AVIONICS GRAPHICS REFERENCE PLATFORM

Our Avionics graphics reference platform demo showcases a pre-integrated certifiable digital Avionics display capability, an essential component within modern Avionics suites, powered by cutting-edge technologies and underpinned by the robust PikeOS operating system. This demonstration exemplifies peak performance and compliance with stringent industry standards.

Platform Overview

The integrated digital cluster platform is designed to meet the evolving demands of Avionics display systems. It combines DiSTI's GLStudio for advanced graphical user interface (GUI) development with the CoreAVI's VulkanSC graphics driver, delivering visual fidelity and performance.

Cybersecurity and Safety Compliance

The PikeOS RTOS ensures high performance and compliance with Cybersecurity and Safety standards. This configuration gives manufacturers and end users confidence by providing a safe and dependable base for Avionics applications.

Hardware Architecture

Operating on the NXP i.MX8QuadMax SoC, based on ARMv8, this demo represents the pinnacle of modern graphical Avionics capabilities. The i.MX8QuadMax SoC provides the necessary computational power and versatility to handle complex graphical workloads up to 60 fps, ensuring smooth operation and seamless user experiences.

Cybersecurity and Safety Certification

PikeOS serves as the foundation for Cybersecurity and Safety certification up to DAL A, offering a robust and reliable operating environment for Avionics applications. PikeOS 5.1.3 is certified according to Common Criteria EAL 5+.

CoreAVI VulkanSC Graphics Driver

Integration of CoreAVI's VulkanSC graphics driver ensures optimal performance and compatibility with modern graphics APIs.

DiSTI GLStudio GUI Development

Utilizes DiSTI GLStudio for advanced GUI development, enabling the creation of immersive and intuitive user interfaces.

CUSTOMER BENEFITS

Safety & Security

- Ready for upcoming standards
- Certifiable up to DAL A (functional Safety)
- Certified to Common Criteria EAL5+ (Security)
- Secure consolidation of functionalities of different levels of Safety & Security

Real-Time and Hardware Virtualization

- Multi-level safe and secure separation of applications on multi-core
- Demonstration of PikeOS layered Security architecture

OUR DEMO PARTNERS

SYSGO is the leading European manufacturer of embedded software solutions with its real-time operating system and hypervisor PikeOS and the embedded industrial-grade Linux ELinOS. Since 1991, SYSGO has been supporting customers in the Aerospace, Automotive, Railway and IIoT industries in the development of Safety-critical applications on highest industry levels. For security certifications PikeOS also meets the Common Criteria EAL 5+ level. SYSGO is part of the European Thales Group.

www.sysgo.com

DiSTI is the leading provider of both turn-key and customized GUI software and 3D virtual training solutions for embedded, desktop, mobile, mixed reality, and virtual reality applications. DiSTI software products and professional services have pioneered the advancement of GUIs and virtual training for Global 500 companies, military organizations, and commercial clientele from around the world. DiSTI software and solutions are highly adaptable and can be implemented into virtually any industry with a need for GUIs or maintenance training, including automotive, aerospace, energy, medical, maritime, and transportation environments.

www.disti.com

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

NXP enables secure connections and infrastructure for a smarter world, advancing solutions that make lives easier, better and safer. As the world leader in secure connectivity solutions for embedded applications, NXP is driving innovation in the secure connected vehicle, end-to-end security & privacy and smart connected solutions markets. Built on more than 60 years of combined experience and expertise, the company has 45,000 employees in more than 35 countries.

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