
Airbus UpNext Flight Demonstrator Successfully Executes AI-based Navigation and Cooperative Control Using CoreAVI's SafeAI Software Suite

Tampa, Florida, Feb 13, 2024: Airbus has announced a successful flight test of their Auto'Mate (autonomous in-flight refuelling) demonstrator utilizing CoreAVI's GPU accelerated AI software stack, including VkCore® SC and ComputeCore™. The Airbus Auto'Mate represents a significant industry milestone by demonstrating Autonomous Assets Air to Air Refuelling operations flying with three manned drones Airbus DT-25s, and two more digital twins, under the control of an A310 MRTT tanker using an advanced navigation suite, including AI-based detection and cooperative control technologies.

Designed from the ground up for safety certification, CoreAVI's Safe AI software suite includes ComputeCore® as well as VkCore® SC. VkCore SC is a Vulkan® SC™ implementation enabling low-level high-performance compute acceleration, and ComputeCore is CoreAVI's AI/ML acceleration library providing APIs for BLAS, FFT, and a neural network inference engine implementing The Khronos Group's NNEF format. The building block nature of CoreAVI's tools and libraries provide scalable performance and capabilities making it easily expandable to meet a wide range of compute algorithms.

"This Auto'mate flight demonstration marks a major success milestone for the growing partnership between CoreAVI and Airbus for paving the future of AI-based airborne product developments and certifications. This is the first time that Airbus has ever executed an AI flight test that's using a fully certifiable stack for autonomous air-to-air refuelling based on controlling and guiding multiple drones from the Multi Role Tanker Transport aircraft," said Dan Joncas, Deputy CEO at CoreAVI. "The value of Safe AI to airborne platforms cannot be overstated as it enhances safety, reliability, efficiency while reducing pilot workload, training costs, and ensuring more effective operations, especially in situations with low visibility. We're happy to work with a future-focused technology leader like Airbus to ensure the best in AI technology is available to all integrators of safety critical systems."

"Bringing state-of-the-art GPU compute capabilities to our product portfolio will allow us to evolve and create new capabilities that put us on the forefront of military aviation technology," said David Pérez Amenabar, Air Refuelling Software Innovation Manager at Airbus Defence & Space. "This successful technology deployment paves the way for a future where parallelization enables numerous new data intensive applications. AI technology will be quintessential in the future of our industry and CoreAVI's SafeAI stack has proven to be an exceptional enabler for these integrations. This particular iteration demonstrates our commitment to the future mosaic



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warfare and unmanned/manned aircraft teaming; we are ready for Autonomous Operation and committed to developing the most capable interoperable system of systems for air dominance."

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About Core Avionics & Industrial Inc.

CoreAVI is the global leader in architecting and delivering safety critical graphics and compute software drivers and libraries, embedded 'system on chip' and discrete graphics processor components, and certifiable platform hardware IP. CoreAVI's comprehensive software suite enables development and deployment of complete safety critical solutions for automotive, industrial and aerospace applications requiring certification to the highest integrity levels coupled with full lifecycle support. CoreAVI's solutions support both graphics and compute applications including safe autonomy, machine vision and AI in the automotive, unmanned vehicle and industrial IoT markets, as well as commercial and military avionics systems. www.coreavi.com

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