INDUSTRY SPOTLIGHT

The FACE Technical Standard? impact on military avionics systems

JOHN MCHALE, EDITORIAL DIRECTOR

I discussed the effect of FACE on the military avionics community, the involvement of the user community, the benefits of FACE Technical Standard 3.0, and other topics with Jeffry Howington of Collins Aerospace ? also vice chairman of the FACE Consortium Steering Committee for nine years ? in my McHale Report podcast (find the podcast on www.mil-embedded.com). Edited excerpts follow.

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SPECIAL REPORT

Eyes up and out: Advancing situational awareness in helicopter avionics

EMMA HELFRICH, ASSOCIATE EDITOR

Basic physics still dictates much of what makes helicopter flight successful, but military airborne platforms are constantly faced with environments civilian rotary- and fixed-wing aircraft simply don?t encounter: Degraded visual environments, a need for reduced workload, and improved pilot-vehicle interface drive military helicopter avionics upgrades and remain at the top of customer design requirements. In response to these military-user needs, companies are attempting to
uncomplicate helicopter cockpit designs while using the most advanced electronics available.

GIVING BACK

Skate for the 22 Foundation

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.
The U.S. military is developing new types of facial-recognition technologies — systems vitally important for the safety of soldiers in the field — to train artificial intelligence (AI) systems to perform identity verification and threat detection, but these advances can also come with some cybersecurity issues.

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In this latest column for our ongoing series on Deep Learning, we will consider the question, "How can I teach my machine to learn?" Like humans, machines learn from experience. They make observations from inputs of images, text, or other data, and then look for patterns.

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enables more electronics payloads to be integrated, while the use of SWaP-optimized subsystems enables platforms to be more energy-efficient, to go farther and/or faster.

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SISTER PUBLICATION

VITA standards activity updates
JERRY GIPPER, EDITORIAL DIRECTOR

The November VITA Standards Organization (VSO) standards meeting was held in Tempe, Arizona. This update is based on the results of that meeting. Contact VITA if you are interested in participating in any of these working groups. Visit the VITA website (http://www.vita.com) for details on upcoming VSO meetings.

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The Impact of Unmanned Systems: From the Battlefield to the Consumer World
WIND RIVER

It all began with a good idea. Decades ago, unmanned systems first became force multipliers on the battlefield, increasing situational awareness and keeping fighters
out of harm’s way. Today they help realize the vision a multi-domain battlefield, but their benefits have reached across industries.

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Advancements In Card Lok Technology to Satisfy SWaP and Second Level Maintenance Requirements
NVENT SCHROFF

Military equipment?such as shipboard, surveillance, mobile artillery and control stations, combat aircraft and unmanned air vehicles?often consists of highly technological and sensitive electronics. It is likely that these electronics could be exposed to harsh environments, including extreme heat, dust, moisture, shock and vibration.

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Achieving Reliability to Match Capability
ABACO SYSTEMS

Each new defense platform asks more from embedded electronics. Designers respond with faster processors, more processors, more sensors, and faster interconnects. These leaps in embedded capability carry with them expanding complexity. Every new component is another potential point of failure. What does that do to mission reliability?

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Reducing Latency in Ground Vehicle Video Systems
CURTISS-WRIGHT

Video latency makes it extremely difficult for vehicle operators to have complete confidence that what they are seeing is the reality at the time. The combination of uncertainty and delayed images can cause hesitancy
when responding to threats, collision with obstructions or humans, or to unknowingly drive the vehicle into a dangerous situation or landscape.

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