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MIL TECH TRENDS

DO-178 continues to adapt to emerging digital technologies

EMMA HELFRICH, TECHNOLOGY EDITOR

Guilty until proven innocent – that is how the U.S. Department of Defense (DoD) treats the safety-certification process for military avionics systems, and the software portion of these systems is no exception. Certifying DO-178 in avionics software is a detailed process by which the safety and security of the software is determined to be acceptable to fly. The certification process itself is still a work in progress: Having already undergone revisions since its conception in the late 1980s following the emergence of supplemental software in aviation, DO-178 and other safety-certification standards for military and commercial avionics are being challenged to keep pace with digital innovation.

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SPECIAL REPORT

Digital avionics displays from the cockpit to the helmet to the holograph

SALLY COLE, SENIOR EDITOR

The digital cockpits of military aircraft today have increased in complexity and capability by leveraging commercial processing, graphics, and navigation in open architecture designs, bringing unprecedented awareness and advantages to military pilots.



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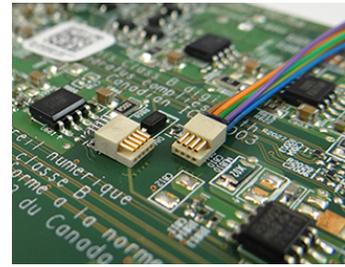


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TECHNOLOGY UPDATE

The OMFV next-generation combat vehicle: A MOSA milestone

MIKE MACPHERSON, CURTISS-WRIGHT

The U.S. Army's recent request for proposal (RFP) from industry for its new Optionally Manned Fighting Vehicle (OMFV), the planned replacement for the venerable Bradley Infantry Fighting Vehicle, represents a true milestone for the commercial off-the-shelf (COTS) industry. What makes this ground vehicle a real turning point is the extent to which its design will embrace open standards, as was made very clear during the virtual Industry Day event for OMFV organized by the Army last December.

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UNIVERSITY UPDATE

Advances in technology attempt to enable safer battle conditions

LISA DAIGLE, ASSISTANT MANAGING EDITOR

Several programs underway at Purdue University intend to develop state-of-the-art technology that will train



military leaders for modern warfare and make battlefield operations more secure.

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Extreme Engineering Solutions (X-ES)

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Giving Back -- ThanksUSA

LISA DAIGLE, ASSISTANT MANAGING EDITOR

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FROM THE EDITOR

Military avionics market flying steady

JOHN MCHALE, EDITORIAL DIRECTOR



The last 12 months have not been kind to commercial avionics suppliers, as the pandemic ended up grounding many flights and slowing aircraft purchases, consequently meaning fewer orders for avionics systems like displays and computers. Those commercial avionics suppliers – whether prime contractors or embedded computing suppliers – that are staying afloat are ones with a strong military business to offset the losses from the commercial market, as the military avionics market remains healthy.

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MIL TECH TRENDS

FACE combats existential threats to advance global competitiveness in airborne systems

CHIP DOWNING, RTI

As the costs of creating advanced avionics software continue to increase and program funding continues to be constrained, a new business and acquisition approach along with a new technology foundation needs to be adopted to maintain competitiveness with near-peer adversaries; in short, everything must change. To meet this challenge, the government and defense/aerospace industry have joined forces to create the Future Airborne Capability Environment (FACE), which redefines the landscape for developing, procuring, integrating, and maintaining next-generation military avionics platforms.

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CESMO Plays a Critical Role in NATO Electronic Warfare Operations

CURTISS-WRIGHT

Knowing the precise location of threats and friendly forces is essential to warfighter survivability. Cooperative Electronic Support Measure Operations (CESMO) data gives NATO coalition forces this visibility. When the CESMO protocol is used on its own, all coalition forces on the CESMO network know exactly what types of threats they're facing and where they are.

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SPONSORED WHITE PAPER

A Bottom-Up Approach to 5G Network Slicing Security in User Equipment

ANRITSU

Anritsu's white paper provides an overview of Network Slicing, as well as how to use testing and verification of network slicing functionality as part of a bottom-up strategy for designing secure and reliable products.

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