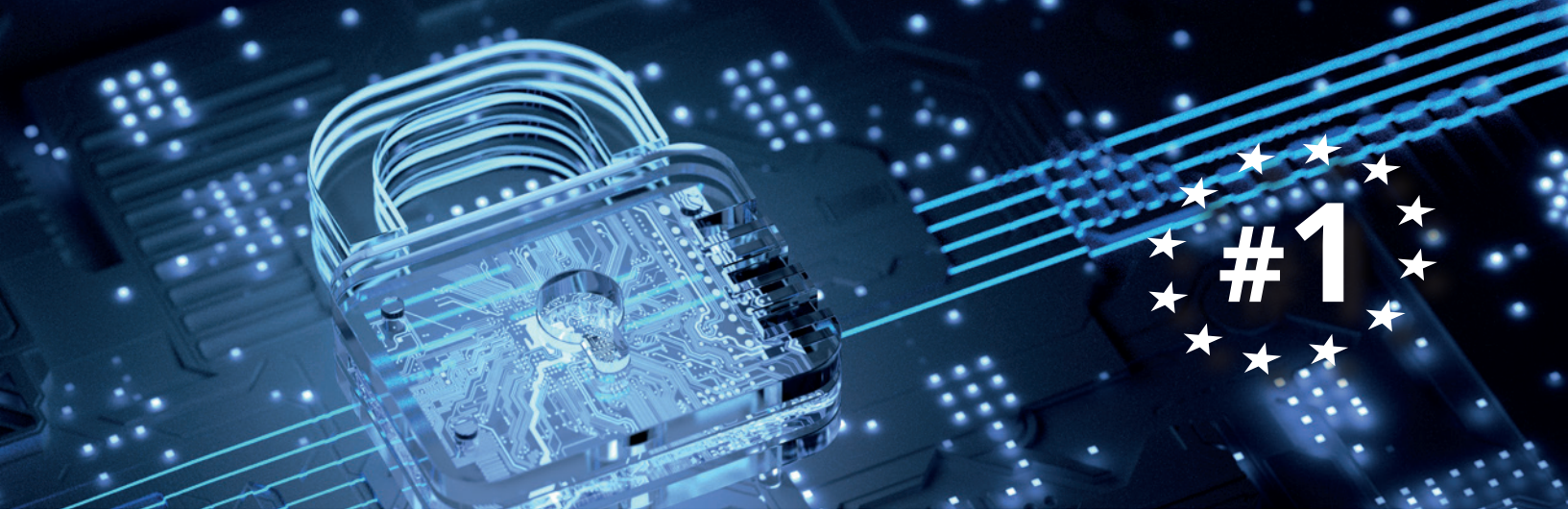SYSGO
EMBEDDING INNOVATIONS

Embedded Technologies
for a Safe & Secure connected Future

Welcome to SYSGO

Connected, Protected, Certifiable

SYSGO is Europe's leading provider of embedded real-time operating systems (RTOS) for Safety and Cybersecurity-critical applications. Founded in 1991, we empower industries to meet the growing demands for reliable, certifiable, and secure software in embedded systems.

PikeOS, our flagship product, is a world-leading RTOS and hypervisor designed to address challenges in mixed-criticality systems, ensuring highest levels of Safety and Security with operational efficiency performance.

ELinOS, our embedded Linux distribution, is tailored to industrial application development with built-in tools, robust performance, and broad hardware support, empowering developers to focus on innovation and seamless deployment.

SYSGO delivers innovative solutions that adapt to the fast-evolving landscape of embedded systems. Trusted by global industry leaders, we are shaping the future of technology.

→ **www.sysgo.com/products**

Choose SYSGO, because we...

- meet the highest **Safety and Security** needs of industries like Aerospace, Railway, Automotive, and Industrial Automation

- deliver **certifiable real-time operating systems** for multi-application platforms

- provide **embedded Linux** solutions tailored to specific industrial needs

- help customers achieve **compliance** with international Safety and Security standards

- offer **expert consulting** in Safety and Security certification processes

- contribute to **global research** and **standardization** in embedded systems

- provide **long-term support** and training for successful product life cycle management

→ **www.sysgo.com/about-us**

Need more information? Tell us about your project and your needs:
→ **www.sysgo.com/contact**
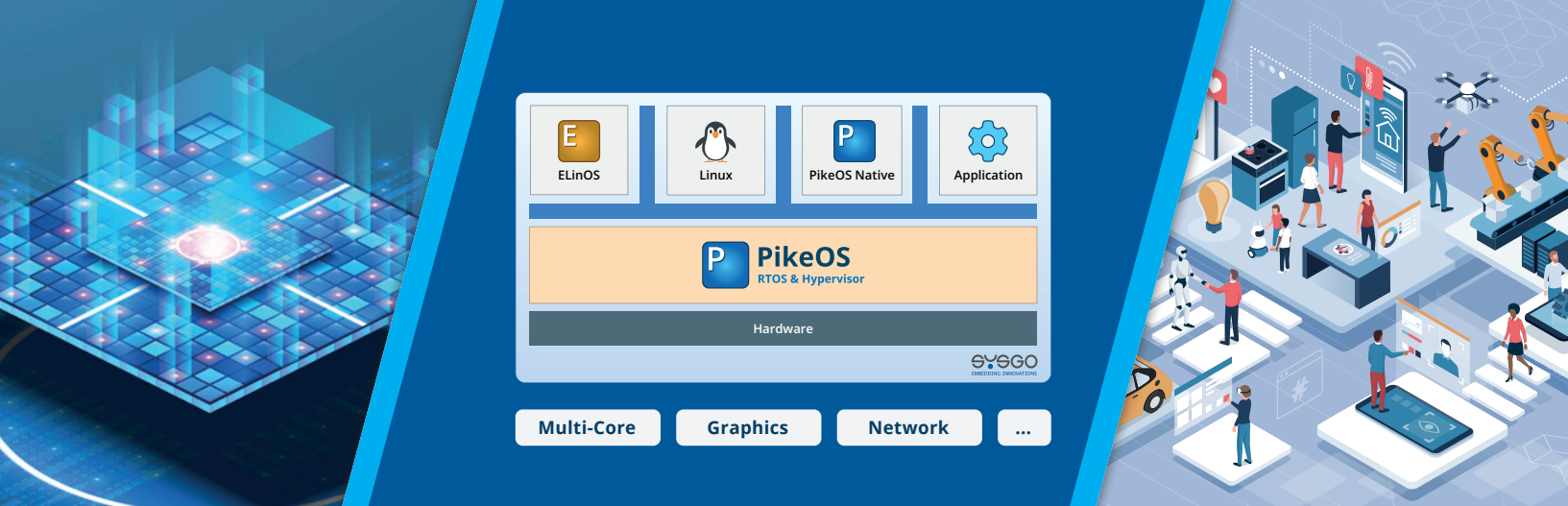
Our Products

PikeOS
### RTOS & Hypervisor

PikeOS is a certified real-time operating system and hypervisor designed to meet the highest Safety and Security standards. It features a separation kernel that allows the execution of multiple partitions on a single hardware platform, each operating independently.

Key Features

- **Safety:** DO-178C, ECSS, EN 50128 / EN 50657, ISO 26262 and IEC 61508
- **Security:** Common Criteria EAL5+
- **Guest OSs:** Linux, ELinOS, Android, Windows, POSIX, ARINC 653, PikeOS Native, Autosar, ...
- **HW Independence:** Compatible with leading processor architectures, including x86, ARM, SPARC, PowerPC, and RISC-V
- **Other:** Multi-core support, CIP, CFS, CML, large SW & HW ecosystem, ITAR free

→ **www.sysgo.com/pikeos**
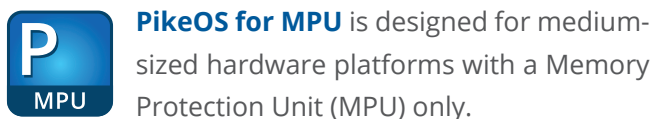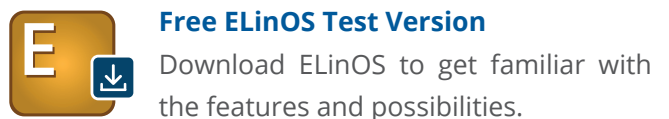
ELinOS
Embedded Linux

ELinOS is an advanced development platform tailored for industrial applications. It simplifies the development and deployment of embedded systems, with integrated powerful Security features offering high performance, real-time precision and scalability.

Key Features

- **CODEO IDE:** Integrated development environment for Linux- and Windows-based systems
- **Quick:** Setup wizard and pre-configured components to accelerate time-to-market
- **Secure:** Immutable OS, SELinux, ASLR, and compliance with Cybersecurity guidelines
- **Powerful:** Flexible architecture for hardware platforms incl. x86, ARM, PowerPC, and RISC-V
- **Long-Term Support:** Extended updates possible

→ **www.sysgo.com/elinos**

PikeOS for MPU is designed for medium-sized hardware platforms with a Memory Protection Unit (MPU) only.

→ **www.sysgo.com/pikeos-mpu**

Free ELinOS Test Version
Download ELinOS to get familiar with the features and possibilities.

→ **www.sysgo.com/get-elinos**

Market Segments

Avionics & Defense

certifiable up to
DAL A

Market Challenges

- Increasing system complexity in modern aircrafts and Avionics systems
- Requiring highest levels of Safety DO-178C and hardware certification DO-254
- Securing communication in mission-critical environments against cyber threats

SYSGO Solutions

PikeOS enables the development of systems compliant with DO-178C, DO-254, and ARINC 653 standards. Its partitioning architecture supports the integration of critical and non-critical functions on the same hardware, reducing costs, weight and power in Aerospace applications.

Key Applications

Flight control systems, cockpit displays, GPS (Global Positioning System), UAM (Urban Air Mobility), UAS (Unmanned Aerial Systems), UAV (Unmanned Aerial Vehicles), eVTOL (electric Vertical Take-Off and Landing), drones, power management, and secure Defense communication platforms.

→ **www.sysgo.com/avionics**

Railway & Transportation

certifiable up to
SIL 4

Market Challenges

- Ensuring operational reliability in complex train and signaling systems
- Compliance with Safety standards EN 50128 and EN 50657 to the highest levels
- Integration of IoT and digital communication in Railway systems

SYSGO Solutions

PikeOS supports real-time processing and system Safety in signaling, train control, and monitoring systems. Its virtualization capabilities allow manufacturers to consolidate multiple systems on a single platform, saving costs while ensuring Safety compliance.

Key Applications

ATO (Automatic Train Operation), ETCS (European Train Control Systems), signalling, automatic train control, driverless operation, intelligent predictive maintenance & remote diagnostics, brake & traction control, and passenger information systems.

→ **www.sysgo.com/railway**

Market Segments

Automotive
certifiable up to
ASIL D

Industrial Automation
certifiable up to
SIL 3

Market Challenges

- Growing complexity in vehicles, ADAS (Advanced Driver Assistance) and autonomous systems
- Ensuring functional Safety with ISO 26262 compliance
- Cybersecurity in connected vehicles and OTA (Over-The-Air) updates

SYSGO Solutions

PikeOS addresses the need for Safety-critical applications in ADAS, powertrain, and ECU consolidation, providing manufacturers with a reliable foundation for achieving ISO 26262 certification. Its ability to support heterogeneous systems allows seamless integration of Safety-critical and non-critical functions.

Key Applications

Autonomous driving, Electronic Control Unit (ECU) gateway, ADAS, LiDAR (Light imaging, detection and ranging), smart sensors, in-vehicle entertainment, and secure vehicle communication: V2V (vehicle-to-vehicle) and V2X (vehicle-to-infrastructure).

→ **www.sysgo.com/automotive**

Market Challenges

- Meeting the demands of Industry 4.0 for interconnected systems
- Ensuring operational Safety with IEC 61508 certification
- Real-time data processing and deterministic performance

SYSGO Solutions

PikeOS and ELinOS provide robust and scalable platforms for applications in robotics & cobots, industrial control systems, Edge Computing and IoT gateways. The flexibility of our solutions enables manufacturers to adapt quickly to evolving industrial market demands while maintaining system Safety, performance and reliability.

Key Applications

Smart factory, automation, network & connectivity, robotics & cobots, sensors, PLC (Programmable Logic Controller), AI-driven predictive maintenance, digital twins, OTA update, TSN (Time-Sensitive Networking), industrial Edge Computing and gateways for IoT.

→ **www.sysgo.com/industrial**

Our Partners & Technology Research

Strong Partner Ecosystem

SYSGO collaborates with leading hardware and software vendors to amplify the capabilities of our products and ensure seamless compatibility, offering integrated solutions that maximize performance and reliability across diverse platforms.

Our extensive partner network includes industry leaders in **processors**, **development tools**, and **software solutions**, enabling us to deliver robust and certified systems tailored to customer needs.

By partnering with top hardware and software innovators, SYSGO provides cutting-edge solutions optimized for advanced applications in Safety and Security in mission-critical systems.
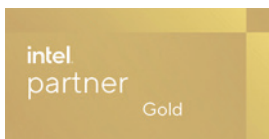
→ www.sysgo.com/partners
→ www.sysgo.com/tech

Shaping the Future of Technology

SYSGO actively participates in various research projects, including **EU-funded initiatives**, to pioneer advancements in Safety, Security, and real-time technologies.

By partnering with academic institutions, industry leaders, and government bodies in research projects, we are able to deliver practical technology innovations in embedded systems and beyond.

Our research projects cover a wide range of areas such as **connectivity**, **energy efficiency**, infrastructures for **Edge** and **Cloud Computing**, **IoT platforms**, **RISC-V** technology, **safe and secure AI**, and industries such as Avionics, Space, Railway, Automotive or Industrial applications.

→ www.sysgo.com/research

SYSGO's History & Milestones

It all started in 1991: Take a journey through SYSGO's innovations, resilience, and technological advancements. Discover the milestones, challenges, and triumphs that have shaped SYSGO as the dynamic company it is today.

→ www.sysgo.com/history

We are SYSGO

Global Impact and Local Presence

With offices in Germany, France, the Czech Repuplic, the UK, and partners worldwide, SYSGO combines global expertise with local support, ensuring seamless collaboration and swift response times for customers across the globe. From design to deployment, we provide a comprehensive range of services, ensuring our customer's success.

Services and Support

- **Expert Consulting:** SYSGO offers first-class end-to-end consulting services to guide clients through system design and integration processes.

- **Training Programs:** Make your development teams familiar with in-depth trainings on SYSGO's products, enabling them to harness the full potential of PikeOS and ELinOS.

- **Technical Support:** With our dedicated support team we guarantee that our customer's systems operate flawlessly, ensuring minimal downtime and maximizes system performance.

- **Certification Assistance:** We guide customers to streamline their certification process for Safety- and Security- critical applications

→ **www.sysgo.com/consulting**

Embedded Expertise and Innovation

Our success is driven by an international team of professionals who specialize in engineering, **functional Safety**, **Cybersecurity**, **consulting** and **support**. With decades of combined experience in mission-critical industries, we offer unparalleled expertise in creating robust software solutions tailored to specific market and customer needs.

Commitment to Excellence

Our company is dedicated to delivering best services and high-quality software solutions, adhering to **ISO 9001** (Quality Management) and **ISO/IEC 27001** (Information Security Management) certifications. This ensures that SYSGO maintains industry-leading standards in every project.

A Culture of Collaboration

Collaboration is at the heart of our innovation. Our international team works closely with **customers**, **industry partners**, and **certification authorities** to ensure that every solution meets the highest Safety and Security standards.

→ **www.sysgo.com/about-us**

Interested in working with us?

Join our SYSGO team and shape the future of embedded Safety and Security. We work on cutting-edge solutions for industries like Aerospace, Railway, Automotive, and Industrial Automation, driving systems that truly matter.

If you're passionate about making an impact and thrive in a collaborative, high-tech environment, we'd love to hear from you!

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