NEWS RELEASE

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Curtiss-Wright, Green Hills Software, and Harris Corporation Announce Power Architecture®-based FACE™ Aligned Digital Moving Map Solution

Airborne solution combines Harris's FACE conformant FliteScene® Digital Moving Map Software, Green Hills and Pre-Validated Board-sets for Embedded Defense Applications

ASHBURN, Va. – November 15, 2017 – Curtiss-Wright's Defense Solutions division, in collaboration with Harris Corporation and Green Hills Software, has announced a new Power Architecture-based Future Airborne Capability Environment (FACE™) aligned Airborne Digital Mapping Solution. The rugged open architecture COTS-based system features the Green Hills field-proven INTEGRITY®-178 tuMP™ safety- and security-critical multicore real-time operating system (RTOS) running Harris Corporation's popular FliteScene® Digital Moving Map software. The application is powered by Curtiss-Wright's VPX3-133 OpenVPX™ single board computer (SBC) and VPX3-716 graphics display module. Designed to ease and speed the integration of situational awareness and high performance digital mapping functions into embedded commercial and military avionics systems, this pre-validated digital mapping system enables system architects to statically define when the VPX-133 SBC should deterministically execute the FliteScene application, and with which processor core (or cores).

The NXP® quad-core QorIQ™ T2080 Power Architecture processor based VPX3-133 is ideal for rugged deployed applications that do not require DO-254 safety-certifiable hardware. For applications that require DO-254 certification, Curtiss-Wright offers its VPX3-152, an NXP T2080-based SBC that supports DO-254 DAL A. Both SBCs support INTEGRITY-178 tuMP. For safety-certifiable SBC designs, NXP's T2080 SOC is emerging as a de facto standard, thanks to its support from proven and trusted safety-certifiable OS vendors such as Green Hills Software. The VPX3-133, which shares a similar architecture to the VPX3-152, can be used to speed system development in advance of the VPX3-152's upcoming availability.

The rugged VPX3-133 enables system designers to rapidly integrate COTS system solutions based on Green Hills Software's RTCA/DO-178B DAL-A and CAST-32A compliant INTEGRITY-178 tuMP, the industry's only multi-core RTOS that enables users to utilize all available compute power from the processor's QorIQ cores, including virtual cores, all based on deterministic, user-defined core and scheduling assignments.

INTEGRITY-178 tuMP is the only multicore operating system that meets FACE v3.0 and the ARINC-653 standard's requirement for multicore operation as defined in Section 2 of Supplement 4 for the ARINC-653 standard: "Multiple processes within a partition scheduled to execute concurrently on different processor cores," and "Multiple partitions scheduled to execute concurrently on different processor cores."

For information about the VPX3-133 INTEGRITY-178 tuMP board support package (BSP) customers should contact Green Hills Software directly.

"We are excited, along with Harris and Green Hills Software, to deliver this FACE-aligned digital mapping solution to avionics system designers seeking Power Architecture-based deployable solutions," said Lynn Bamford, Senior Vice President and General Manager, Defense Solutions division. "This fully integrated Power Architecture based solution eliminates the cost and design risk associated with deploying new digital map capabilities while delivering on the promise of the FACE open avionics standard to make software systems more robust, interoperable, portable and secure."

To schedule a live demonstration of this digital mapping solution, please contact Curtiss-Wright at ds@curtisswright.com or Green Hills Software at HighAssuranceRTOS@ghs.com.

About Harris FliteScene Digital Map
The Harris FliteScene Digital Map open architecture system provides situational awareness for both civilian and military operations. It supports advanced terrain awareness and obstacle avoidance features and offers three-dimensional synthetic vision modes. It has been integrated with modern tactical networks such as Link 16 and ANW2 providing a full real-time common operating picture. FliteScene supports a standard OpenGL interface that can be integrated with commercial off-the-shelf (COTS) processors and graphic accelerators. This combat-proven, feature-rich digital mapping software solution enables system integrators to seamlessly integrate critical situational awareness capabilities into demanding commercial and military airborne platforms. It provides scalable and configurable 2D and 3D terrain images, street maps, map overlays, and mission planning capabilities required for demanding aerospace, defense, law enforcement, fire, and search and rescue applications.

FliteScene Performance Features:

- Capable of displaying raster maps in all relevant formats and scales
- 2D and 3D views for both cockpit and wingman, with extended scene and enhanced performance
- Map overlays for elevation, depth, vectors, targets, and other line-of-sight objects
- Multiple map underlay layers including terrain and bathymetry
- Multi-vehicle tracking and sensor footprint display

- Configuration via XML configuration files
- Multi-channel output with pan/zoom, and orientation capabilities
- Certification of critical manned and unmanned airborne Safety-Certifiable systems.

For more information about FliteScene, please visit www.harris.com/solution/flitescene-digital-map.

About FACE

FACE is a government-industry software standard and business strategy for acquisition of affordable software systems that promotes innovation and rapid integration of portable capabilities across global defense programs. CERTON, an affirmed FACE Verification Authority, verified activities on the FliteScene software in accordance with the FACE Technical Standard and FACE Conformance Policy, resulting in Harris receiving FACE Conformant Certificate #2.

About the VPX3-133 Single Board Computer

Curtiss-Wright's VPX3-133 combines the performance and the advanced I/O capabilities of NXP's Quad core AltiVec™-equipped 64-bit processor with an extensive set of I/O that provides an extremely powerful processing solution for SWaP-constrained environments. It delivers a high level of computing functionality in the small 3U standard form factor with low power (37Watts) while providing industry leading I/O flexibility.

About the VPX3-716 Graphics Module

Curtiss-Wright's VPX3-716 is a small form factor 3U VPX graphics display card, based on AMD's Embedded Radeon E8860 high-performance GPU. The card features four independent and simultaneous graphics outputs, 2 GB of dedicated video memory, video decoders, video compression encoder and an XMC site supporting both peripheral and processor mezzanines. Designed for high reliability and a long lifecycle, the VPX3-716 is especially well-suited to support embedded training, moving maps, Geographic Information Systems (GIS), 360 degree situational awareness, Diminished Vision Enhancement (DVE) and other graphics, video and compute intensive applications. The VPX3-716 is ideal for rugged deployed applications that do not require DO-254 safety-certifiable hardware. For applications that require DO-254 certification, Curtiss-Wright offers its VPX3-718 and VPX3-719 Graphics Cards that supports DO-254 DAL A.

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

For more information on Curtiss-Wright products 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 employs approximately 8,000 people worldwide. For more information, visit www.curtisswright.com.

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