Avionics safety certification for UASs must juggle security, multicore, mission challenges

MARIANA IRIARTE, TECHNOLOGY EDITOR

Military and commercial aviation communities are pushing for stricter certifications of unmanned aerial systems (UAS), known colloquially as drones, as the national airspace (NAS) becomes more congested. A crowded NAS means increased danger of underdeveloped, undercertified unmanned systems flying alongside manned aircraft. Meanwhile, the use of multicore processors has risen for use in both manned and unmanned aircraft certification, but security concerns continue to pester the aviation community.

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Military UAVs tackle performance issues under SWaP-driven designs

MARIANA IRIARTE, TECHNOLOGY EDITOR

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.
Boeing receives $4 billion multiyear contract for 78 F/A-18 E/F Super Hornet aircraft

MARIANA IRIARTE, TECHNOLOGY EDITOR

U.S. Navy officials signed a multiyear procurement (MYP) contract with Boeing for 78 F/A-18 E/F Super Hornet aircraft that includes 72 aircraft between fiscal years 2019-2021 and six from fiscal year 2018.

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In-flight health monitoring system from UEI chosen for USAF aircraft

LISA DAIGLE, ASSISTANT MANAGING EDITOR

United Electronic Industries (UEI) announced that its UEI-HUMS1 in-flight health monitoring system has been released for production delivery to Tyonek Global Services, and subsequent installation onto United States Air Force (USAF) aircraft.

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Collins Aerospace to serve as mission systems integrator for Army FVL project

LISA DAIGLE, ASSISTANT MANAGING EDITOR

Collins Aerospace has won a spot as one of three mission systems integrators for the U.S. Army's Joint Multi Role (JMR) Mission Systems Architecture Demonstration (MSAD) program.

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Boeing 737 MAX 800 Updates: American cancelling flights through June 5 and U. S. repair station being looked at

AVIATION MAINTENANCE MAGAZINE

American Airlines is cancelling 90 flights per day through June 5 due to the B737 MAX grounding. This indicates much more time is needed to solve the issues with the
MCAS system that has been implicated in both the Lion Air and the Ethiopian crashes.

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Avionics suite for Canadian armed forces CF-18 fleet to get support from Peraton

LISA DAIGLE, ASSISTANT MANAGING EDITOR

Peraton has won a one-year contract extension for the Canadian armed forces CF-18 Avionics Optimized Weapon System Support program -- valued at $30 million -- to continue its support for the CF-18 fighter fleet.

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Procurement, modernization highlights from DoD FY 2020 budget request

JOHN MCHALE, EDITORIAL DIRECTOR

Funding requested for Department of Defense (DoD) Major Defense Acquisition Programs (MDAPs) for Fiscal Year (FY) 2020 totals $89.3 billion, accounting for about 34 percent of the Trump administration’s Procurement and Research, Development, Test, and Evaluation (RDT&E) funding request for the Department of Defense (DoD) of $247.3 billion. Included below are updates on programs such as the Apache helicopter, the F-35, cyberspace programs, the B-21 Raider, the Unmanned Surface Vehicle, and more.

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USAF 2018 acquisition annual report released taking aim at speed of acquisition reform

MARIANA IRIARTE, TECHNOLOGY EDITOR

U.S. Air Force officials released the Fiscal Year 2018 Air Force Acquisition Annual Report, which focuses heavily on the role of speed and discipline in acquisition reform.

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Northrop Grumman garners $3.2 billion multiyear E-2D Hawkeye aircraft production contract
MARIANA IRIARTE, TECHNOLOGY EDITOR
Navy officials selected Northrop Grumman Corp. for the purchase of 24 E-2D Advanced Hawkeye aircraft under a multiyear procurement (MYP) contract valued at approximately $3.2 billion.

Boeing, Australian Space Agency sign agreement to expand space market
MARIANA IRIARTE, TECHNOLOGY EDITOR
Officials at Boeing and the Australian Space Agency signed a Statement of Strategic Intent to help advance the agency’s goals to expand Australia’s domestic space industry.

Unmanned systems trends
JOHN MCHALE, EDITORIAL DIRECTOR
Welcome to our annual Unmanned Systems issue, our yearly look at the embedded computing trends in military unmanned platforms—air, ground, and sea. We bring the Unmanned Systems issue to you every year prior to the Association for Unmanned Vehicle Systems International (AUVSI) Xponential show, as this magazine and its editorial staff attend the conference sessions and roam the exhibition floor during the show, which is held this year in Chicago.
Marketer’s guide to Xponential 2019

Xponential, taking place April 30th - May 2nd at the McCormick Place in Chicago, brings more than 8,500 industry leaders together focusing on unmanned technology. Here are a few tips as you prepare for Xponential to drive maximum exposure and return on investment.

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T-X trainer aircraft en route to replace the 57-year-old T-38C Talon for USAF

MARIANA IRIARTE, TECHNOLOGY EDITOR

Train like you fight – the U.S. military’s training motto – pushes U.S. Department of Defense planners to provide the technology that enables pilots, sailors, maintainers, etc. to be able to perform their duties as if they were second nature.

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Avotek adds online avionics training

Avotek has launched a new online course for aviation technicians and students preparing to take the Aircraft Electronics Technician (AET) certification exam. Avotek says their goal is to help those wanting to get their Federal Aviation Administration (FAA) Part 65 Repairman Certificate to do it quickly and save money.

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What's new in vibration monitoring and mitigation for helicopters

From airframe-specific Health Usage and Management Systems (HUMS) to portable rotor track and balancing units, there are a lot of advanced technology tools available to help keep helicopters flying smoother, safer and more efficiently.

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WHITE PAPER

Civil Certification of Multi-core Processing Systems in Commercial Avionics

Avionics systems are currently undergoing a transition from single core processor architectures to multi-core processors. This transition enables a reduction in size, weight and power (SWaP) and the use of common
processing platforms, providing multiple potential benefits for programs in terms of reduced costs, spares management and obsolescence. However, avionics hardware and software certification policies and guidance are evolving as research and experience is gained with multi-core processor architectures.

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