SYSGO
EMBEDDING INNOVATIONS

Train Control System

Concurrently enabling Flexibility, Scalability and Obsolescence

PikeOS RTOS & Hypervisor
Proven Platform for a Safe & Secure Operation

**One
SW-Platform for
all Applications**

**Consolidated
Functionalities**

Safe Use of Linux

EN 50128 SIL 3/4 • IEC 61508 SIL 3 • Common Criteria EAL3+
Trusted by leading OEMs & Tier-1s • Quality „Made in Germany"

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CHALLENGE

Flexibility and scalability are the most prominent needs for future train control system software platforms. The requirement of being pre-certified up to the highest assurance level according to EN 50128 is self-evident.

- Flexibility shall allow for various heterogeneous functions, legacy applications and sub-systems to be seamlessly integrated and to assure the highest level of independence from the underlaying hardware architecture.

- Scalability shall ensure that, whatever complexity, performance, Safety and Security demands the final use case may require, the software platform doesn't have to be changed.
- Furthermore, it shall guarantee that the knowledge gained while developing the first system can be re-used for a number of systems to be developed in the future.

SOLUTION

Any future train control system implementation, be it ATO, ATC, ATP or any other TCS instance, will require robust separation of applications to run in a safe and secure manner, as well as meeting Safety & Security standards applicable for the Railway industry.

- The PikeOS RTOS/Hypervisor runs on all industry standard hardware architectures and platforms, supports several APIs (e.g. native, POSIX, legacy APIs) and guest OSes (e.g. Linux) while being an EN 50128 pre-certified platform.

- PikeOS scales from being a pure embedded RTOS running a single application to a hypervisor concurrently hosting multiple OSes and multiple instances thereof as well as real-time applications.
- While allowing this concurrency, PikeOS guarantees the independence of each of the concurrent running OSes and applications, allowing these OSes and applications to have various criticalities.

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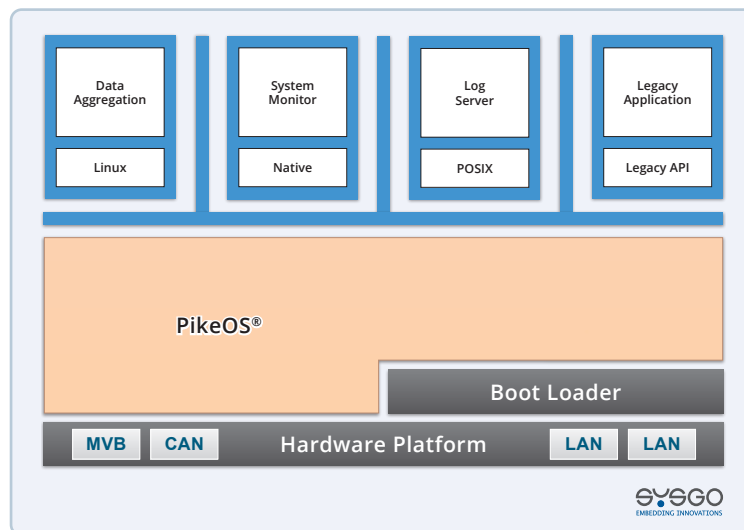
Founded in 1991, SYSGO became a trusted advisor for Embedded Operating Systems and is the European leader in hypervisor-based OS technology offering worldwide product life cycle support. We are well positioned to meet customer needs in all industries and offer tailor-made solutions with highest expectations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