

Development Environment for SYSGO Products

Cross Platform Development

✓ Linux ✓ Windows

Engineering Precision & Performance

CODEO is an advanced Eclipse-based Integrated Development Environment (IDE) designed to streamline embedded systems engineering. Built for SYSGO's **PikeOS**, **PikeOS for MPU**, and **ELinOS**, CODEO provides powerful tools for configuration, debugging, analysis, and deployment, ensuring a seamless and efficient development workflow for real-time and Safety-critical applications.



CODEO maintains compatibility with a wide range of **industry-standard plug-ins**. Its flexibility allows developers to extend the IDE with **3rd-party tools** or integrate the CODEO plug-in into an existing Eclipse setup.

For automated environments and continuous integration (CI/CD) workflows, CODEO offers **GUI-less configuration tools** and robust scripting capabilities. Additionally, its toolchain enables the setup of a fully headless CODEO build pipeline, streamlining development and deployment processes.

→ www.sysgo.com/codeo



Get your Hands on CODEO

Our CODEO IDE is included in our free ELinOS test version.

→ www.sysgo.com/get-elinos

Why CODEO?

- **Optimized for Embedded Systems:** Built for the unique demands of real-time, Safety-critical, and multi-core environments
- **Comprehensive Toolchain:** Offers an integrated workspace for development, testing, and deployment in a single environment
- **Certiability-ready:** Supports development of Safety- and Security-critical applications with advanced tools optimized for certification processes in Aerospace, Railway, Automotive, or Industrial Automation
- **Enhanced Security Features:** Provides built-in Security mechanisms for secure embedded software development, ensuring compliance with industry standards
- **Seamless Integration with CI/CD Pipelines:** Designed for automated workflows, allowing efficient continuous integration and deployment



Powerful Development Basis

Built on the robust Eclipse framework, CODEO leverages the modularity, extensibility, and widespread adoption of Eclipse to provide a superior development experience. Developers benefit from a rich ecosystem of available plug-ins, a familiar and customizable interface, and seamless integration with a variety of tools and workflows.

By utilizing Eclipse's well-established architecture, CODEO ensures long-term stability and adaptability for evolving embedded system requirements.

Key Features

Cup of CODEO – Video Tutorials

www.sysgo.com/cup



Configuration & Multi-Core

- **Graphical Tools:** Advanced integration editors provide interactive support for GUI and code editing simultaneously
- **Intuitive UI** for partitioned scheduling, real-time performance and deterministic execution
- **Fine-grained control** over core assignment and execution parameters, optimizing performance across multi-core architectures
- **GUI-based** or **source code configurations** with instant verification and feedback
- **Copy/paste and export/import features** for efficient project management and collaboration
- **Integrated user documentation** inside the GUI for easy reference



Editors & Modularity

- **Task-oriented PikeOS Editors:**
 - Graphical Scheduling, Channel and Shared Memory Editor, Romimage Tree Editor
 - Graphical Memory Layout (PikeOS for MPU)
- **Task-oriented ELinOS Editors:**
 - Feature, Kernel and Target File System Editor
- **Modular Configuration Concept:**
 - High-level abstraction with reusable components
 - Pre-defined building blocks save dev time
 - 3rd-party tools integration for code generation



Advanced Debugging & Analysis

- **Graphical debugger** with live views for registers, memory, and disassembly
- **Static analysis tools** for code integrity, dependency management, and error detection
- **Dynamic analysis & tracing** for real-time monitoring of application behavior
- **Integrated QEMU emulator** for testing without physical hardware
- **Click-build development** for rapid iteration cycles
- **Rich target monitoring UI** with graphical data plotting for identifying system anomalies
- **Cross-architecture simulation targets** for PikeOS and ELinOS to develop without hardware dependency
- **Integrated trace data recorder and viewer** for built-in timing analysis



Collaboration & Team Work

- **User-domain oriented project structures** for industry-specific workflows
- **Built-in project migration tools** to simplify transitions between product versions
- **Interactive validation and live feedback** to enhance debugging efficiency
- **Monitoring** of multiple simultaneous target systems

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/codeo