



Train Screenboard / Driver Display

Managing the Complexity ahead

PikeOS RTOS & Hypervisor

Proven Platform for a Safe & Secure Operation



Graphical UI and
Real-Time



Allow mixed
Criticality



Safe GPU Sharing

CHALLENGE

Driver display systems (or screenboards) are becoming more and more complex, while integrating highly critical with commodity functions. This trend will continue, leading to configurable multi-function displays (MFDs), as already seen in Avionics cockpits. This requires to run certified Safety-critical UI components in parallel to feature-rich non-critical commodity UI (setup with mixed criticality).

The latter requires the use of standard components, while focusing on a sophisticated UI representation (e.g. through 2D/3D acceleration and rendering through hardware). Safety-critical UI components will focus on a leaner approach in order to reduce risks and cost of the certification while using a pre-certified UI framework.

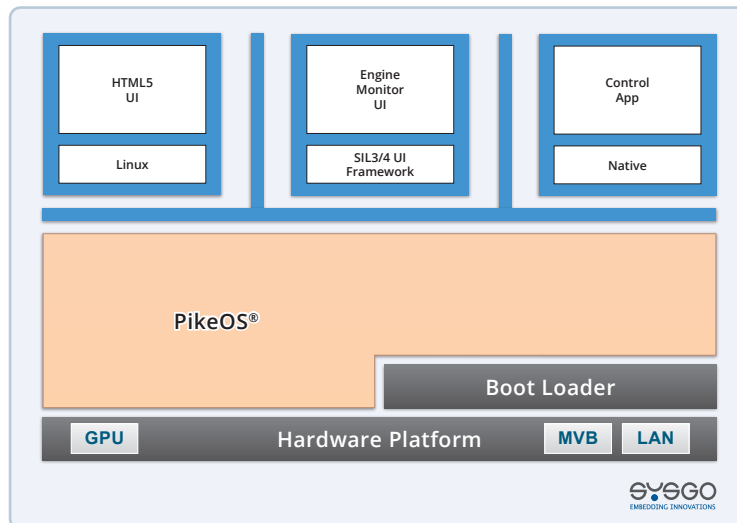
SOLUTION

In order to have a cost-effective commodity UI implantation, the feature richness of today's available UI frameworks have to be available. And the coexistence of UIs of different criticality requires a strict separation of functionality, while being able to share the same graphic hardware.

- The pre-certified PikeOS RTOS/Hypervisor allows you to use commodity functionality from an embedded Linux (e.g. HTML5) side-by-side with a pre-certified UI framework.

- The UI framework can share the GPU, while access to the GPU is controlled and managed by PikeOS.
- While implementing a feature-rich UI, PikeOS enables the concurrent execution of real-time tasks on the same platform.

PIKEOS SOFTWARE ARCHITECTURE



Founded in 1991, SYSGO became a trusted advisor for Embedded Operating Systems and is the European leader in hypervisor-based OS technology offering worldwide product life cycle support. We are well positioned to meet customer needs in all industries and offer tailor-made solutions with highest expectations in Safety & Security. More information at www.sysgo.com/railway