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Core Avionics & Industrial Inc. Announces Safe AI and Computer Vision Software Stack Capable of Implementing Neural Networks in Safety Critical Environments

Tampa, Florida, December 1, 2020: Core Avionics & Industrial Inc. ("CoreAVI") announced today the release of their Safe AI and Computer Vision Solution including its newest product, VkCoreVX™ SC, a safety critical implementation of Khronos' OpenVX™1.3 API. CoreAVI's Safe AI and Computer Vision Solution provides a flexible framework for computer vision, signal processing, and neural network inferencing while achieving the most stringent levels of safety certification. Application developers can now deploy object detection and tracking algorithms based on a safety certifiable framework.

VkCoreVX SC provides a feature set for implementing and deploying convolutional neural networks, supporting vector machines, gaussian filtering, optical flow, and much more. It is built on top of CoreAVI's safety critical Vulkan® SC implementation (VkCore® SC), which provides both graphics and compute capabilities within the same safety critical framework. This means that visualizing compute workloads, which is needed in augmented vision systems, autonomous systems, or degraded visual environments, can now for the first time be done from within a safety critical API with a deterministic runtime-state-management.

In addition to the VkCore SC graphics and compute driver, the complete Safe AI and Computer Vision Solution also includes CoreAVI's ComputeCore™ compute libraries to enable safety critical implementation of BLAS (Basic Linear Algebra Subprograms) and FFTs (Fast Fourier Transform). The software stack facilitates the transition to safety certifiable Vulkan compute from commercial OpenCL®, CUDA®, and OpenCV solutions. It is designed from the ground up for real time and safety certification and contains no open source components and no 3rd party software. The Safe AI and Computer Vision Solution is available with CertCore™ 26262 including ISO 26262 Accredited Safety Assessment Certificate ASIL D and CertCore™ 178 (DO-178C / ED-12C Avionics) DAL A safety certification package.

"CoreAVI is excited to announce our first safety critical Safe AI and Computer Vision Solution that offers OpenVX 1.3 capabilities," said Damian Fozard, CEO at CoreAVI. "The future of many industries, including aerospace and defense, automotive, and industrial IoT depend on the availability of advanced algorithms to enable neural networks. We are happy to provide our customers with a true safety critical software stack to facilitate powerful AI and computer vision capabilities on their modern GPUs."

For more information, please contact CoreAVI.

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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

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*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.