Market Report 2022-2032."

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#### WEB FEATURE

### VPX and OpenVPX: A guide to major players, military applications, and more



The military environment is unique when it comes to computing. You have space constraints, as well as concerns about how the harsh environments military systems typically operate in affect embedded computer systems. And the demands on computer systems are increasing all of the time as military customers seek more and more computing power. That's where the VPX backplane architecture comes in.

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#### TOP STORY

### USSOCOM experimental UAS contract won by Berry Aviation



Berry Aviation has won a \$1.45 million contract from U.S. Special Operations Command for the design and development of a new "Group 1" unmanned aerial system (UAS) for Special Operations Forces, the company said in a statement.

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#### SPONSORED CONTENT

### PRODUCT OF THE WEEK: X-ES XCalibur4840 D-2700 processor-based 6U VPX-REDI Module



This week's product, Extreme Engineering Solutions' (X-ES') XCalibur4840 6U VPX-REDI Module, is a single-board computer (SBC) based on the Intel D-2700 series (formerly Ice Lake-D) of processors. It is targeted at computationally heavy applications requiring maximum data and information protection such as command, control, communications, computers, intelligence, surveillance, and reconnaissance (C4ISR), radar, and other mission-critical defense systems.

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#### TOP STORY

### \$3.3 billion missile defense contract won by Northrop Grumman



Northrop Grumman has won a \$3.3 billion contract from the Missile Defense Agency for the Ground-based Midcourse Defense

(GMD) Weapon System (GWS), which is intended to defend against intermediate and intercontinental ballistic missile attacks, the company announced in a statement.

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#### TOP STORY

## Comms platform for nuclear bombers and missiles delivered to U.S. Air Force



Raytheon Intelligence & Space has delivered the initial operating capability (IOC) for a new communications platform to be used by nuclear bomber, missile, and support aircraft crews, the company said in a statement.

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#### TOP STORY

## Unmanned-ship design project from DARPA moves into Phase 2



The Defense Advanced Research Projects Agency (DARPA) is moving into Phase 2 of its No Manning Required Ship

(NOMARS) program, which seeks to build and demonstrate a revolutionary new medium unmanned surface vessel (MUSV) that can go to sea and perform missions with unprecedented reliability and availability, while carrying a significant payload. The agency selected Serco Inc.'s design to move forward at the conclusion of Phase 1.

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#### TOP STORY

## UK deep-find radar solution to be developed by IAI, Babcock team



The UK Ministry of Defence's SERPENS deep-find radar program will be developed by a team consisting of Babcock and Israel Aerospace Industries (IA), along with subsidiary ELTA Systems, according to a Babcock statement.

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#### MARKET RESEARCH

## Russia-Ukraine war driving smart weapons market: report



The war in Ukraine is likely to drive the global market for smart weapons in the coming years, boosting it from \$17.6 billion in

2022 to \$22.1 billion by 2026 for a combined annual growth rate (CAGR) of 5.6%, according to a new report.

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#### SPECIAL REPORT

## The critical data thread tying together the military supply chain, logistics, and equipment support

An all-important data thread underpins several forward-looking predictions for the future of defense logistics and support: The development of servitized equipment

#### GIVING BACK

## GIVING BACK: Forever Young Veterans



Each issue, the editorial staff of Military Embedded Systems will highlight a different charitable organization that benefits the



support, the rise of the digital shipyard, and the growing use of unmanned systems in military operations.

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military, veterans, and their families. This issue, we are highlighting Forever Young Veterans, a nonprofit organization that seeks to honor military veterans 65 years and older by granting their unfulfilled wishes, returning them to the places where they fought, and bringing them the happiness, healing, and hope they need and deserve.

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TOP STORY

## DoD cyber and insider threat analysis contract won by Torch.AI



Artificial intelligence data infrastructure company Torch.AI won a contract from the U.S. Department of Defense (DoD) to provide software for a new cyber and insider threat analysis capability called the System for Insider Threat Hindrance (SITH), the company announced in a statement.

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TOP STORY

## Laser weapon system delivered to U.S. Navy by Lockheed



Lockheed Martin has delivered a multi-mission laser weapon system to the U.S. Navy that is intended to provide directed energy capability to certain ships, the company announced in a statement.

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## Revolution in Embedded Security



The growth of computing, graphics, neural processing power, communication bandwidth, and storage capacities have enabled amazing solutions. These innovations have created great value for society, and that value must be protected from exploitation by adversaries.

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## DO-178: Get on a High with your Software Development



The guidance document DO-178 "Software Considerations in Airborne Systems and Equipment Certification"1 2 was first published in 1982, re-written in 1992 as DO-178B and updated in 2011 as DO-178C, to reflect the experience accrued to meet today's aviation industry needs.

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# Deploying Rugged COTS Systems in Battlefield Environments

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