



Development Environment for SYSGO Products

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

Cross Platform Development

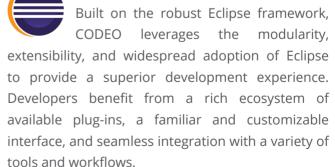




Why CODEO?

- 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
- Certifiability-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 builtin 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



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





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

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