



**CODESYS**

**CODESYS®**

One software.

Any field of application.

Your automation platform.

# Your tailor-made automation solution – with CODESYS

Competitive edge thanks to **short time-to-market**

## 01

### Customize the runtime system to fit your hardware

- Support of all industrially used CPU platforms (32-/64-bit)
- Ready-to-use for standard operating systems, other operating systems optional
- Reference platforms for embedded systems
- Expert support for customization and implementation

CODESYS turns your hardware into a **complete automation solution**

## 02

### Define the functionality

- Integrated security features
- Option to brand label and extend IDE by existing or self-developed add-ons

Easy-to-use SDK for **scalable functionality**

- Extend the runtime system by optional functions such as:
  - Visualization
  - Fieldbus and I/O connection
  - Motion control, CNC, and robotics
  - Simplified development/certification of safety controllers
  - Redundancy
  - Multicore support
  - Communication with your own or external system platforms

## 03

### Profit from the benefits

- Proven products and innovative technologies
- Scalable expansion stages from low-cost to high-end
- Market-leading, manufacturer-independent IEC 61131-3 platform
- Large know-how community with 200,000 users on all continents
- Experienced partners providing sophisticated software and qualified service

### Qualified support whenever you need it, for example for:

- Driver development
- Development/adaptation/extension of libraries
- Software testing
- Integration of available stand-alone applications
- Development of specific editors, configurators, additional tools

The company ControlTech Ltd.\* markets PLC systems for machine tools. It uses CODESYS in controllers and as an IDE for all automation tasks.

- Windows and Linux-based controllers
- Use of x86 and ARM architectures
- Partially modular design with pluggable I/O modules

- Distribution of the CODESYS Development System with application-specific library modules, as well as device descriptions of pluggable I/Os
- Integrated EtherCAT safety solution to enable users to develop safety functions in the development environment

- EtherCAT as fieldbus protocol
- Visualization for machine operation via browser
- Motion control for engineering CNC and robotics applications in the development environment

- Preparation of the system for simplified administration of controllers via Industry 4.0 platform

DEVICE PLATFORM

DEVELOPMENT ENVIRONMENT

RUNTIME SYSTEM

ADDITIONAL PACKAGES

Müller IPC Automation GmbH\* develops PC-based control systems for factory automation. The company has chosen CODESYS as the best IEC 61131-3 platform available on the market.

- Industrial PCs with Windows on x86-compatible CPUs
- Different designs, including top-hat rail mounting and panel controllers

- Embedding of functionality in a brand labeled .NET-based development environment using a development framework
- Source code management with Git, fully integrated into the PLC development environment

- Multicore support
- Lean communication API with dedicated service tool
- PROFINET and EtherNet/IP as fieldbuses

- Safety controller with an expansion package pre-certified according to IEC 61508 SIL3
- Accelerated safety certification thanks to optional support services

DEVICE PLATFORM

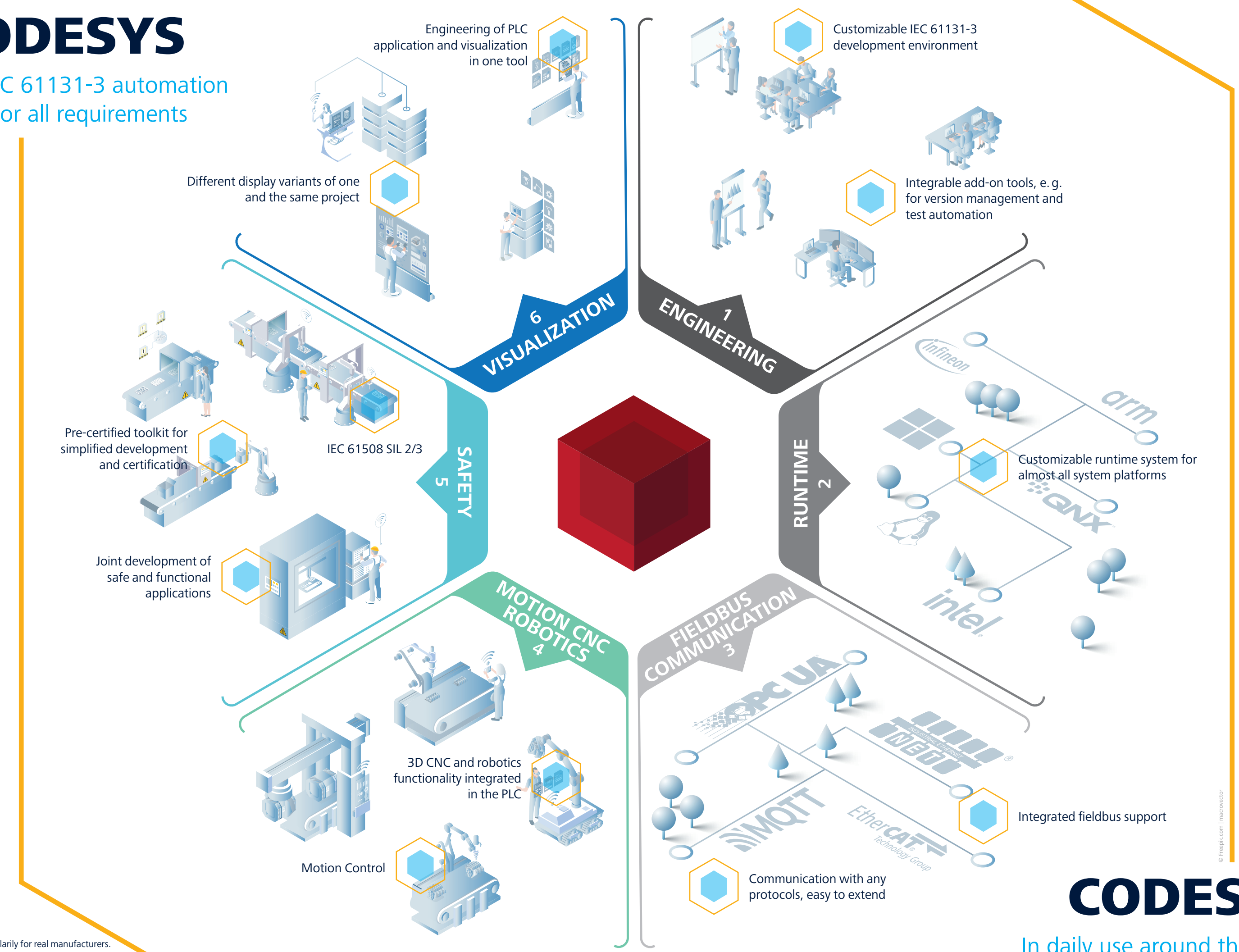
DEVELOPMENT ENVIRONMENT

RUNTIME SYSTEM

ADDITIONAL PACKAGES

# CODESYS

The IEC 61131-3 automation suite for all requirements



# CODESYS

In daily use around the world

The mobile controllers from Off-Highway ECU Corp.\* are used in mobile machines such as construction and harvesting machinery worldwide – using CODESYS as the backend for project engineers.

- Electronic Control Units (ECUs) based on Infineon AURIX TC29X or Texas Instruments TMS570
- IP67 case for use in harsh mobile applications
- Implementation without operating system as well as with Safety RTOS

- Delivery of the development environment with pre-installed device descriptions for customized ECUs as well as CANopen/CANopen safety devices
- Tools for static code analysis and test automation to facilitate safety acceptance of the application

- CANopen/CANopen Safety as fieldbus protocols for functional and safe I/O connection
- Machine operation via connected CAN displays
- Licensing mechanism for additional software components, such as application-specific libraries

- Compound safety controller for applications according to IEC 61508 SIL2 or EN ISO 13849 up to PL d

The controllers of MultiPurposePLC Corp.\* are also used for the automation of energy plants and industrial buildings. With CODESYS, freely programmable and hard-coded systems can be ideally combined.

- Modularly expandable compact controllers
- Embedded platforms with ARM Cortex, PowerPC, and TriCore CPUs
- Implementation without operating system, with Linux and VxWorks

- Composition of the application using predefined software modules
- Increase of failure safety thanks to the integrated redundancy function

- BACnet and KNX for communication with compatible devices and I/Os
- OPC UA and Modbus for data exchange with higher-level and external systems

- Operation/ monitoring of the controller on remote PCs
- Libraries for data exchange with public clouds

\* All company names mentioned are fictitious and stand exemplarily for real manufacturers. Each trademark or logo mentioned here is the property of the respective company. Trademarks and names are mentioned here purely for informational purposes.

## YOUR BASIC PACKAGE

### CODESYS Control Runtime Toolkit



Your hardware with  
a tailor-made runtime system

### CODESYS Development System



Free development environment for  
your automation solution, customizable  
to specific requirements



## YOUR ADDITIONAL OPTIONS

Provide your device with precisely the functions that are relevant to you and your target groups.

Fieldbuses and  
communication  
protocols for any field  
of application

Pre-certified safety  
components for simpli-  
fied implementation of  
safety controls

Technologies for  
Industry 4.0 and IIoT  
including a cloud-based  
administration platform

State-of-the-art  
visualization for  
different platforms

Powerful features  
for motion, CNC and  
robotics

Extensions of the de-  
velopment environment  
according to your needs

Security features and  
redundancy functions

### Members of the CODESYS Group

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