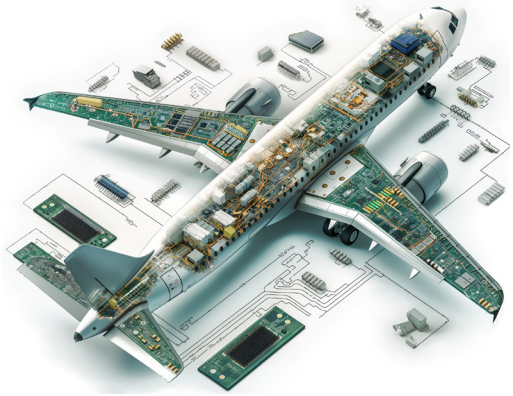
Introducing The **Ultimate Aerospace Deployment** Safety Stack



In the dynamic and safety-critical aerospace industry, where precision, reliability, and performance are non-negotiable, the deployment stack comprising DiSTI Corporation's GL Studio Safety-Critical HMI software, SYSGO's PikeOS, NXP Semiconductor's i.MX 8 applications processor, and CoreAVI's VkCore® SC graphics and compute software suite stands as the epitome of innovation, safety, and excellence.

Components That Put The Focus on Safety

GL Studio Safety-Critical HMI Software by **The DiSTI Corporation** revolutionizes aerospace interfaces with its unparalleled functionality and safety features certifying through DO-178C and DO-330. For aviation, GL Studio SC offers the latest in object-oriented software architecture. From cockpit displays to mission-critical control systems, GL Studio ensures intuitive user interactions while meeting the stringent safety standards of the aerospace industry.

SYSGO's real-time operating system and hypervisor sets the standard for reliable, safe and secure avionics applications. Its robust ARINC 653 compatible partitioning capabilities and MILS architecture provide a trusted platform for safety-critical avionics systems, ensuring isolation and integrity in complex airborne environments, certifiable up to DAL A according to DO-178C.

NXP's i.MX 8 applications processor offers the processing power and connectivity required for advanced aerospace applications. With its multicore architecture and extensive I/O capabilities, it enables the development of sophisticated avionics systems, navigation solutions, and communication interfaces.

CoreAVI's VkCore SC suite of tools and libraries that enable the development and runtime deployment of accelerated GPU compute and graphics applications completes the deployment stack with its high-performance Vulkan SC-based GPU acceleration capabilities tailored for aerospace displays and visualization systems. With certification to the highest levels of DO-178 and DO-254 standards, VkCore SC ensures unmatched reliability and safety in aerospace graphics rendering.

Why Choose This Deployment Stack?

This meticulously crafted deployment stack addresses the unique challenges of the aerospace industry by combining leading-edge software and hardware components. From cockpit displays to flight management systems, every element is optimized for safety, reliability, and performance, meeting the stringent requirements of airborne applications. By choosing this deployment stack, aerospace manufacturers and avionics developers can accelerate innovation, enhance operational efficiency, and ensure the highest levels of safety and reliability in their products.

The DiSTI Corporation's GL Studio HMI software tools stand out as the premier choice for aerospace applications due to their unparalleled combination of cutting-edge technology and reliability. With a proven track record of delivering high-performance solutions, GL Studio empowers aerospace engineers to create robust, user-friendly designs efficiently. Its advanced features, such as real-time rendering capabilities and seamless integration with industry-standard platforms, ensure optimal performance and compliance with stringent aerospace requirements, making it the preferred choice for mission-critical applications in the aerospace sector. **www.disti.com**

Future Avionics innovations such as software for self-separation, Traffic Collision Avoidance Systems (TCAS), or improved take-off and landing operations demand the highest safety and security standards. Real-time operating system hypervisor PikeOS fulfills these requirements and exceeds expectations: Its technological supremacy is based on high multi-core performance, embracing AMC 20-193 and DO-178C principles, and a unique scheduler approach leading to improved real-time behavior. It is fully compliant with ARINC 653 and its security architecture is Common Criteria certified. **www.sysgo.com**

NXP Semiconductors is a trusted partner for avionics ecosystems solutions. As a founder of the Multi-Core for Avionics (MCFA) working group that brings together SoC designers, ecosystem software partners, and avionic system developers, NXP has helped drive adoption of multicore solutions across the aviation industry as well as help system providers navigate certification requirements. NXP's i.MX multicore applications processors, which offer a balance of performance per watt, graphics, machine vision, temperature range, reliability, and production longevity, have long been the processors of choice in avionics HMI systems. **www.nxp.com**

CoreAVI is the global leader in architecting and delivering a safety critical graphics and compute suite of tools and libraries, as well as 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 DO-178C/DO-254 safety critical solutions for Aerospace and Defense applications requiring certification to the highest Design Assurance Levels coupled with full lifecycle support. CoreAVI's solutions support next-gen GPU acceleration applications including machine vision and SafeAI. **www.coreavi.com**