Core Avionics & Industrial Inc. Announces Certifiable Safety-Critical Software for Arm's Next-Gen Mali-G78AE GPU, Designed with Functional Safety

Tampa, Florida, September 29, 2020: Core Avionics & Industrial Inc. ("CoreAVI") announced today a suite of Vulkan®-based safety-critical graphics and compute libraries supporting the new, high-performance Arm® Mali™-G78AE GPU for the automotive, industrial and avionics markets. The Mali-G78AE GPU is Arm's first GPU IP designed for safety critical applications. CoreAVI's software suite for the Mali-G78AE GPU includes a Vulkan safety driver, GPGPU algorithms, libraries for OpenGL® SC1, OpenGL SC2, and TrueCore™ as well as all safety certification artifacts. This range of next-gen safety-critical software drivers and libraries will be available to support semiconductor designers, OEMs, and Tier 1 system developers. CoreAVI's automotive safety software products meet ISO 26262 ASIL D certification requirements for advanced automotive and autonomy applications. CoreAVI is also offering avionics customers DO-178C DAL A /EASA ED-12C certifiable versions of the Mali-G78AE GPU driver and graphics and compute libraries. Both of these comprehensive software packages support Mali-G78AE GPUs for safe rendering, ADAS, and autonomy in certified automotive, industrial and avionics applications.

Developed with support from Arm, CoreAVI's software suite takes advantage of the performance, safety, flexibility, and scalability of the new Mali-G78AE GPU. The Mali-G78AE GPU offers a number of safety features designed to enhance the determinism and robustness of software running on the GPU. A new Flexible Partitioning feature allows the GPU to isolate in both the time and space domains, allowing multiple applications to safely and securely share the GPU. CoreAVI's software is designed to the Khronos® Group's open standards for graphics and compute and will be compatible with a variety of certified real-time operating systems as well as Automotive Grade Linux (AGL). Because the software suite is based on the Vulkan safety standard for graphics and compute, the driver allows applications to directly run sophisticated safety-critical graphics and compute algorithms such as FFT, matrix manipulation, and image filtering. Additionally, libraries supporting OpenGL SC1 and OpenGL SC2 are available; these also run on the safety-critical Vulkan intermediary layer, allowing simultaneous execution of mixed-criticality and mixed API applications on a single GPU hardware instance. This joint software solution not only meets the very high-performance demands of multi-partitioned systems in future digital cockpits but provides the flexibility required to support diverse applications and changing market demands.

"CoreAVI is excited to introduce our first set of safety-critical graphics and compute software, collaboratively developed with Arm," said Damian Fozard, CEO at CoreAVI. "This suite of

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products is designed to seamlessly transition customers from their commercial platforms onto a full safety software stack, allowing the use of Arm's powerful Mali GPU IP in a wide range of new and exciting safety applications."

"As autonomous systems move towards software-defined functionality, it's clear software has an important role to play in future autonomous workloads," said Chet Babla, vice president, Automotive and IoT Line of Business at Arm. "To fully realize the benefits of Arm's new GPU technology, CoreAVI's offering will provide partners with state-of-the-art safety-critical graphics and compute capabilities for future automotive, industrial, and avionics applications."

For more information, please contact Sales@coreavi.com.

About Core Avionics & Industrial Inc.

Core Avionics & Industrial Inc. ("CoreAVI") is a pioneer in the military and aerospace sector with a proven track record in providing entire software and hardware IP platform solutions that enable safety critical applications. A global leader in architecting and supplying real-time and safety critical graphics, compute, and video drivers, "program ready" embedded graphics processors, and DO-254/ED-80 certifiable COTS hardware IP, CoreAVI's suite of products enables the design and implementation of complete safety critical embedded solutions for aerospace, automotive, and industrial applications that achieve the highest levels of safety certification with long-term support. CoreAVI's solutions are deployed in commercial and military avionics systems, and support rapidly emerging compute applications in the automotive, unmanned vehicle, and internet of things markets. CoreAVI's products may be purchased with certification data kits for the most stringent levels of safety certification, including RTCA DO-254/DO-178C, EUROCAE ED-80/ED-12C, and ISO 26262. www.coreavi.com

*Product is based on a published Khronos Specification and is expected to pass the Khronos Conformance Process. Current conformance status can be found at www.khronos.org/conformance.