

EKE



About EKE-Electronics

Visit us at InnoTrans
Hall 27, Booth 471

Smarter trains. Better future.

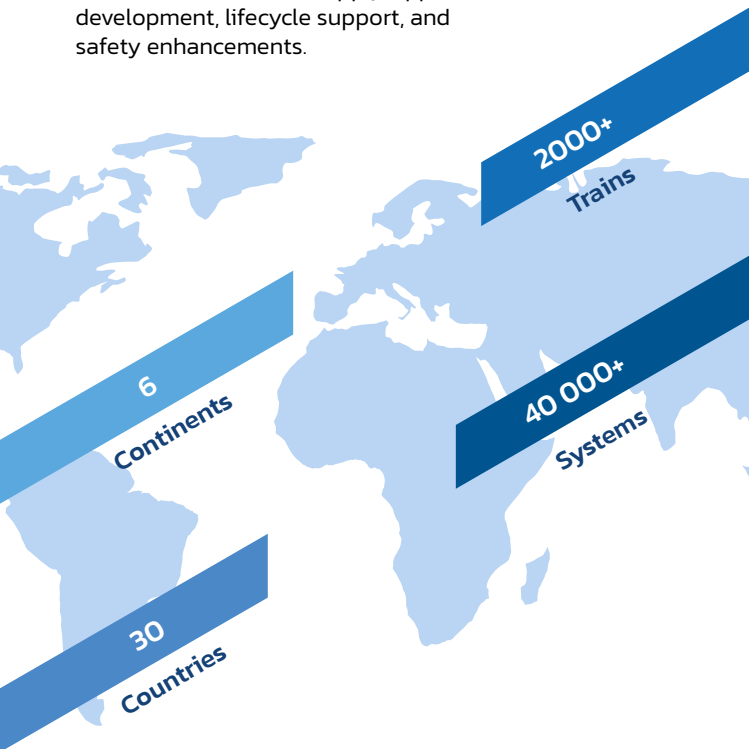


What We Do

For four decades, EKE-Electronics has been a trusted partner to global train manufacturers and operators, delivering train automation solutions.

EKE-Electronics is a Finnish high-tech company based in Espoo, near Helsinki, specialising in Train Control and Management Systems (TCMS) and SIL Safety products and applications. Founded in 1986, we have 40 years of experience in the railway industry. As a family-owned business with Mitsubishi Electric as a minority shareholder, we combine advanced electronics and software to enhance train operations worldwide.

With a team of approximately 100 professionals from around 20 nationalities, we operate globally, helping customers build and operate smarter, safer trains. Our solutions support train manufacturers, operators, and integrators across the lifecycle, from system architecture definition to hardware supply, application software development, lifecycle support, and safety enhancements.



Train Control and Management Systems

TCMS for new builds and refurbishment projects

EKE-Electronics' modular TCMS platform is suitable for both new train builds and train refurbishment projects. It offers a highly flexible and versatile solution with a commitment to long-term reliability and a lifecycle support service.

Vehicle Control Units

- ✓ High performance for complex applications and GoA4 trains
- ✓ Integrated local I/O capability available

Gateways

- ✓ MVB, WTB, CAN, Serial Links, Ethernet
- ✓ SIL 2 safety gateways
- ✓ ETCS, ATO, CBTC integration

Remote I/O Systems

- ✓ High I/O density
- ✓ Mixed SIL and non-SIL applications

Event Recorders

- ✓ Juridical Event Recorder also available

MVB Intrusion Detection

- ✓ Secure the MVB network against cyber intrusion.
- ✓ Developed in collaboration with RazorSecure

Cybersecurity

All our TCMS systems are based on our latest high-performance CPU6000 Series, supporting a secure-by-design approach. A cryptographically verified secure-boot chain ensures that only trusted, approved software can run on the device. The overall architecture aligns with IEC 62443-4-2 Security Level 2 and supports compliance with the EU Cyber Resilience Act, helping operators meet evolving cyber security requirements.

SIL Safety Products and Applications

In-house competencies to develop a range of safety applications up to SIL 2

With over 20 project applications already developed, our capabilities are unmatched in the industry, affirming our ability to deliver safety-critical solutions up to SIL 2 with utmost reliability.

Our generic products include:

Automatic Selective Door Operation

- ✓ Compatible with any TCMS
- ✓ Balise-free positioning

On-Board Hot Axle Box Detection

- ✓ Continuous temperature monitoring
- ✓ Compatible with any TCMS

Vigilance Control System

- ✓ Monitor a range of driver actions
- ✓ Customisable

Lateral Acceleration Monitoring

- ✓ Detect abnormal lateral vibrations
- ✓ Configurable

Safety Capabilities

We pride ourselves on our extensive expertise in designing and manufacturing SIL Safety Applications in demanding train environments. All stages of the lifecycle are supported with rigorous testing and documentation, underpinned by established processes aligned with EN 50126, EN 50129, and EN 50716 standards.

Build Your Own TCMS Applications

Full Control

EKE-Electronics builds TCMS applications using CODESYS® or C on top of Linux. These applications ensure train functions align with vehicle design and operational needs throughout the lifecycle. The Linux-based platform supports IEC 61131-3 (PLC), including C-based function blocks, libraries & drivers for all bus and I/O modules, and third party integration without vendor lock-in. This gives full control over system functions whilst supporting easy integration and long-term adaptability.

Developers who prefer C/C++ can use our comprehensive C libraries to build applications directly on Linux, providing maximum flexibility and full access to the platform's capabilities.

Flexibility

EKE-Electronics provides a flexible approach to TCMS platform development, tailored to your project requirements. Whether you choose to handle development internally or take advantage of our technical expertise, we offer the tools and support needed to ensure success. We train OEMs and integrators to build and manage software applications independently or deliver a complete, ready-to-use solution.





EKE



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