SOSA UPDATE APRIL 2022

The SOSA Update bimonthly E-newsletter from the editorial staff of 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 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

MOSA Virtual Summit recap

JOHN MCHALE, GROUP EDITORIAL DIRECTOR

Experts from the U.S. Army and defense industry discussed Modular Open Systems Approach (MOSA) strategies for defense electronic applications in air, land, sea, and spectrum domains at our first annual MOSA Virtual Summit.

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FEATURE

Unmanned ISR payloads leverage MOSA designs

EMMA HELFRICH, TECHNOLOGY EDITOR

See more, detect more, and decode more – these are the primary requirements being asked of unmanned systems in the military, and proprietary hardware and software can make achieving those goals a challenge. This is why Army, Navy, and Air Force leaders mandated a Modular Open Systems Approach (MOSA) for all new programs and upgrades. MOSA examples include the Sensor Open Systems Architecture (SOSA) Technical Standard and the Future Airborne Capability Environment (FACE) Technical Standard. These initiatives among others, aim to offer commonality of

hardware to enable easier and more affordable technology insertion in unmanned systems.

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MEMBER PERSPECTIVE

Why MOSA matters: How MOSA is shaping the future of unmanned systems

RODGER HOSKING, MERCURY SYSTEMS

Modern aerospace and defense platforms, especially in the growing field of unmanned vehicles, need more processing capability for compute-intense applications including AI, sensor processing, and fusion in avionics, that can be easily refreshed with new technology to meet new threats while keeping costs down and speeding time to market. Simplifying integration using an open architecture approach facilitates better affordability, scalability, interoperability, and sustainability across the entire military embedded ecosystem.

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MEMBER PERSPECTIVE

Introducing VITA 90, the latest rugged small-form-factor module standard

WILLIAM RIPLEY, SAMTEC; ANDY WALKER, COLLINS AEROSPACE; MEHMET ADALIER, ANTARA TEKNIK

VITA 90 is a new small-form-factor (SFF) standard that is a direct descendant of VITA 74, an inherently rugged module standard with a compelling space, weight, power, and cost (SWaP-C) proposition, and aimed at use in many military and aerospace applications. Recently, this standard has been causing quite a ruckus within the MIL-

rugged embedded systems community, as VITA 90 has been selected by a government-led consortium of manufacturers and integrators for inclusion in the new Sensor Open Systems Architecture (SOSA) Technical Standard.

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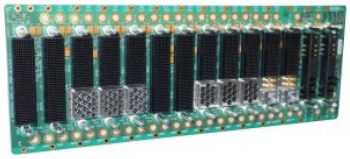

SOSA aligned 3U backplane from Elma Electronic aimed at use in C5ISR, EW systems

LISA DAIGLE, ASSISTANT MANAGING EDITOR

Elma Electronic now offers a 3U 12-slot backplane aligned with The Open Group Sensor Open Systems Architecture (SOSA) Technical Standard 1.0; the updated backplane is intended for high-speed signal processing needed by high-performance mission-critical C5ISR [command, control, computers, communications, cyber, intelligence, surveillance, and reconnaissance] and EW [electronic warfare] systems.

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PRODUCT OF THE WEEK: Mercury Systems' SOSA aligned, 3U VPX, Development Platform

MERCURY SYSTEMS

This week's product, the Mercury Systems' Model 8257A Development Platform A/D, is aligned with the Sensor Open Systems Architecture (SOSA) Technical Standard

and features a a single-slot 3U VPX backplane and integrated power supply. The solution enables engineers to accelerate development of their sensor processing applications for radar, electronic warfare, and other platforms in an easy-to-use SOSA aligned desktop environment, saving time and money.

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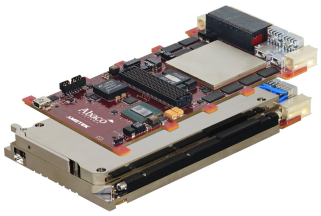

PRODUCT OF THE WEEK: Abaco Systems' SOSA aligned, FPGA processing card with Xilinx Zynq UltraScale+ MPSoC technology

ABACO SYSTEMS

This week's product, the Abaco Systems' VP831 3U FPGA processing card with 100 gigabit Ethernet, leverages Xilinx Virtex UltraScale+ and Zynq UltraScale+ technology. A technology upgrade from the existing VP889 product, the VP831 is aligned with the Sensor Open Systems Architecture (SOSA) Technical Standard and is designed for mission-critical military applications such as communications, sensor processing, radar, and electronic warfare.

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ADLINK's SOSA-aligned, 3U VPX processor blade for C4ISR, electronic

warfare

ADLINK TECHNOLOGY

This week's product, ADLNK Technology's VPX3-TL module, integrates an 8-core CPU for enhanced graphics computing, artificial intelligence (AI) acceleration capabilities, and diverse I/O for next-generation, mission-critical applications. The module is based on Intel Xeon W-11000E processor, formerly Tiger Lake-H, with enhanced data and graphics performance and targets Command, Control, Communications, Computers, Intelligence, Surveillance and Reconnaissance (C4ISR), radar, electronic warfare (EW), and other defense applications.

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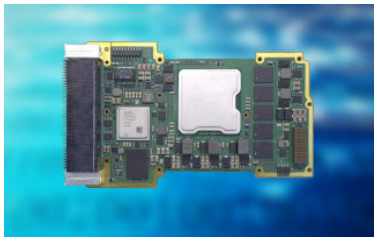
MEMBER NEWS



SOSA aligned DSP engine from Curtiss-Wright debuts with newly introduced Intel "Ice Lake" processor

LISA DAIGLE, ASSISTANT MANAGING EDITOR

Curtiss-Wright Defense Solutions introduced the CHAMP-XD3, a Sensor Open Systems Architecture (SOSA)-aligned 3U OpenVPX digital signal processing (DSP) processing module based on the just-announced Intel Xeon D-1700 (known as "Ice Lake") processor.

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SPONSORED WHITE PAPER

Complying to MIL-STD-461 and RTCA-DO-160 in Aerospace and Defense

Applications

QUELL

This informative whitepaper guides readers through a comprehensive set of questions and considerations to chart their path to compliance. From selecting a test laboratory to choosing proper power cables, establishing necessary precautions, and more – it's all covered.

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SPONSORED WHITE PAPER

High performance Ethernet redundancy solution for the Industrial and Defense markets

INTERFACE CONCEPT

Today's defense systems are highly sophisticated and based on high-performance mission computers, servers, workstations and signal processing nodes that need to exchange large amounts of information.

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Applications for Future SOSA Conformant Solutions

Sponsor: Aitech, Curtiss-Wright
Date: May 4, 2:00 p.m. ET
REGISTER NOW