THE McHALE REPORT

October 2021

The McHale Report, by militaryembedded.com Editorial Director John McHale, covers technology and procurement trends in the defense and aerospace electronics community.
View our archive of recent and past issues of the McHale Report e-mail newsletter.

EDITOR'S PERSPECTIVE

Remembering Marty Simon

At 40 years old this fall, the VMEbus standard's longevity can be traced to its inventors, VME product designers, VITA Standards Organization members, military systems users, and also to the creativity and marketing acumen of a rock and roll aficionado named Marty Simon. Marty – founder of The Simon Group, member of the VITA Hall of Fame, early proponent of VME, my friend, and the most positive person I've ever come across – passed away in September at the age of 77 from complications from ALS.

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TOP STORY

Open architecture SIGINT technology selected for GHOST program

The U.S. Air Force has awarded the BAE Systems-Sierra Nevada Corporation (SNC) team a contract to provide a prototype design for next-generation open architecture signals intelligence (SIGINT) technology under its Global High-altitude Open-system Sensor Technology (GHOST) program.

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PODCAST

Microelectronics for space, and supply chain bottlenecks

Supply chain bottlenecks, small satellites, complex adversarial threats in space and electromagnetic spectrum domains are all driving innovation at the microelectronics level. In this podcast, Dave Young, CTO of CAES, formerly Cobham, discusses how these challenges impact microelectronics solutions for military programs, how the defense industry is coping with the semiconductor supply chain headaches through investment and a plan for on-shore production, and more.

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TOP STORY

Supersonic UAV concept to aid in USAF pilot training

Low boom supersonic transport company Exosonic, Inc. has announced a Direct to Phase II Small Business Innovation Research (SBIR) contract award from the U.S. Air Force (USAF). The contract will fund the development of a low boom supersonic uncrewed aerial vehicle (UAV) demonstrator.

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Pentek Announces SOSA Aligned Development Platform that Speeds Integration Tasks

The Model 8256 is a 3U VPX development platform that is aligned to the SOSA Technical Standard and includes IPMI and connectivity for RF and optical interfaces. The system is ideal for application development with Pentek's Quartz® RFSoC data acquisition and processing boards. Pentek's SOSA aligned products facilitate interoperability, re-use, and rapid technology insertion, all consistent with the SOSA Consortium's approach and vision.

View Video Demonstration

MARKET RESEARCH

Global UAV market to be driven by global turmoil, territorial unrest, new study says

The global military unmanned aerial vehicle (UAV) market is valued at $8.0 billion in 2021, according to a new study by GlobalData, "Global Military Unmanned Aerial Vehicle (UAV) Market to 2031."

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TOP STORY

Laser weapon from GA-EMS and Boeing garners U.S. Army contract for prototype

A team consisting of personnel from General Atomics Electromagnetic Systems (GA-EMS) and Boeing has won a U.S. Army Rapid Capabilities and Critical Technologies Office (RCCTO) contract to develop a 300 kW-class solid-state distributed gain high-energy laser weapon system (HELWS).

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PODCAST

Cyber defense, tackling the climate crisis, and defunding platforms outlined in FY 2022 defense budget request

In the third episode of On the Radar, Emma Helfrich and John McHale chat about Department of Defense (DoD) official budget request for Fiscal Year (FY) 2022's Innovation and Modernization section and how the DoD plans to bankroll cyberspace activities and efforts to tackle the climate crisis, and why the divestments are happening where they are.

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SPECIAL REPORT

5G and the military: A new era of connectivity

Fifth-generation wireless technology, or 5G, is poised to emerge in a big way into the defense market. While the buzz surrounding the 5G

AUSA COVERAGE

AUSA 2021 first-day recap with Military Embedded Systems

Military Embedded Systems Technology Editor Emma Helfrich and Group Editorial Director John McHale give their insights into what they saw at

technology standard has been growing in the general public in recent years, the U.S. Department of Defense (DoD) has been trailing behind commercial entities on adopting 5G due in part to both the slower pace of the DoD's acquisition process and the hard-to-keep-up-with pace of consumer-technology refresh. However, officials at several defense communications companies agree that it's just a matter of time before 5G-enabled military solutions are deployed and forever change the way in which the armed forces communicate.

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the show on Day 1 Sensor Sopen Systems Architecture (SOSA) Technical Standard, Edition 1.0, to laser guidance systems to artificial intelligence (AI) software to people back attending live events.

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AUSA COVERAGE

Software-defined multimission radar from Echodyne gets AUSA launch

Radar platform provider Echodyne announced its new EchoShield line of midrange radars aimed at a wide variety of defense, government, and commercial use cases.

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AUSA COVERAGE

Radar for medium-range air and missile defense unveiled by Raytheon Missiles & Defense at AUSA

Raytheon Missiles & Defense (a Raytheon Technologies business) introduced GhostEye MR, a new medium-range AESA [active electronically scanned array] radar for the National Advanced Surface-to-Air Missile System, or NASAMS, at the AUSA trade show.

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AUSA COVERAGE

AUSA 2021 DAY 2 recap with Military Embedded Systems

Military Embedded Systems Group Editorial Director John McHale and Technology Editor Emma Helfrich discuss what they saw on Day 2 of AUSA 2021, from sensor technology to imaging solutions to satellite communications and how the Army is adapting 5G tech.

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AUSA COVERAGE

Best in Show awards selected at AUSA 2021

Military Embedded Systems is excited to announce today the winners of our Best in Show Award contest, which which we held for our supporters exhibiting at the Association of

AUSA COVERAGE

AI-assisted communications technology debuts from Invisio at AUSA

Mission-critical communications company Invisio debuted its V-Series Gen II tactical communications platform at the AUSA trade show.

the U.S. Army (AUSA) Annual Meeting, held Oct. 11-13 in Washington, D.C. Contest winners included entries from Aegis Power Systems, Analog Devices, Atrenne Computing, Curtiss-Wright Defense Solutions, Elma Electronic, General Micro Systems, and Systel.

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GUEST BLOG

RF cables and connectors for avionics balance size, materials

Radio frequency (RF) technology for avionics applications, both military and commercial, prioritizes weight reduction to increase fuel efficiency while also meeting stringent electrical and mechanical requirements for safety. Low loss, phase stability, and high performance in a shock-and-vibration environment require a balancing act to reduce size with careful evaluation of materials, constructions, and maintenance.

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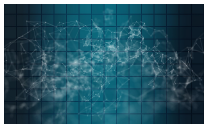
TOP STORY

Cybersecurity pilot program to automate weapon systems assessments



Viasat Inc., a global communications company, has announced it won a Department of Defense (DoD) contract to provide vulnerability assessment testing and response support under a new pilot program focused on improving the cybersecurity and resilience of DoD weapon systems.

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SPECIAL REPORT

Safely extending 5G into the battlespace

Cost-effective, low probability of intercept and detection (LPI/D) networks can provide connectivity into the battlespace while remaining virtually undetectable and jam-resistant. Through appropriate integration, the benefits of 5G as a communications platform can reach deeper into the battlespace, and consequently can get into the hands of more soldiers.

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GUEST BLOG

GIDE-X, Onramps, PC21, IMX-22, PRAM-FX, and the Kill Web

There's been a lot of activity going on in the past few months, testing different technologies and operational concepts. We need a model to organize those events to avoid confusion and reduce complexity. So, we'll use the basic structure of the Kill Web to make sense of it all. The JADC2 (Joint All-Domain Command and

TOP STORY

Maritime sensor-to-shooter capability demoed with Puma 3 AE UAS and Switchblade 300

AeroVironment, Inc. announced the maritime demonstration of a Puma 3 AE small unmanned aircraft system (UAS) and Switchblade 300 tactical missile system sensor-to-shooter (S2S) capability as part of NATO REP(MUS) 21, Europe's largest maritime unmanned systems operational experimentation exercise.

Control) program sits at the top. Off to the side is the JAIC (Joint Artificial Intelligence Center), that develops and feeds different artificial intelligence (AI) algorithms into JADC2 and the different services' activities.

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TOP STORY

GPS devices for remote, contested environments get test with U.S. Army

U.S. Army soldiers from the 4th Infantry Division tested the Army's next-generation assured positioning, navigation, and timing (APNT) equipment recently; the Mounted Assured Position Navigation and Timing (MAPS) system enables soldiers to maintain integrity of position and timing in GPS-contested environments.

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TOP STORY

UAS powered by jets for manned-unmanned teaming garners $17.6 million USAF award for Kratos

Kratos Defense & Security Solutions announced that its Kratos Unmanned Systems Division (KUSD) has been awarded a contract worth $17.6 million to design and develop a jet-powered off-board sensing station (OBSS) unmanned aerial system (UAS) in support of the Air Force Research Laboratory (AFRL) Autonomous Collaborative Platforms (ACP) technology maturation portfolio.

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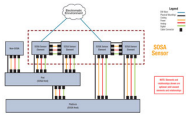
SPONSORED WHITE PAPER

Achieving Data Interoperability for Modern Military Forces



This white paper details U.S. Department of Defense (DoD) expectations for DI and how defense contractors meet those requirements. This white paper also examines the meaning of DI in modern systems and its relationship to information interoperability.

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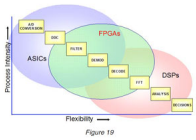
SPONSORED WHITE PAPER

Critical Techniques for High-Speed A/D Converters in Real-Time Systems 12th Edition



The two primary characteristics of A/Ds are the rate of conversion or sampling rate, expressed in samples per second, and the accuracy of each digital sample expressed as the number of binary bits or decimal digits per sample.

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