



The McHale Report, by mil-embedded.com Editorial Director John McHale, covers technology and procurement trends in the defense and aerospace electronics community.

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PODCAST

PODCAST: Driving open architectures in F-35 avionics and other military platforms.



Open architectures will make tech refreshes such as the latest avionics modernization (Technology Refresh 3 (TR3)) on the F-35 Joint Strike Fighter and other platforms much more efficient and cost effective in the

long run. In the latest McHale Report Podcast, Bryant Henson, vice president and general manager for Harris Corporation's Electronic Systems Avionics Business Unit details how through the open architecture approach, the F-35's next-gen Integrated Core Processor (ICP) is targeted to generate a 75 percent reduction in unit cost compared to the current system.

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SPECIAL REPORT

Cognitive technologies tackle security, robotics, and data analysis in drive to deliver smart military systems



Cutting-edge cognitive technologies will be the enabling factor in getting autonomous systems off the ground and into

the military theater of operations. Specifically, artificial intelligence (AI), machine learning (ML), and deep learning (DL) techniques will be key to developing autonomous systems that deliver on the promise of taking some of the data and operational workload off the warfighter.

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[New Quartz RFSoc Development Platform Speeds Application Design](#)

With eight 4 GHz A/Ds & 6.4 GHz D/As, the [5950](#) with the [8257 3U VPX chassis](#) provide an integrated platform ready for immediate development of RFSoc applications. Attach a workstation, and you're ready to test and debug custom software and FPGA designs.

TOP STORY

[F-22 Raptor fleet upgrades process](#)

TOP STORY

[Machine learning, AI research](#)

is accelerated through Lockheed Martin, Red Hat partnership



Lockheed Martin teamed up with Red Hat to to modernize the application development process to bring new capabilities to the

U.S. Air Force's fleet of F-22 Raptor fighter jets.

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consortium launched by Northrop Grumman



Officials at Northrop Grumman announced the company is launching a new research consortium with universities to advance machine learning and artificial intelligence programs.

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TOP STORY

Small UAS search by Army chooses six companies for assessment



The U.S. Army Program Executive Officer (PEO) for Aviation's Project Manager, Unmanned Aircraft Systems -- in partnership with the Defense Innovation Unit (DIU) and

the Army's Maneuver Center of Excellence -- has chosen six companies that will identify and prototype new unmanned aircraft system (UAS) capabilities as the Department of Defense (DoD) looks to to adapt small commercial drones for the battlefield.

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MARKET/BUSINESS DEALS

Military wearables market to reach \$6.4 billion by 2025, study says



The market for military wearables is projected to grow from \$4.2 billion in 2019 to \$6.4 billion by

2025, at a CAGR of 7.17% from 2019 to 2025, according to a study from MarketsandMarkets, "Military Wearables Market by End User (Land, Airborne, and Naval), Technology (Communication and Computing, Connectivity, Navigation, Vision & Surveillance, Exoskeleton, Power & Energy Management), Wearable Type, Region -- Global Forecast to 2025."

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TOP STORY

DeepStrike missile from Raytheon moves system closer to flight tests for operational use



General Dynamics Mission Systems (GDMS) has been awarded a spot on the U.S. Army's so-called R4 cyberwarfare contract; GDMS will provide electronic and cyber capabilities to the Army Program Executive

Office for Intelligence, Electronic Warfare, and Sensors.

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STANDARDS

VITA Standards activity updates



The March VITA working groups meeting was held in Las Vegas. 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 face-to-face meetings.

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MIL TECH TRENDS

Military UAVs tackle performance issues under SWaP-driven designs



The U.S. Department of Defense (DoD) is seeking high-performing unmanned aerial vehicles (UAVs) designed to meet stringent size, weight, and power (SWaP)

constraints. One solution is to pack the vehicles with components. The problem? The lower the SWaP and the smaller the UAV gets, the more performance suffers.

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MARKET/BUSINESS DEALS

Military unmanned surface vehicles will drive 7% growth in unmanned vehicle market to 2024, study says



The military unmanned vehicle market is set to deliver 7% growth between 2019 and 2024, driven mainly by unmanned surface vehicles.

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TOP STORY

USMC G/ATOR passes initial operational test and evaluation



Northrop Grumman officials announced that the U.S. Marine Corps' (USMC) AN/TPS-80

Ground/Air Task-Oriented Radar (G/ATOR) Blocks 1 and 2 passed Initial Operational Test and Evaluation (IOT&E).

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TOP STORY

Cyberintelligence lapses in many orgs due to time, personnel, and funding shortages, study finds/



Software Engineering Institute

Many organizations lack sufficient personnel, time, and funding to build a cyberintelligence team,

according to the findings in a report on cyberintelligence practices released by the Software Engineering Institute (SEI) at Carnegie Mellon University.

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First 100Gb-Capable COTS FPGA Board, for High-Bandwidth Applications



For the most challenging real-time data digitization, processing, and storage applications, there is a new, higher-performing 6U OpenVPX board – the [WILDSTAR 6XB2](#). RT3 backplane connectors deliver 100Gb per Fat Pipe.

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TOP STORY

AlphaDogfight Trials challenge kicks off new DARPA AI-focused program



Officials at the Defense Advanced Research Projects Agency (DARPA) are launching the Air Combat Evolution (ACE) program,

which aims to increase warfighter trust in autonomous combat technology by using human-machine

MARKET/BUSINESS DEALS

Command-and-control systems market worth \$25.04 billion by 2025, study says



GRAND VIEW RESEARCH

The global command-and-control (C2) systems market is anticipated to reach \$25.04 billion by 2025, a CAGR of 3.8% over the forecast period, states a new report by Grand View Research, "Command and Control Systems Market Size, Share & Trends Analysis Report By Platform

collaborative dogfighting as its initial challenge scenario.

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(Land, Maritime, Space, Airborne), By Solution, By Application (Defense, Commercial), And Segment Forecasts, 2019-2025."

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FEATURE

Mars Exploration Rover



I was saddened in February with the news from NASA that the Opportunity Rover mission on Mars was formally concluded.

What was originally supposed to be a 90-day, 1,000-meter, exploratory excursion had turned into a nearly 15-year, 28.4-mile odyssey across the surface of Mars, far beyond the expectations of anyone.

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TOP STORY

Harris to supply its open systems COTS processor for the MQ-25 program



Harris will supply its mission management open systems processor to Boeing under a contract to support the U.S.

Navy's MQ-25 unmanned aerial vehicle (UAV) refueling program.

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TOP STORY

Northrop Grumman team demos rapid spacecraft development



Under the Defense Advanced Research Project Agency's (DARPA) Radio Frequency Risk Reduction Deployment Demonstration (R3D2) program, a

Northrop Grumman-led team demonstrated rapid spacecraft development.

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CHARITY

K9s for Warriors



Each issue, the editorial staff of Military Embedded Systems will highlight a different charitable organization that benefits the military, veterans, and their families. This issue we highlight

K9s for Warriors, a U.S. veterans' service organization that trains rescue dogs to help veterans coping with post-traumatic stress disorder (PTSD), traumatic brain injury, military sexual trauma, post-9/11 issues, and other psychological challenges.

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TOP STORY

Missile systems for U.S. Army from Raytheon will be optically tracked,

wirelessly guided



Raytheon has won a contract from the U.S. Army to refine and improve on the Army's Tube-launched, Optically-tracked, Wireless-guided (TOW) weapons system, according to a news release from the U.S. Department of Defense.

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BEST IN SHOW

Best in Show awards selected at Sea-Air-Space 2019



Military Embedded Systems is excited to announce the winners of our Best in Show Award contest, which we held for our supporters exhibiting at the 2019 Sea-Air-Space conference and exposition this month at the

Gaylord National Resort and Convention Center in National Harbor, Maryland. Contest winners ? drawn from military embedded systems exhibitors at the event ? are recognized for the improved performance and innovation they bring to military electronic systems applications.

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GUEST BLOG

Strategic intelligence and the Kill Web



In previous articles, we explored the technologies and tactics going into the Kill Web, and how they work. Now, we need to look at how strategic intelligence feeds into the Kill Web, and into the order of

battle (OB). That's the structure of our troops and weapons, and how they will be deployed against an enemy.

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