



# Brake & Traction Control System

Highest Assurance meets Time-to-Market Demands

PikeOS RTOS & Hypervisor

## Proven Platform for a Safe & Secure Operation



Pre-certified  
System, yet  
extendable or  
updatable



Concurrent Use  
of Soft-PLC  
and POSIX



Consolidated  
Functionalities

## 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.

To shorten time-to-market and reduce implementation complexity and certification efforts, the brake and traction control systems basic functionality – controlling the brakes – should be implemented as most of the other automation industry control functionalities, thus through a PLC.

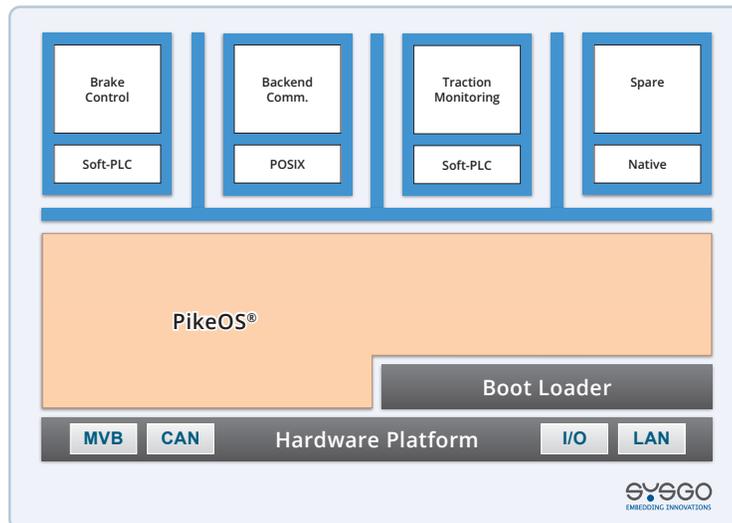
## SOLUTION

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)