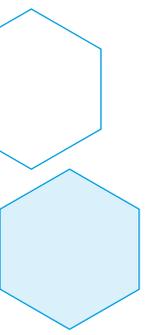




CODESYS®

Roadmap | January 2026

Hilmar Panzer | Managing Director & CTO

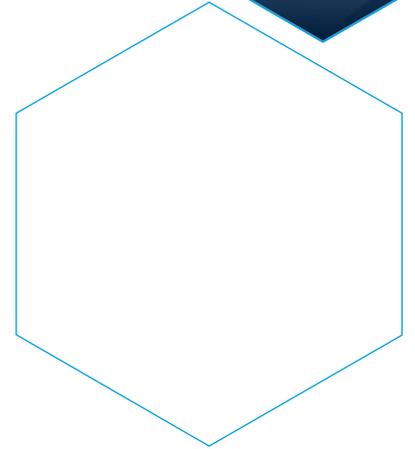


Disclaimer

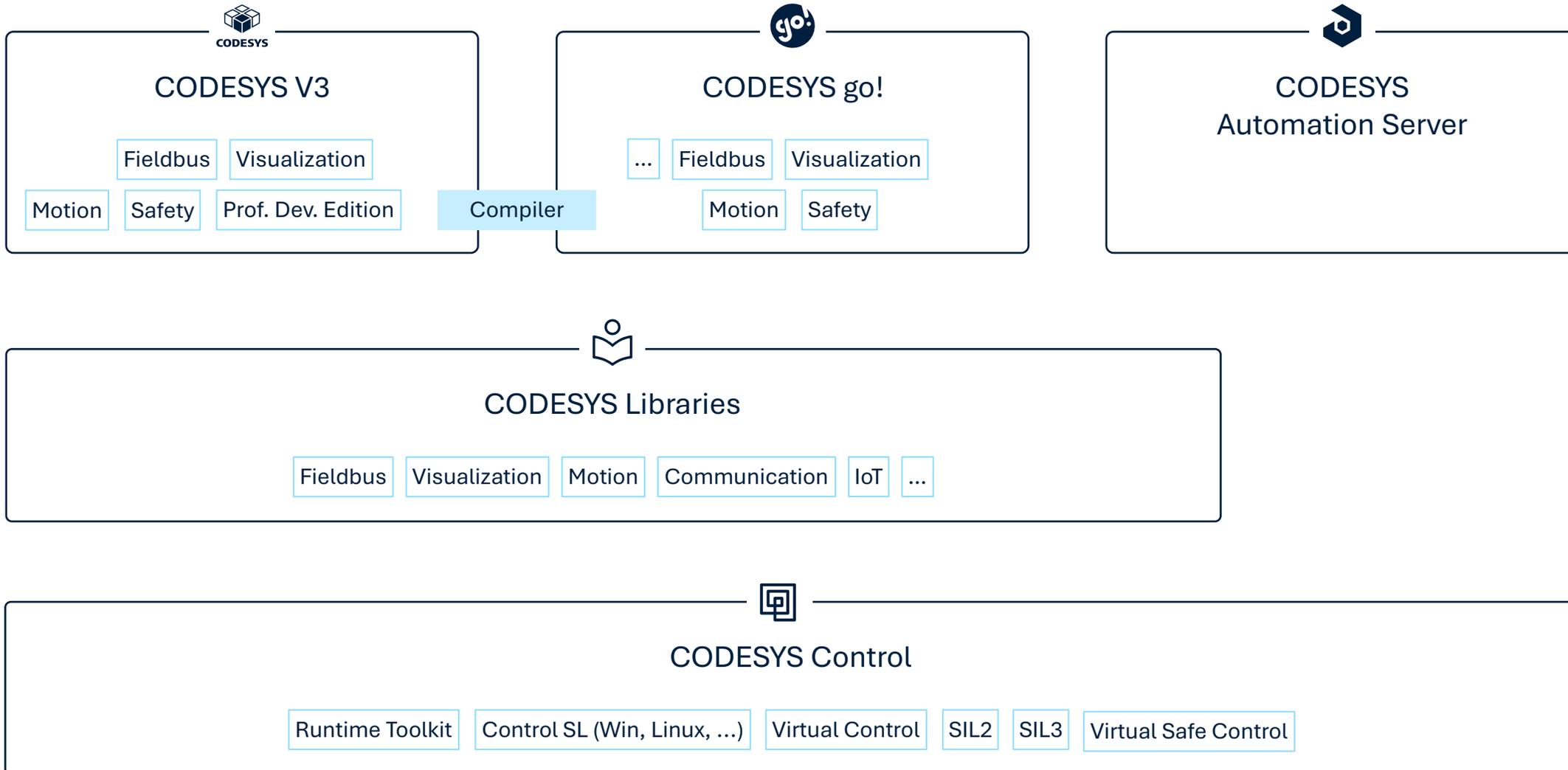
This presentation contains our product planning schedule defined at the time this presentation was created.

The specified contents and timeframes may change or be rescheduled for various reasons.

They should therefore be regarded as a statement of intent, but are not binding.



Product structure and document content



DevOps Tools

Add-ons
(with functionality independent from the Engineering System)

Controller

IEC61131-3 language editors



Toolbox customization

 V3.5 SP22 | Q1 2026

- Customers can define the toolbox content according to their preferences.
- First editor to use this new feature: ST, others will follow



CODESYS Ladder

 1.3.0.0 | Q3 2026

- New Toolbox customizations can be used with the new Ladder editor.
- CODESYS File-Based Storage support.



Professional Developer Edition



Git

 Q2 2026

File-based storage as backend

File-Based Storage

 Q2 2026 | V1

- New alternative text-based project format for CODESYS V3
- Similar, yet not identical with CODESYS go! project format
- It is part of the Professional Developer Edition and requires this license for saving.
 - Opening a project does not require a license.
- V1.0 takes into account your feedback on V0.9. It will provide:
 - file format changes,
 - harmonized line endings,
 - optimized user experience.
 - Libraries (.fbslib) can be exchanged from CODESYS go! to CODESYS Development System and vice versa. (Restrictions possible)



Professional Developer Edition



Test Manager

 5.2.0.0 | Q2 2026

Enable basic no UI usage in CI / CD workflow.



Simulation interface

 1.0.0.0 | Q2 2026

- Enables virtual commissioning and automated HW/SW testing of CODESYS-controlled machines.
- Integrates CODESYS applications in third-party simulation tools (Software-in-the-loop).
- Standard interface based on OPC UA Pub/Sub and information model
- Switches easily between simulation and real target without project changes.
- A preview version for evaluation is already available.



Application Composer



Application Composer

 4.5.0.0 | Q2 2026

- Full support of UI-less scripting of Application Composer commands
- Fixes a problem with very long module descriptions (>32k).
- Forward compatibility with upcoming CAA-free BASLIB 5.0.



Application Composer

 4.6.0.0 | Q4 2026

Provides support for generating SoftMotion AxesGroups.



Artificial Intelligence



Model context protocol MCP

 Q2 2026

- Allows for AI coding tools to interact with CODESYS.
- Will require V3.5 SP22.



Code / Line Completion

 2027?

- For ST editor
- Proposes snippets while user is coding.
- Fine-tuned LLM for CODESYS compiler syntax and features



Research topics!

Timeline & content may change!



Visualization



Media Player Element for TargetVisu

 SP22 | Q1 2026

Support of the Media Player Element for TargetVisu

- Possibility to display camera streams
- Possibility to display video streams



WebSocket support for WebServer and WebVisu

 V3.5 SP22
& 4.10.0.0 | Q2 2026

Reduce network load by leveraging WebSocket technology



TargetVisu overlay optimizations

 2026

Performance optimization for:

- Loading / switching pages
- Drawing / updating pages



Visualization



New Visu elements

4.10.0.0 | Q2 2026

- Donut gauge – round slider
- Donut chart



File-Based Storage support

Q4 2026

Visual objects with all elements can be stored and read with File-Based Storage.



Redundancy for Alarms

Q4 2026

Support of alarm status synchronization with CODESYS Redundancy



Fieldbus

Online change support in IO configuration

Extended online change support of

- Local I/O drivers

 V3.5 SP22 | Q1 2026

- PROFINET

 Q2 2026

- MODBUS

 2026

CAN FD

 SP22 | Q1 2026

Configuration dialog for
Gateway communication



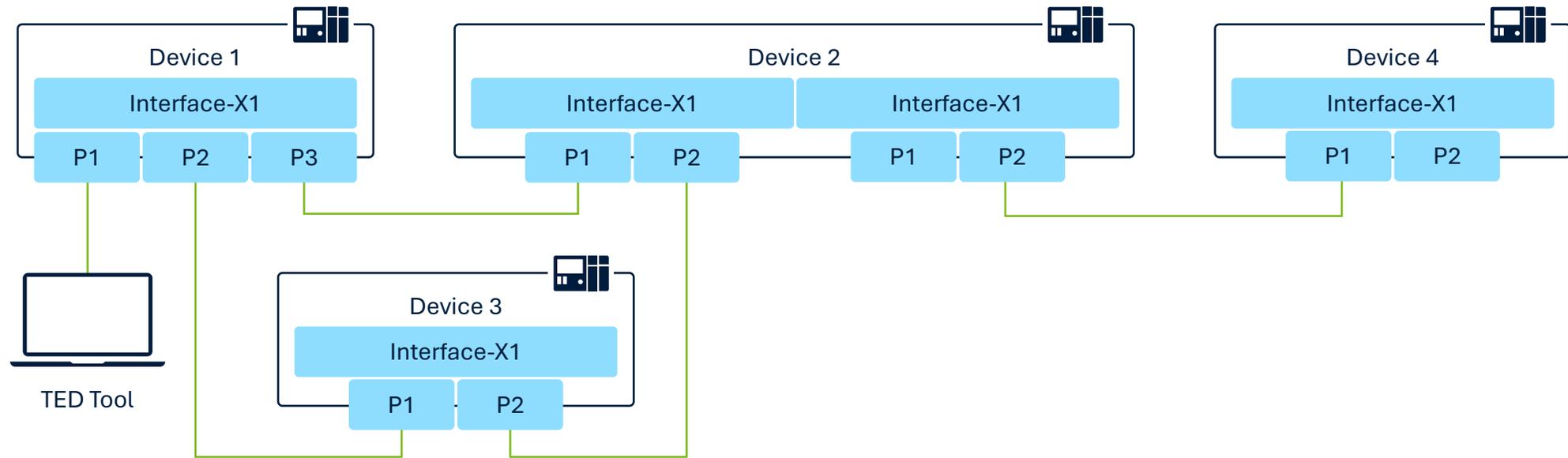
Fieldbus

PROFINET

📅 Q2 2026

Topology editor local I/O drivers:

Defines and supervises the topology of all PROFINET devices graphically.



Communication

Certificate chain validation

 V3.5 SP22 | Q1 2026

- OPC UA Client:
Supports certificate chain validation received by server.
- OPC UA Server:
Provides the complete certificate chain to clients for validation.

Server: GDS support

 V3.5 SP23 | Q1 2027

Supports OPC UA certificate management by connecting to a third-party global discovery server.

OPC UA Server Information models

 4.8.0.0 | 2026

- OPC UA Core model implemented in firmware is usually older than the latest model.
- Many companion specifications reference the latest OPC UA Core model.
- Application download only refused if unavailable parts are actually referenced by currently used information model.

Safety

Safety Extension

 Q4 2026

Safety applications can be managed
by CODESYS git.



G-Code for Robotics

 4.21.0.0 | Q3 2026

- Use existing G-Code functionality (interpreter, path preprocessors) to program an axis group
- Benefit from combination of robotics configuration and path planning with CNC features
- G-Code is connected to the axis group using MC_MovePath

Compiler

Raw ST parser (CODESYS go!)

 rel. with V3.5 SP22 | Q1 2026

- Improved parsing of raw ST files in compiler for better readability of File-Based Storage due to less specific metadata that are required in the files
- Possibility to implement several POU's in one single file (FB with all methods)

Native compiler logging features

 V3.5 SP22 | Q1 2026

- New compiler features to access compile information
- Helps application programmers to log info more easily and precisely

Support method overloading (CODESYS go!)

 rel. with V3.5 SP22 | Q1 2026

A compiled library generated with go! using this new feature will work also with V3.



Introduction CODESYS go!

- Alternative programming tool based on web technology
 - Proven compilers are from CODESYS V3 reused.
- Compatible with CODESYS Control V3 – there will be no separate runtime for CODESYS go!
- Add-ons programmed as libraries are reused from CODESYS V3.
- Platform-independent engineering tool for CODESYS PLCs
 - Backend running on desktop, server, cloud, or on the PLC itself; Windows- and Linux-based
 - Frontend running on any device with web browser support
- Textual project storage
- The first version will be available in April 2026. It will provide limited functionality compared to V3.



CODESYS go - PRERELEASE VERSION - NOT FOR RESALE!

Menu PRERELEASE VERSION - NOT FOR RESALE! Monitor

PLC_PRG.prg.st x Baustein.fb.st x Basis.fb.st x LogIt.fn.st x ProjectInfo.json x

- MonitorTest.fbsdev
- DeviceConfigs
- Monitor.iecapp
 - DoubleBound.alias
 - IntAlias.alias
 - NickName.alias
 - Aufzaehlung.enum
 - Basis.fb.st
 - Baustein.fb.st
 - GrossVater.fb.st
 - ComponentID.gvl
 - MultiGVL.gvl
 - ItfSchnitt.itf
 - Libraries.json
 - TaskConfiguration.json
 - Libraries.lock.json
 - PLC_PRG.prg.st
 - Inner.struct
 - MyStruct.struct
 - Outer.struct
 - Test.txt
 - DeviceTree.json
 - ProjectInfo.json
 - Communication.settings.json
- Logging.fbslib
 - LibEnum.enum
 - LogAdd2.fn.st
 - LogIt.fn.st
 - SysTimeGet.fn.st
 - Parameter.gvl
 - Libraries.json
 - ProjectInfo.json
 - LibStruct.struct
- LoggingVariables.fbslib
 - LogClass.gvl
 - LogConstants.gvl
 - Libraries.json
 - ProjectInfo.json

```

1 {attribute 'monitoring_display' := 'Geschachtelt'}
2 PROGRAM PLC_PRG
3 VAR CONSTANT
4   KONSTANT : int := 42;
5 END_VAR
6 VAR
7   {text 'This is a text message injected via pragma.'}
8   {info 'This is an info message injected via pragma.'}
9   {warning 'This is a warning injected via pragma.'}
10  {text 'Unicode Roundtrip: A0qva القاهرة 北京 UN.'}
11
12
13
14  j : int;
15
16  sCount : string;
17  sMsg : string;
18  iCnt : int;
19
20  pApp : POINTER TO CmpApp.APPLICATION;
21
22  result : SysTypes.RTS_IEC_RESULT;
23
24  wArea : WORD;
25  ULOffset : __XWORD;
26
27  u8str : string := 'Kempton 北京 A0qva القاهرة UN.';
28  u16str : wstring := "Kempton 北京 A0qva القاهرة UN.";
29
30  wirklich : real := 42.23;
31  doppelt : lreal := 0.8154711;
32
33  bBool : bool := true;
34  big : lword := 16#1234567890abcdef;
35
36  Geschachtelt : Outer;
37  Inkognito : NickName;
38
39  Einfach : inner;
40
41  piPtr : POINTER TO INT := ADR(iCnt);
42  intRef : REFERENCE TO INT Ref= iCnt;
43  byByte : byte;

```

```

1 // Small wrapper around CmpLog.LogAdd2().
2 // Logs to the STD_LOGGER as LOG_INFO and CmpID.IecCode.
3 FUNCTION LogIt : SysTypes.RTS_IEC_RESULT
4 VAR_INPUT
5   // The string to log.
6   pszInfo : STRING;
7 END_VAR
8 VAR
9   END_VAR
10
11
12 LogIt := LogAdd2(
13   LogVar.LogConstants.STD_LOGGER, // LogConstants.LOG_STD_LOGGER,
14   16#00001000, // ComponentID.CmpID_IecCode
15   LogVar.LogClass.LOG_INFO, // LogClass.LOG_INFO,
16   0, // udiErrorId -- ErrorID of the Log entry. See CmpErrors.Library
17   0, // udiInfoId -- ID of the info text to enable multiple language error texts
18   pszInfo
19 );

```

BUILD PRECOMPILE WATCHLIST PROBLEMS:LIBRARIES

- PLC_PRG.prg.st MonitorTest.fbsdev/Monitor.iecapp/
 - This is a text message injected via pragma. (6,1)
 - i This is an info message injected via pragma. (7,1)
 - ! This is a warning injected via pragma. (8,1)
 - Unicode Roundtrip: A0qva القاهرة 北京 UN. (9,1)
 - ! Implicit conversion from signed Type 'INT' to unsigned Type 'UINT' : Possible change of sign (128,18)

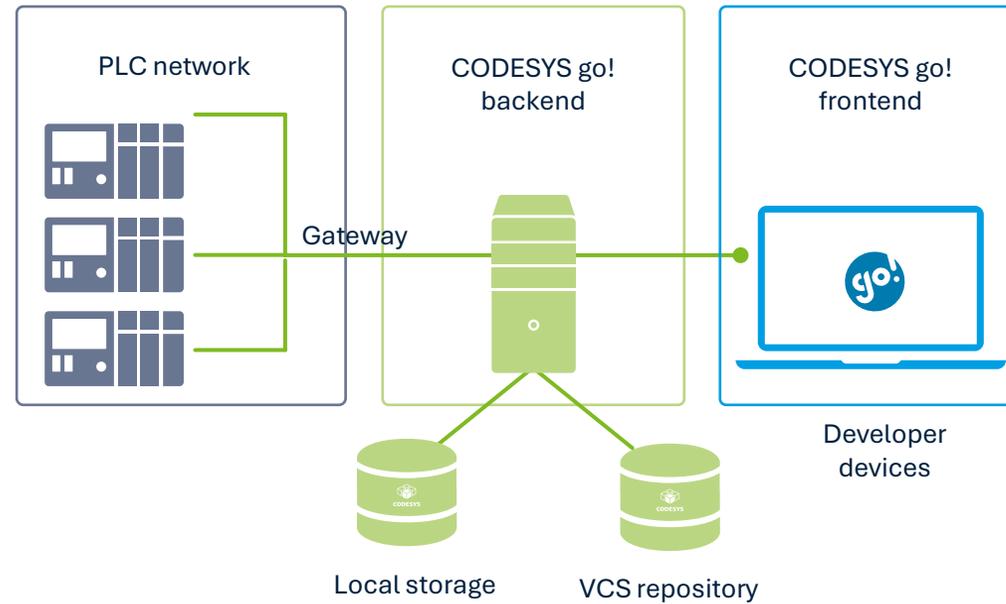


Release plan for CODESYS go!

- After 2028, CODESYS go! will require a license fee.
- CODESYS go! will be released for the first time in April 2026 with limited functionality, focusing on two use cases:
 - Implementation of simple applications that do not require more than the currently available functionality
 - CI/CD for libraries
- There will be frequent updates (6 – 8 weeks) for CODESYS go!, bringing new functionality step by step.
- Linear end-of-line versions, no official regular patches (as in V3) planned.
- New functionality, current status, and modules under development will be announced in this roadmap and in the CODESYS Feature Briefing.

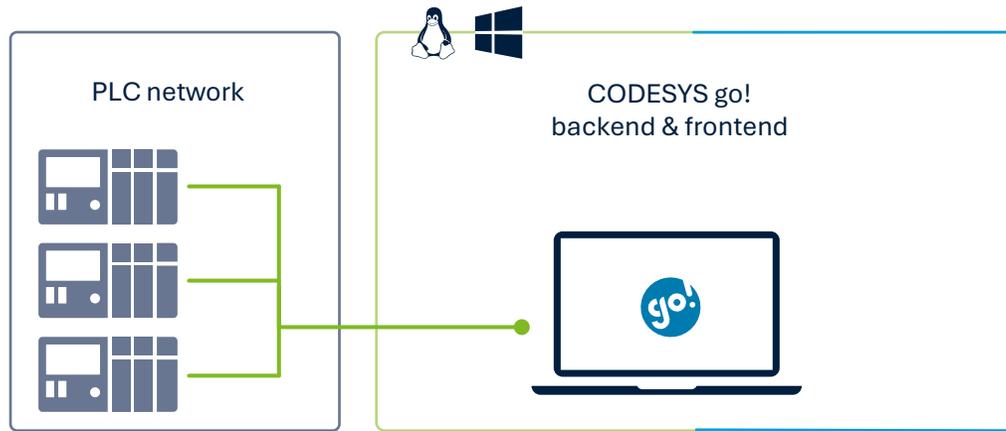


Architecture of CODESYS go!

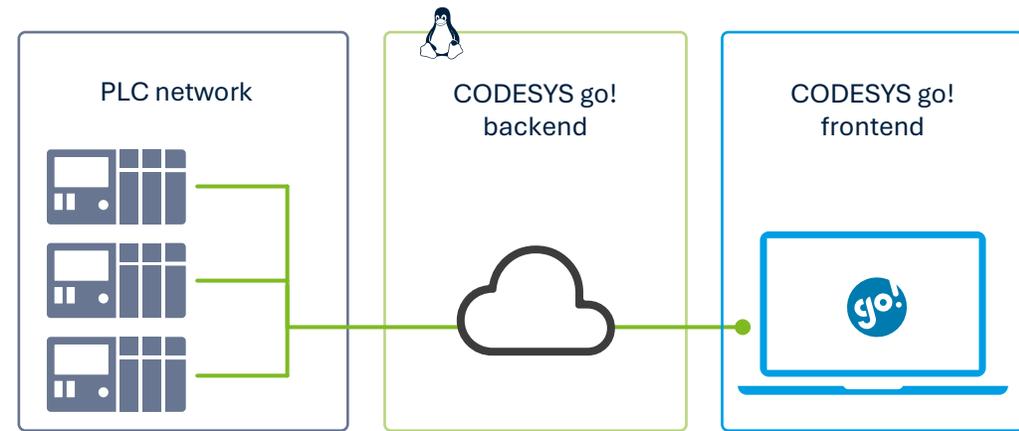


Operating options of CODESYS go!

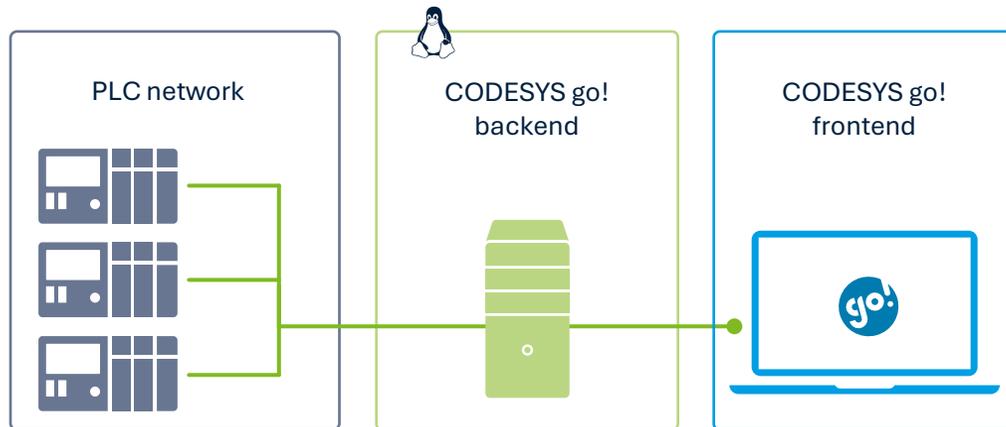
Desktop/Client



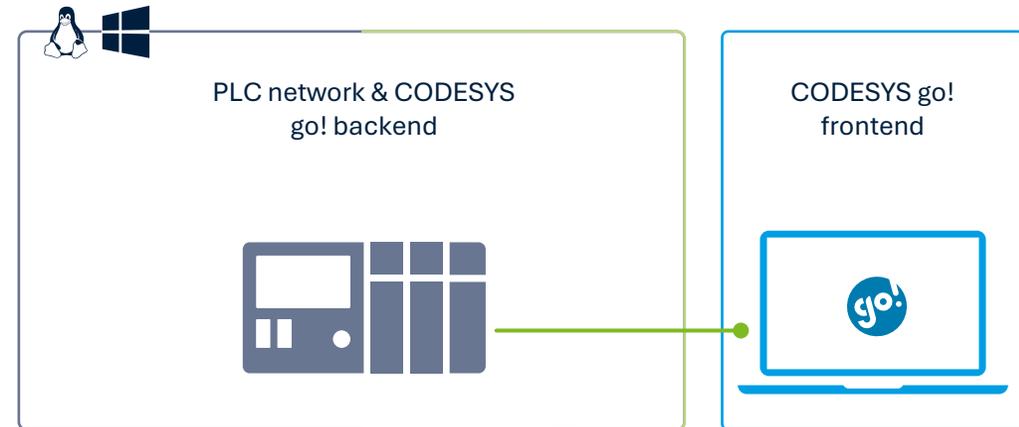
Cloud/Client



Edge/Client



PLC/Client



Essentials

 April 2026 | Architecture and Deployment

Extension platform

Component-based architecture, allowing for customer extensions in the future

Desktop deployment

Install and run both frontend and backend server on a Windows desktop system.

Controller deployment

Install and run the backend server on Raspberry Pi as proof of concept.
Other Linux systems can be provided.

On-prem deployment

Install and run the backend server on a Linux-based server.



Essentials

 April 2026

UI and essential editors

- Navigator
- Editor / view host
- Command infrastructure
- ST editor
 - Enhanced offline functionality
 - Online mode and monitoring

Compiled library generation

Compatible with V3



IEC61131-3 languages

Ladder editor

 April 2026

- Clear diagrams at every zoom level:
Maintain readability and precision at all zoom levels.
- Consistent UI in light and dark mode:
Improves usability and visual comfort in different working environments.
- Fast and intuitive editing experience
Mouse, keyboard, drag-and-drop, and context menus make daily work more efficient.

Ladder editor

 2026

- No professional coding features e.g. IntelliSense, auto-declare, underlining errors in the editor yet (planned for 2026)
- No online mode yet

ST editor

 2026

Advanced features will be added in the upcoming versions in the course of 2026.



Fieldbus

DeviceObject

 2026

- Basic support (April 2026)
- DeviceStatus in object tree and status page
- IO Mapping dialog with full feature support
- Device Repository
- New device description format

MODBUS

 2026

- TCP Server und Client (April 2026)
- Serial

EtherCAT

 2027



Communication

Communication Manager

 Q4 2026

First editor to enable easy publishing
of symbols as OPC UA Server.



Automation Server

On-premises support

 1.0 | Q1 2026

- Cloud-independent Automation Server on customer's own IT infrastructure
- Release candidate available since Q4 2025:
Contact us at sales@codesys.com

File management / backup / restore

 Q2 2026

- Exchange files between PLCs and clients via browser (already released)
- Manage files and folders on PLCs (already released)
- Central file management on the Automation Server (already released)
- Deployment of additional files (Q2 2026)
- Backup & restore of PLC files in the Automation Server (Q2 2026)



Application / SoftMotion

ControlElement Libraries

 1.0 | Q1 2026

- FBs (PID, filters, ...) for programming control loops
- New package that contains the library “Control Loop Library” from the CODESYS Store
- Managed by the CODESYS Installer

Base Libraries

 5.0 | 2026

New version without obsolete CAA libraries

SRCI

 Q3 2026

Robotics interface library following PI SRCI specification

IIoT Libraries

 Q4 2026

Web Client will support the content-type "multipart/form-data"



Runtime Toolkit

CODESYS Control

 V3.5 SP22 | Q1 2026

- Improved handling of signed certificates / CSRs
 - Improved management inside the runtime
 - CODESYS Automation Server as a certificate server to renew / update certificates
- Support of Wibu licensing with EWF/EBWF filter
 - Support of read-only file systems
- Licensing infrastructure for device vendors
 - Single license mechanism for device vendors
 - Support of Application-Based Licenses (ABL) for device vendors
- Redundancy improvements
- Security: Process certification according to IEC 62443-4-1



Runtime Toolkit

CODESYS Control

- Independent release cycle for runtime toolkits  V3.5 SP23 | Q1 2027
Instead of releasing the runtimes along with CODESYS V3 Essentials, they can be released in an independent cycle.
- CRA compliant runtime  V3.5 SP23 | Q1 2027
 - Implement security features that are important for CRA
 - Complete threat model for runtime system
- Redundancy improvements  2026
 - Improve startup behavior
 - Avoid standalone/standalone scenarios
 - Improve data consistence in conjunction with asynchronous events (e.g. alarms)



Control for Windows

CODESYS Control RTE

 V3.5 SP22 | Q1 2026

Support for EC1000 internet interface

RTOSVisor (Acontis)

New product in the CODESYS Store

Third-party hypervisor solution

CODESYS Control RTE

 V3.5 SP23 | Q1 2027

- UTF8 support for all strings
- Independent release cycle from CODESYS V3 IDE
- New consistent retain mechanism using buffered file system

RTS Hypervisor (Real-Time Systems):

 2027 | New Product in the CODESYS Store

Third-party hypervisor solution



Control for Linux SL (1/2)

Generic peripherals for Linux runtimes

 4.19.0.0 | Q1 2026

Support peripherals like SPI, i²c, GPIO on Control Linux (ARM)

XDP support for PROFINET and EtherCAT

- X86 systems  Q2 2026
- Selected ARM systems  2026

No need for root access

 Q2 2026

Allow for the execution of Linux-based runtimes with specific user rights (no root access).

Performance and support report via PLC Shell

 Q3 2026

- Information about optimization of the system
- Support report with diagnostics



Control for Linux SL (2/2)

CODESYS Control for Weidmüller SL

 Q1 2026

CODESYS Virtual Control SL

- Support of Red Hat UBI  Q2 2026
(universal base image)
- Cluster support  2026
 - Kubernetes
 - Margo

Deploy Tool improvements

 Q3 2026

- Multiselect of container instances
- Multiple parallel tabs of the Deploy Tool
- Connection profiles
- Identification by hostname



CODESYS Safe Control SIL3

Safe Control

Two products

- Safe Control Core Toolkit
For device manufacturers
- Virtual Safe Control SL
 - Ready-to-use product for standard hardwares with Linux
 - Integrates and releases new functionalities of Safe Control Core with a short delay

New features

- FSoE Master support  4.2.0.0 | Q1 2026
- External library interface  4.3.0.0 | Q3 2026
 - Interface to extend Virtual Safe Control SL with own safety-related functionality as external function block
 - Including FLOAT support in external implementations
- ARM (32 bit) devices support  4.3.0.0 | Q3 2026
- Support for 64 Bit runtimes x86, ARM64  4.4.0.0 | Q1 2027
- Profisafe V2.6 support  4.5.0.0 | 2027



Safety SIL2

SIL2

 Q4 2026

No more strict version binding

- SIL2 runtime versions may differ from IDE version.
 - Device manufacturers can qualify a new IDE version much easier for existing runtime versions.
- ⇒ No runtime update required when the IDE is updated.



Security

Security

- Process certification according to IEC 62443-4-1  SP22 | Q1 2026
- Product certification according to IEC 62443-4-2:
Runtime Toolkit  SP23 | Q1 2027



Licensing

Introduction of Wibu License Portal

 Q1 2026

- Self-service licensing
Users can independently activate, deactivate, and restore licenses, thus reducing support effort.
- Flexible business models
Management of B2C, B2B, B2E, reseller, and project-based licenses with detailed role and group structures.
- Workflow automation
Integration with ERP, CRM, and e-commerce systems via API for the creation, delivery, and reporting of licenses.

Application-Based Licenses for SL modifications

 April 2026

Improved Online Help for licensing

 Q1 2026



