

E-Letter SEPTEMBER 2020

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MIL TECH TRENDS

Failure is not an option: the trends behind military test systems

EMMA HELFRICH, ASSOCIATE EDITOR

Before any military technology can be fielded, it must undergo a barrage of test and measurement (T&M) scenarios to ensure its operability. The importance of these evaluation systems and their criticality is simple yet profound: The lives of warfighters are dependent on them. In recent years, varying demands and challenges have pushed manufacturers to innovate. Military T&M systems are going digital, becoming software-defined, and are undergoing widespread standardization right alongside so much of the technology used by the U.S. Department of Defense (DoD) today. This inexorable march then prompts the question of what takes priority with the DoD: ensuring compatibility with reliable legacy systems or moving forward with the wave of standardization?

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SPECIAL REPORT

Video games on the hunt to build a better virtual AI teammate

LISA DAIGLE, ASSISTANT MANAGING EDITOR

Military teams operating in the battlespace against opponents under often-adverse conditions must act and react incredibly quickly, as adversaries become more adept and gather data on the fly. Artificial intelligence (AI) will become increasingly critical in helping commanders and team members with decision-making.



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VPX Backplanes: Custom and standard profiles for demanding defense applications

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TECHNOLOGY UPDATE

Keeping up to date with CSfC capability packages

STEVEN PETRIC, CURTISS-WRIGHT

Since its introduction in 2014, the National Security
Agency Commercial Solutions for Classified (CSfC)
program has proven very effective in lowering the cost
and speeding the accessibility of encryption for critical
data-at-rest (DAR). Compared to the time and expense
associated with acquiring certification and approval for
Type 1 encryption solutions, CSfC has provided a
breakthrough for defense and aerospace system
integrators by establishing an approved means for using
commercial encryption to protect critical data.

SPECIAL REPORT

ITAR compliance and the great regulatory maze

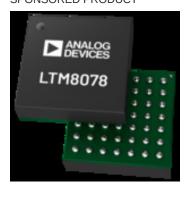
KEVIN DEAL, IFS

Substantial penalties wait for global defense and aerospace manufacturers and contractors that fail to comply with International Traffic in Arms Regulations (ITAR), which exist to track military- and defense-sensitive material and to keep that material out of the hands of adversaries. Many organizations opt to mitigate this regulatory-heavy environment by using manual, labor-intensive internal processes or employing third-party compliance entities.

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40Vin Dual 1.2A Silent Switcher μModule Regulator minimizes EMI

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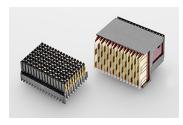
GIVING BACK

Giving Back — Catch A Lift Fund

LISA DAIGLE, ASSISTANT MANAGING EDITOR

Each issue, the editorial staff of Military Embedded Systems will highlight a different charitable organization that benefits the military, veterans, and their families. We are honored to cover the technology that protects those who protect us every day. To back that up, our parent company – OpenSystems Media – will make a donation to every group we showcase on this page.

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MULTIGIG RT 3

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Ruggedized High Rel. Connectors save Size and Weight with increased wire counts

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Pixus Technologies

New OpenVPX Innovations from Pixus Technologies

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SPECIAL REPORT

U.S. Navy taps advanced radar and laser tech for missile and drone threats

SALLY COLE, SENIOR EDITOR

As hypersonic missiles, stealthy drones, and myriad other threats continue to emerge, ships are adapting by bringing more sophisticated laser and radar technologies aboard.

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BLOG

GUEST BLOG: Military power conversion: the value of strategic customization

MIKE EYRE. MILPOWER SOURCE

Customization of power supplies provides a distinct yet obvious advantage to the design engineer to meet performance specifications. Whether it be saving a card slot in a chassis, reducing the number of power supplies required, or addressing a unique EMC requirement, customization can reduce total system cost and technical risk to put increased capabilities rapidly into the hands of the warfighter. It also provides a pathway to support the Department of Defense's (DoD's) open-architecture standards. When approached strategically, customization can be a cost-effective and low-risk approach to address requirements.

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PSC-6238 VITA 62 / 800W 28VDC Input 3U OpenVPX Conduction Cooled Power Supply

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Behlman Electronics

VPX 3U Series – supports the design, manufacture, operation and cooling of high-density COTS DC-DC power supplies

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Acromag

New SFF Embedded Computer Mates COM Express Type 10 CPU with Four Industrial I/O Modules for Signal Processing and Control Tasks

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SPONSORED WHITE PAPER

Thunderbolt 3: a path forward for avionics data bus interfaces and Abaco's ARINC 615-3 data loader

ABACO SYSTEMS

It's no secret that the expansion slot capability available on commercial laptops has changed dramatically over the past ten years. PC Card™ slots (also commonly referred to as PCMCIA slots) have all but vanished and it's rare to find Express Card slots. Thunderbolt ports are now gaining in popularity for high-performance peripheral support.

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SPONSORED WHITE PAPER

Optimal Multicore Processing for Safety-Critical Applications

CURTISS-WRIGHT

This white paper explores the benefits of multicore processors, such as higher throughput, better SWaP, room for future growth, and longer supply availability before examining the challenges for multicore processors in safety-critical applications and how to overcome them.

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