

# Industrial Automation

## Safe & Secure Embedded Software



**IEC 61508**  
up to SIL 3



**Common Criteria**  
EAL 5+

## Driving the Digital Transformation

### Connected, Protected, Certifiable

In the rapidly evolving Industrial Automation, the demand for **reliable, safe, and secure software solutions** is paramount. SYSGO offers cutting-edge real-time operating systems (RTOS) and hypervisor technologies tailored for the embedded market. Since 1991, SYSGO has grown to become Europe's premier provider of certifiable RTOS, with a strong focus on **Safety & Security** in industrial applications.



**PikeOS**, our certified flagship product, ensures safe and secure operations in critical applications.

### Use Cases

- **Robotics & Cobots:** Enabling precise, safe, and responsive operation of robots in industrial environments with certified real-time performance
- **Gateways and Connectivity:** Integrating machinery (CNC, automated production lines, controllers, OPC UA, MQTT) with IoT ecosystems using secure, scalable connectivity solutions
- **Industrial Control Systems:** Driving Safety-critical machinery (such as autonomous vehicles with sensors, LiDAR, cameras, and monitoring) with certifiable software that meets global standards

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### Certifications and Standards

Ensuring Safety, Security, and compliance is at the core of our development process. Our solutions are rigorously designed to meet and exceed the demands of global standards in critical domains. Key certifications and standards we adhere to include:

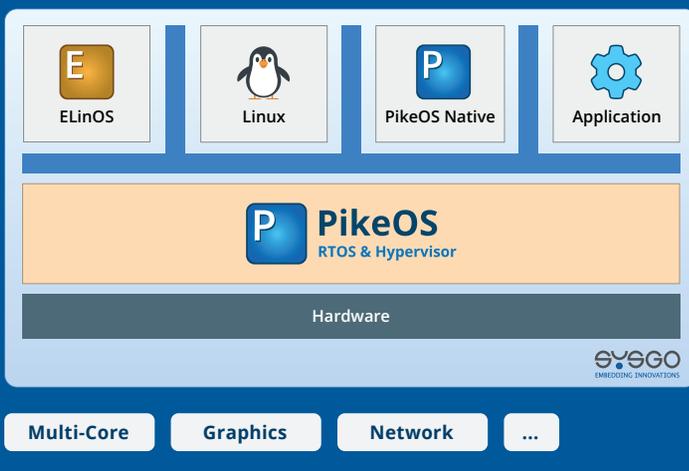
- **IEC 61508:** Our solutions meet the rigorous requirements, ensuring robust and certifiable software for Safety-critical Industrial Automation and machinery applications
- **IEC 62443 & ISO 21434:** Implementing Cybersecurity measures to protect connected industrial environments against cyber threats, in alignment with IEC 62443 for secure industrial control systems and ISO 21434 for Automotive Cybersecurity

### Why Compliance matters

Compliance with Safety and Security standards is not just a requirement, it's a competitive advantage. SYSGO enables faster certification, reduced system complexity, and future-proof Industrial Automation solutions that meet the demands of modern, connected and autonomous Industrial applications and beyond.

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## Safe & Secure Operations

### The Future of Intelligent Systems

PikeOS provides a robust foundation for modern Industrial Automation, ensuring functional Safety, Cybersecurity, and real-time performance. Its separation microkernel architecture enables mixed-criticality workloads, making it the ideal choice for robotics, industrial control systems, gateways, and smart factory applications.

### Key Features

- **Hardware Compatibility:** Support for a wide range of processors, including x86, ARM, SPARC, PowerPC, and RISC-V, ensuring seamless integration into PLC systems, industrial controllers, robotics, and smart gateways
- **Mixed-Criticality:** Strict partitioning enables critical functions (e.g., motion control, predictive maintenance, emergency stop) to run alongside non-critical applications (e.g., data logging, AI optimization) on the same hardware
- **Guest OS:** Can host various guest operating systems, such as ELinOS, Linux, POSIX, etc., facilitating diverse application deployments
- **Certiability:** Designed to meet rigorous certification standard such as IEC 61508, ensuring compliance with international Safety and reliability requirements
- **ITAR-free:** As European company, our products have no export restrictions enabling unrestricted global deployment

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### Why choose SYSGO?

- **Engineering Excellence:** Combining expertise with cutting-edge technology to meet the evolving demands of modern embedded, performant, and connected systems
- **Cutting-Edge Solutions:** Driving advancements in robotics, cobots, connected machinery, and sensor systems. We enable next-generation industrial control systems, predictive maintenance solutions, and real-time monitoring
- **Long-Term Support:** Ensuring stability with extended product life cycles, continuous updates, and dedicated technical assistance

### Our Commitment to Excellence

At SYSGO, we deliver more than just software: We provide confidence and reliability that Industrial Automation systems will operate safely and securely. We help customers in manufacturing, robotics, smart infrastructure and IIoT to create safe, efficient, and innovative automation solutions that drive the connected factories of tomorrow.

” **ELTEC:** „The increasing importance of embedded Linux in the industry leads to the desire for reliable and competent partners. We have found such a partner in SYSGO. With the synergies resulting from the interaction of reliable hardware and secure real-time software, our customers achieve a significant advantage in the development of embedded systems.“



## For a Safe & Secure Operation

In today's modern Industrial Automation, Safety, Security, and reliability are essential. SYSGO's certifiable real-time solutions provide a robust foundation for critical applications, guaranteeing seamless operation in robotics and cobots, machinery control, industrial gateways, and connected systems.

With decades of expertise and a commitment to innovation, we help you meet the highest industry standards while enabling next-generation technologies. Partner with SYSGO to build systems that are not only powerful but also safe, secure, and future-ready.

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