Brake & Traction Control System
Highest Assurance meets Time-to-Market Demands

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

- EN 50128 SIL 3/4
- IEC 61508 SIL 3
- Common Criteria EAL3+
- Pre-certified System, yet extendable or updatable
- Concurrent Use of Soft-PLC and POSIX
- Consolidated Functionalities

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**Railway Use Case - Brake & Traction Control System**

**CHALLENGE**

Tomorrow's brake and traction control systems have to make sure that it is possible to use and maintain the brakes as efficiently as possible. Therefore, a whole lot of meta data has to be gathered all the time. Part of this meta-data is immediately used by the system to adjust itself, while other data has to be propagated to other systems to be analysed elsewhere. This deferred analysis and results thereof should then be also able to individually adjust the brake and traction control system when validated.

**SOLUTION**

Using PLC functionality concurrently with other control and communication mechanisms of various criticality requires a strict separation of functions. Still requiring to extend or update parts of the system independently.

- The PikeOS RTOS/Hypervisor enables various Soft-PLCs runtimes to be executed independently from other functionalities running on the same system.
- Thanks to PikeOS being a pre-certified system running on several hardware architectures, customers are able to choose their level of consolidation appropriate to their needs.
- The PikeOS architecture and strict partitioning allows to securely and independently update parts of the implemented functionality or configuration data thereof.

**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](http://www.sysgo.com/railway)