

NEWS RELEASE

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Curtiss-Wright Spotlights its COTS-based VICTORY Services and Mounted Assured-Positioned Navigation Timing (A-PNT) Solutions at GVSETS 2018

At 10th Annual Ground Vehicle Systems Engineering and Technology Symposium (GVSETS), Curtiss-Wright will present paper on "Next Generation Open Standard Vehicle Electronics Architecture" and highlight Industry Leading Ground Vehicle

2018 GROUND VEHICLE SYSTEMS ENGINEERING AND TECHNOLOGY SYMPOSIUM (GVSETS), NOVI Suburban Collection Showplace, Mich. (Booth #224) – August 7-9, 2018 – Curtiss-Wright's Defense Solutions division announced that it will have a strong presence in support of the 10th Annual Ground Vehicle Systems Engineering and Technology Symposium (GVSETS). In addition to featuring its rugged Commercial Off the Shelf (COTS) technology for critical ground capabilities – ranging from in-vehicle networking, mission computing, and fire control processors to complete turret drive stabilization and ammunition handling systems – Curtiss-Wright will also present a new technical paper on "Next Generation Open Standard Vehicle Electronics Architecture."

The paper will be presented by co-author, David Jedynak, Chief Technology Officer and Director, Curtiss-Wright Assured Position, Navigation and Timing (A-PNT) Program Office. The presentation will be featured in the Vehicle Electronics and Architecture & Ground Systems Cyber Engineering Technical Session, which is co-chaired by Mr. Jedynak, and Daniel Newport, Supervisor, Ground Systems Cyber Engineering, US Army TARDEC, on Thursday, August 9. The session begins at 9:00 a.m., and Curtiss-Wright's presentation is scheduled for 10:50 a.m.

"We are proud to participate in the 10th anniversary of GVSETS, by exhibiting our COTS solutions, presenting a technical paper and co-chairing a session, to share our industry-leading efforts in delivering COTS-based solutions for ground vehicles that reduce time, complexity, and cost to integrate the software and hardware elements required by the warfighter to effectively conduct NAVWAR," said Lynn Bamford, Senior Vice President and General Manager, Defense Solutions division.

At GVSETS 2018, Curtiss-Wright (Booth #224) will highlight its solutions for ground vehicles that require VICTORY services and mounted A-PNT capabilities. Designed for ground vehicles operating in Global Positioning System (GPS)/Global Navigation Satellite System (GNSS)-denied environments, these products include:

- DBH-670 (A) Digital Beachhead: This enhanced version of the proven DBH-670 GbE switch adds a fully integrated GB-GRAM (Ground Based GPS Receiver Application Module), Chip Scale Atomic Clock (CSAC) and Inertial Measurement Unit (IMU) to the earlier model's built-in infrastructure switch and shared processor unit features. Curtiss-Wright's Digital Beachhead line of products is available with pre-integrated VICTORY software, providing VICTORY Data Bus and Platform services.
- DBH-672A Digital Beachhead: This enhanced version of the DBH-672 integrates our A-PNT kit to the rugged COTS single box solution, which includes a quad-core vetronics processor in a MIL-STD qualified, small form-factor chassis. The multifunction DBH-672 builds on Curtiss-Wright's market leadership in VICTORY solutions.
- VPX3-673 A-PNT 3U VPX Single Board Computer (SBC): The VPX3-673 A-PNT card will speed and ease the integration of Complementary PNT sources on ground vehicles, with the integration of a GB-GRAM and an on-board IMU. This innovative size, weight and power (SWaP)-optimized module will eliminate the need for multiple in-platform LRUs or the use of "bolt-on" technologies in order to field new Navigation Warfare (NAVWAR) capabilities.

<u>Curtiss-Wright's A-PNT solutions</u> are designed to provide ground vehicles with access to trusted PNT information while operating in conditions with limited, impeded, or denied GPS/GNSS. Based on open-architecture, COTS technology, Curtiss-Wright's 3U OpenVPX module and fully

integrated rugged LRU A-PNT solutions are cost effective, simple to configure, and rapidly deployable. As well, these A-PNT products are SWaP-optimized for both combat and tactical wheeled vehicle platforms to ease the integration of software and hardware elements required by the warfighter to effectively conduct operations in a GPS/GNSS-denied environment.

By distributing the best available PNT data simultaneously to multiple platform applications that require GPS/GNSS data, Curtiss-Wright A-PNT solutions eliminate the need for a ground vehicle to support multiple GPS/GNSS receivers or antennas. Curtiss-Wright's A-PNT solutions meet legacy GPS/GNSS distribution requirements and are compatible with standard DAGR accessories, such as RA-1/RA-2 antennas, Crypto Variable Fill cables, and all serial interface cables. They are designed to support both legacy and future technology, including interfacing to mission equipment, as well as Anti-Jam Antenna and tactical communications.

CMOSS Support

Curtiss-Wright's infrastructure switch and A-PNT solutions are designed to support the new C4ISR/EW Modular Open Suite of Standards (CMOSS) defined by the US Army Material Command (Research, Development and Engineering Command) Communications-Electronics Center (CERDEC). Using CMOSS, system integrators will employ true industry open standards to develop rugged COTS solutions to meet the Army's critical requirements. The widespread adoption of CMOSS by system integrators in "Five Eyes" and other NATO nations, will help move the implementation of C4ISR capabilities away from the use of costly and complex "stovepiped" separate boxes on individual platforms. The use of true open standards will make it easier and more cost effective to upgrade capabilities or keep pace with commercial technology due to complex integration challenges, lack of competition, and proprietary interfaces. In many cases stovepiped systems consume more SWaP than is currently available, thus necessitating expensive and time-consuming vehicle modifications.

This internationally supported suite of standards enables the reduction of C4ISR system SWaP and ensures commonality across multiple platforms by enabling the sharing of hardware and software components. Curtiss-Wright is well positioned to support these efforts with multiple existing product lines already designed in compliance with CMOSS standards, as well as new technologies currently in development, that align with its objectives, including COTS-based

rugged single board computers, Ethernet switches, <u>TrustedCOTS™ trusted computing</u> approaches, radial clock modules, data storage systems and power supplies.

CMOSS Standards:

The open standards currently included in CMOSS include:

- <u>Vehicular Integration for C4ISR/EW Interoperability (VICTORY)</u>: provides network based interoperability using to share services such as Time and Position.
- OpenVPX: a hardware form factor for fielding capabilities as cards in a common chassis
- Modular Open RF Architecture (MORA): drives functional decomposition to share resources such as antennas and amplifiers
- Software frameworks: includes REDHAWK, Software Communications Architecture (SCA), and <u>Future Airborne Capability Environment</u> (FACE) to enable software portability

About GVSETS

The Ground Vehicle Systems Engineering and Technology Symposium (GVSETS), held in conjunction with Advanced Planning Briefings for Industry (ABPI) is hosted by the Michigan Chapter of the National Defense Industrial Association (NDIA). This three-day event brings more than 1,000 executives, program managers, engineers, and other key decision-makers together to discuss initiatives, programs, plans, and technologies in the ground domain for both manned and unmanned systems. Participants include leaders throughout the Department of Defense (DoD), including Army Materiel Command, TACOM Life Cycle Management Command (LCMC), Research, Development and Engineering Command (RDECOM), Program Executive Offices (PEOs) for Army and United States Marine Corps (USMC) ground system portfolios; as well as industry and academia leaders.

Availability

Limited quantities of early access units (EAU) of the new VPX3-673 module and DBH-672A Digital Beachhead unit will be available to qualified customers. Please contact David Jedynak, CTO and Director, Curtiss-Wright A-PNT Program Office, djedynak@curtisswright.com.

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Sales inquiries: Please forward all Sales and reader service inquiries to ds@curtisswright.com.

For more information about Curtiss-Wright's Defense Solutions division, please visit

www.curtisswrightds.com.

About Curtiss-Wright Corporation

Curtiss-Wright Corporation is a global innovative company that delivers highly engineered, critical

function products and services to the commercial, industrial, defense and energy markets.

Building on the heritage of Glenn Curtiss and the Wright brothers, Curtiss-Wright has a long

tradition of providing reliable solutions through trusted customer relationships. The company

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