

## SOSA UPDATE FALL EDITION

The SOSA Update quarterly E-newsletter from the editorial staff of [militaryembedded.com](http://militaryembedded.com) covers the news, blogs, columns, feature articles, videos, podcasts, and more on the activities of the Sensor Open Systems Architecture (SOSA) Consortium, via the Military Embedded Systems collaboration with The Open Group, who manages the consortium, and the SOSA Outreach Committee. The [SOSA Consortium](http://SOSA Consortium) enables government and industry to collaboratively develop open standards and best practices to enable, enhance and accelerate the deployment of affordable, capable, interoperable sensor systems.



### NEWS



### SOSA Technical Standard Snapshot 3 now available

JOHN MCHALE, EDITORIAL DIRECTOR

WRIGHT-PATTERSON AIR FORCE BASE, Ohio. Officials at the Open Group announced the Technical Standard for SOSA Reference Architecture, Edition 1.0, version 3 (snapshot) is now available for download. According to the Open Group, the document is a Snapshot of what will, after maturation, become the Technical Standard for SOSA (Sensor Open Systems Architecture) Reference Architecture, Edition 1.0.

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### INDUSTRY MEMBER PERSPECTIVE



### September FACE/SOSA Expo and TIM event moved to Spring 2021

JOHN MCHALE, EDITORIAL DIRECTOR

Due to the ongoing COVID-19 pandemic officials at the Open Group and the consortia they manage - the Future Airborne Capability Environment (FACE) and the Sensor Open Systems Architecture (SOSA) - announced that the The Open Group FACE and SOSA Consortia Expo & TIM, originally scheduled for September 22, 2020 at the Holiday Inn Solomons Conference Center & Marina in

Solomons, Maryland, the event will now be held Tuesday, March 23 at the same venue.

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## INDUSTRY MEMBER PERSPECTIVE

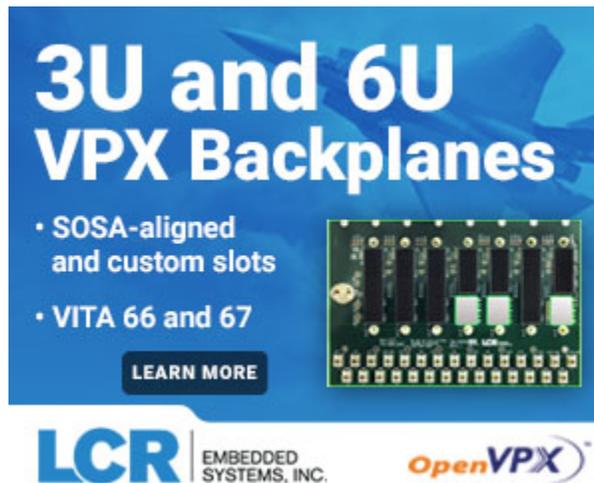


### Open architecture drives U.S. Army's Future Vertical Lift program

MARK GROVAK AND CHRIS THOMSON, CURTISS-WRIGHT DEFENSE SOLUTIONS

Prototype designs for the Future Vertical Lift (FVL) program, one of the U.S. Army's most important and game-changing initiatives, are fully embracing the open architecture design philosophy for the next-generation helicopters that will replace its fleet of OH58 Kiowa Warrior, AH64 Apache, and UH60 Black Hawk rotorcraft.

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**3U and 6U  
VPX Backplanes**

- SOSA-aligned and custom slots
- VITA 66 and 67

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**LCR** EMBEDDED SYSTEMS, INC. **OpenVPX**

## NEWS



### New HOST website now live

EMMA HELFRICH, ASSOCIATE EDITOR

To those in tune with the Modular Open Systems Approach (MOSA) driving the rapidly growing open systems market ecosystem (i.e. FACE, SOSA, CMOSS, etc.), a new platform for information on Hardware Open Systems Technologies (HOST) comes online from NAVAIR PMA-209.

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## WOLF's newly designed SOSA-aligned module to be integrated into Herrick waveform applications

LISA DAIGLE, ASSISTANT MANAGING EDITOR

Wolf Advanced Technology (WOLF) has agreed to supply to Herrick Technology Laboratories (HTL) a newly designed SOSA-aligned module, the VPX3U-RTX5000-SWITCH, for integration into new Herrick adaptive waveform processing applications.

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## FEATURE



## SpaceVPX and the world of interconnect

C. PATRICK COLLIER, HARRIS CORP. AND MICHAEL WALMSLEY, TE CONNECTIVITY

Open standards have been driving innovation more quickly to the end user in aerospace and defense applications for decades and now space systems are truly embracing them. A perfect example is the SpaceVPX standard, which leverages the OpenVPX architecture through the interconnect solutions defined in VITA standards. This piece from SpaceVPX founder Patrick Collier and Michael Walmsley of TE Connectivity, the designers of the VPX and SpaceVPX interconnect, covers the basics of SpaceVPX, recent changes, and the importance of the standard interconnect, which drives down cost, results in a more robust supply chain, and maintains a path for future expansion.

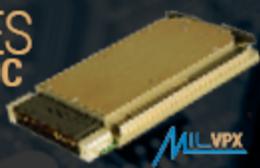
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DESIGNED TO MEET MIL-STD-461, MIL-STD-704,  
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## MEMBER PRODUCT NEWS



### SOSA-aligned multiprocessor for demanding applications announced by Abaco

EMMA HELFRICH, ASSOCIATE EDITOR

Abaco Systems announced the IPN254, a rugged fourth generation 6U OpenVPX/SOSA aligned heterogeneous multiprocessor solution that leverages Abaco's partnership relationships.

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## PODCAST



### AI and signal processing trends in electronic warfare and radar applications

JOHN MCHALE, EDITORIAL DIRECTOR

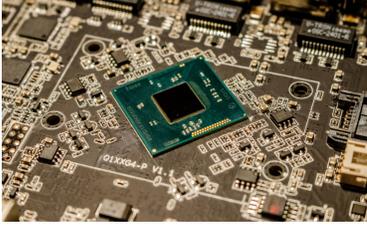
Signal processing innovations are enabling artificial intelligence capabilities for electronic warfare, radar, and other military applications. In this podcast, Haydn Nelson, Principal Marketing Manager for Wireless Prototyping Deployment at National Instruments, discusses with me how AI can benefit the warfighter through embedded signal processing applications.

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## FEATURE

### Can you really simulate an FPGA device?

MAX TAYLOR-SMITH, ENTROPY ELECTRO-MECHANICAL SOLUTIONS



FPGAs – field-programmable gate arrays – are an incredibly diverse method of extracting multifunctionality from a single piece of silicon. The usefulness of these devices is encouraging a renaissance of their use in military-focused embedded systems as developers scramble to be at the front of the queue for new interoperability contracts in FACE [Future Airborne Capability Environment] and SOSA [Sensor Open System Architecture] systems.

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## SOSA and VITA: Enabling Open Standards for Improved Capability

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### WHITE PAPER

TECHNOLOGY  
INSIGHTS

Why an Open Standards Approach Is Essential in Defense and Aerospace

Exploring MOSA, SOSA™, FACE™, VICTORY, and more

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**Read About**

- Open Mission Systems/Universal Command and Control Interface (EMUC2/C2)
- Sensor Open Systems Architecture (SOSA™)
- Future Airborne Capability Environment (FACE™)
- Weapon Integration for Capability Interoperability (VICTORY)

**Point Solutions Create Numerous Challenges**

A new event occurred early in January 2019. The Secretaries of the three main branches of the U.S. military – Army, Air Force, and Navy – issued a joint memorandum on the imperative for a Modular Open Systems Approach (MOSA) to weapons systems. The tri-services memo makes it clear that the need to rapidly share information from machine to machine requires common standards. It also notes that “MOSA supporting standards should be included in all requirements, programming, and development activities for future weapon system modifications and new start development programs to the maximum extent possible.”

DEFENSE SOLUTIONS

Figure 1. The U.S. Army, Air Force, and Navy have issued a joint memorandum on the imperative for a Modular Open Systems Approach (MOSA) to weapons systems.

While developers of defense and aerospace solutions have been leveraging open standards to improve interoperability for a number of years now, the memo drove home the point that these initiatives are no longer optional. They are vital and they are mandatory.

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## Why an Open Standards Approach Is Essential in Defense and Aerospace Exploring MOSA, SOSA, FACE, VICTORY, and more

CURTISS-WRIGHT DEFENSE SOLUTIONS

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### WHITE PAPER

## Technology: Insert or preserve?

ABACO SYSTEMS

Safeguarding the future of a defense or aerospace

## Technology: insert or preserve?

Richard Kirk,  
Director, Core Computing

abaco  
SYSTEMS

program in terms of its long term viability is typically front and center of the program manager's upfront thinking. How can the length of its deployment be maximized? How will it be designed to respond to changing demands? How can the program's goals be achieved cost-effectively? Well-developed strategies are available to help program managers through this potential minefield, as this white paper describes.

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## Reducing SWaP in Vetronics Applications: How CMOSS Enables SOSA

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