MIL TECH TRENDS

SpaceVPX and the world of interconnect

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

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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SPECIAL REPORT

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

MARK GROVAK AND CHRIS THOMSON, CURTISS-WRIGHT

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.
TECHNOLOGY UPDATE

When will artificial general intelligence be ready for smart weapon and sensor systems?

DAVID SHERWOOD AND TERRY HIGBEE, COGNITIVE SCIENCE AND SOLUTIONS

Although AI systems are still quite far from human-like reasoning, recent developments in artificial general intelligence (AGI) are making enormous strides in the right direction. This reality will revolutionize sensors, weapon systems, and other defense embedded systems.

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Why space needs artificial intelligence

PAUL ARMijo AND GEORGE WILLIAMS, GSI TECHNOLOGY

Deep learning is empowering systems with unrivaled abilities to perceive their environments visually and to make sense of human language through voice or text. But what do face recognition in family photos or customer-service chatbots have to do with advanced space tech and military intelligence-gathering? Quite a bit, it turns out, and the common denominator is data.

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Unmanned fighter planes (UCAVs) and the kill web

RAY ALDERMAN, VITA TECHNOLOGIES

WARFARE EVOLUTION BLOG. Unmanned autonomous fighter planes are the most interesting elements in the advanced kill web, even more intriguing than the manned super-stealthy 6G fighter planes we discussed in previous articles. UCAVs (Unmanned Combat Aerial Vehicles) have the potential to render our enemy’s A2/AD (anti-access/area-denial) strategies completely obsolete. These platforms appear under different names: Loyal Wingman, ATC (Airpower Teaming System), Dark Sword, Taranis, Remote Carriers, nEUROn, and Sidekicks. To understand how they enhance the kill web, we need to look at their specifications and their missions.
Small satellites and their reduced size, weight, power, and cost (SWaP-C) requirements are challenging microelectronics suppliers to deliver the performance of commercial technology while also maintaining reliability. In this podcast, I discuss these challenges with Tom Smelker, vice president and general manager for Mercury Systems Custom Microelectronic Solutions in Phoenix, Arizona.

FROM THE EDITOR

Space market buzz: SpaceX launch, military funding steady

Spaceflight is exciting again. Not that it ever stopped being exciting, but the launch of the Dragon by SpaceX...
and enthusiasm about watching a new type of rocket take humans into space again might be just a little more inspiring than, say, launching satellites into orbit.

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**Strategies for Deploying Xilinx’s Zynq UltraScale+ RFSoC**

PENTEK

On February 21st, 2017, Xilinx® announced the introduction of a new technology called RFSoC with the rather dramatic headline “Xilinx Unveils Disruptive Integration and Architectural Breakthrough for 5G Wireless with RF-Class Analog Technology.”

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

CURTISS-WRIGHT

A rare 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.

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