TwinCAT Tuoteuutuudet | 11’2023

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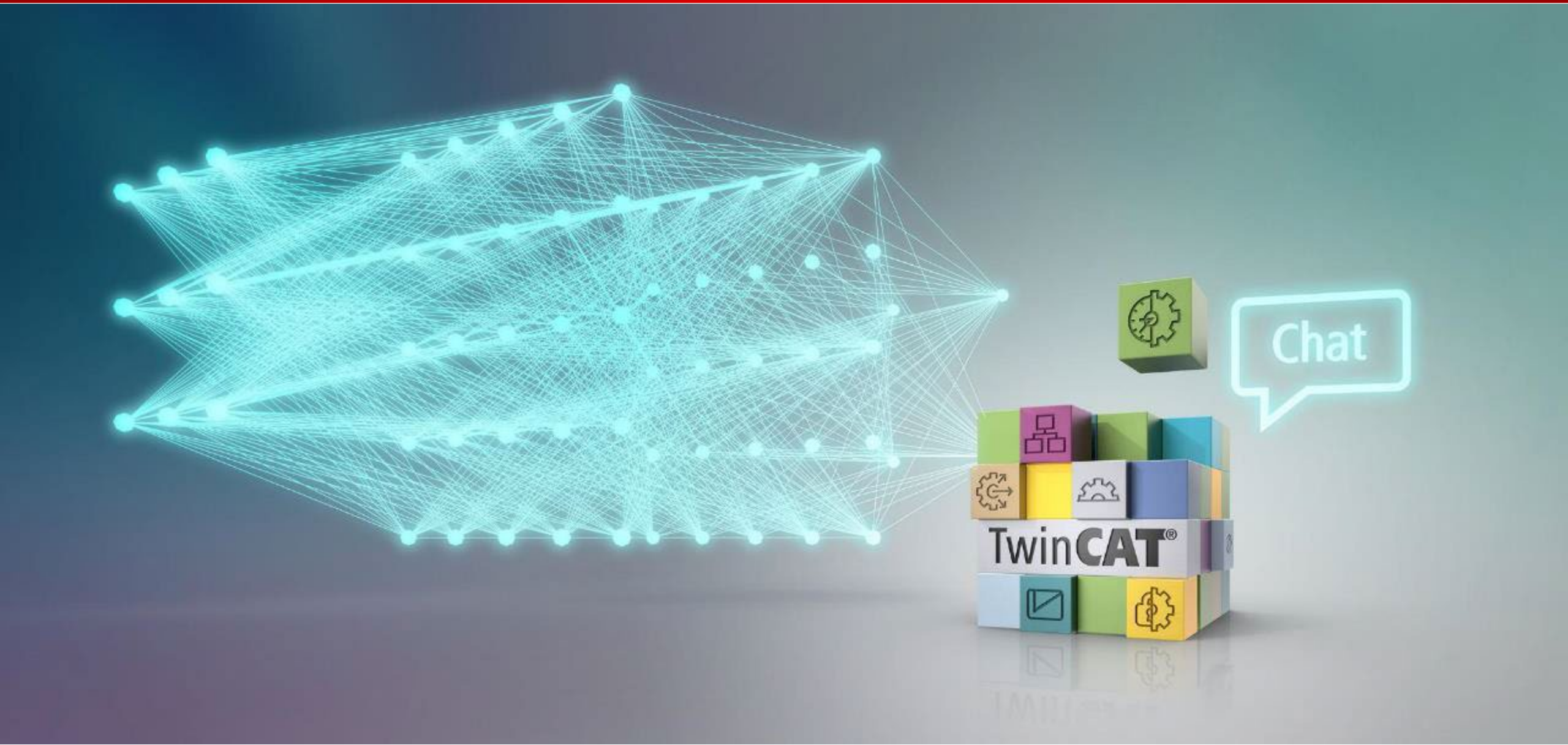

Content

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1. MX-System news
2. Vision news
3. IPC news
4. I/O news
5. Motion news
6. **TwinCAT news**

TwinCAT Chat

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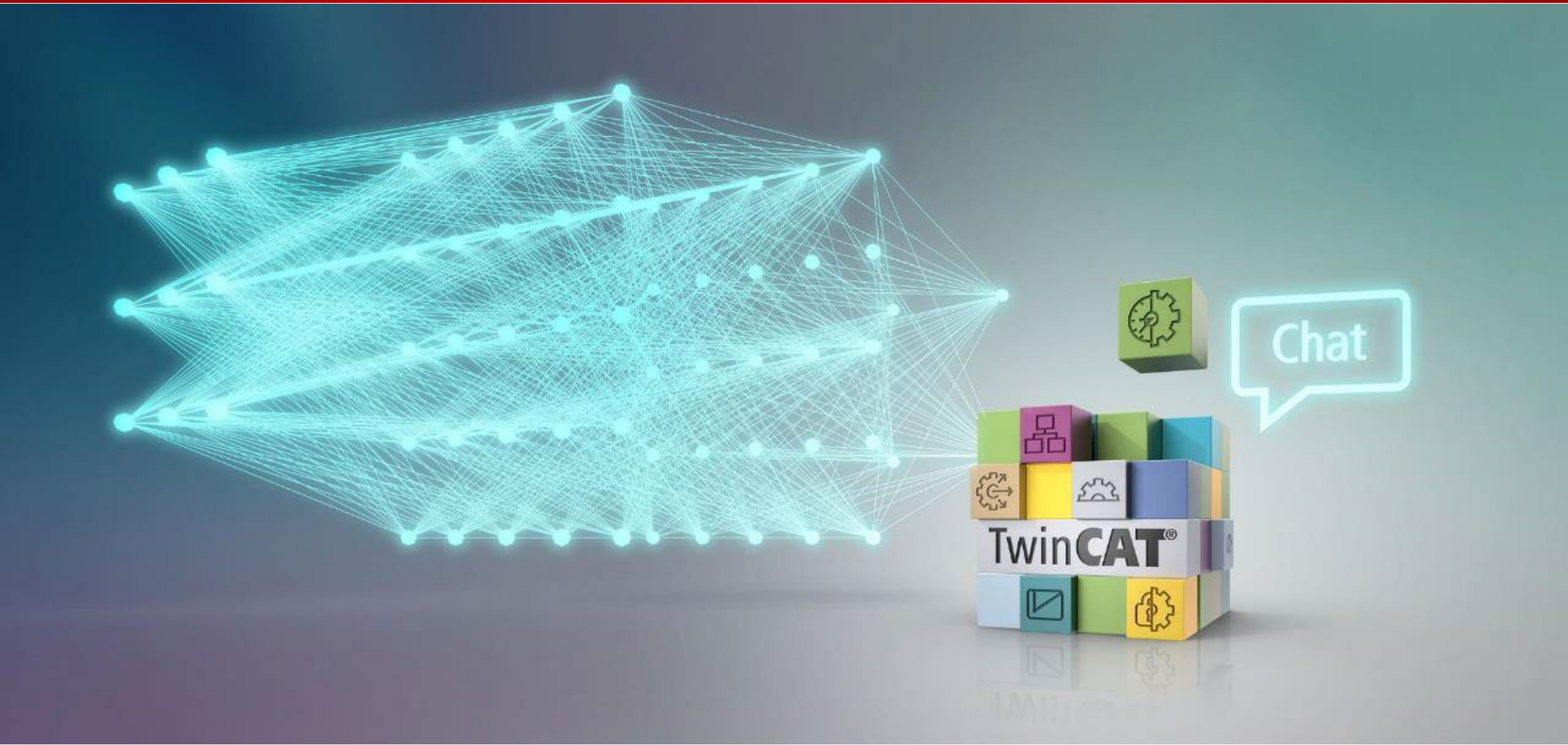

TwinCAT Chat | ChatGPT integration in TwinCAT PLC

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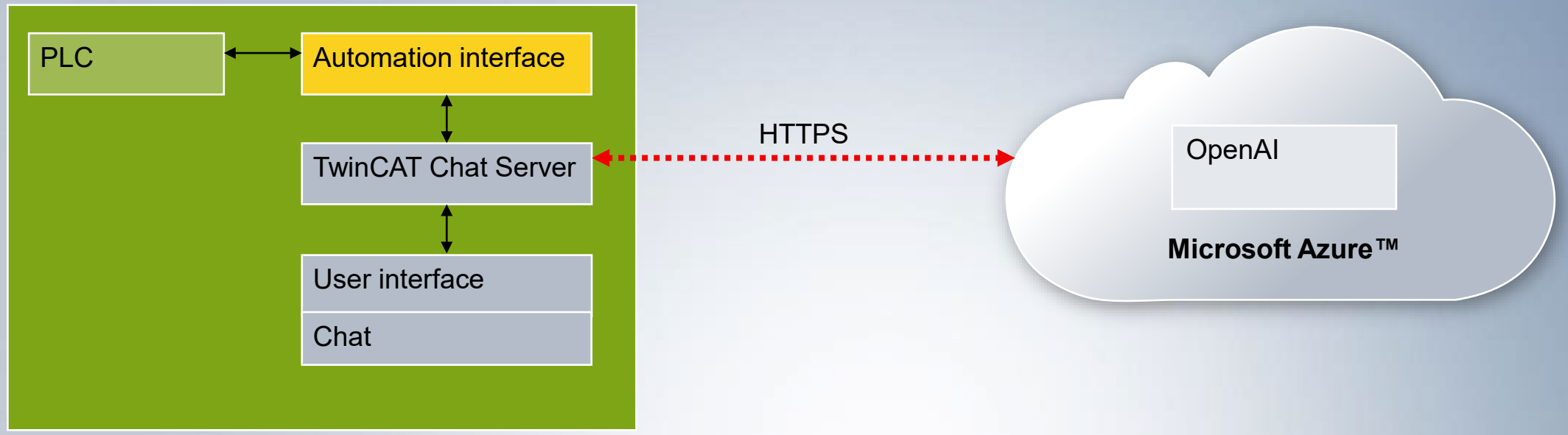
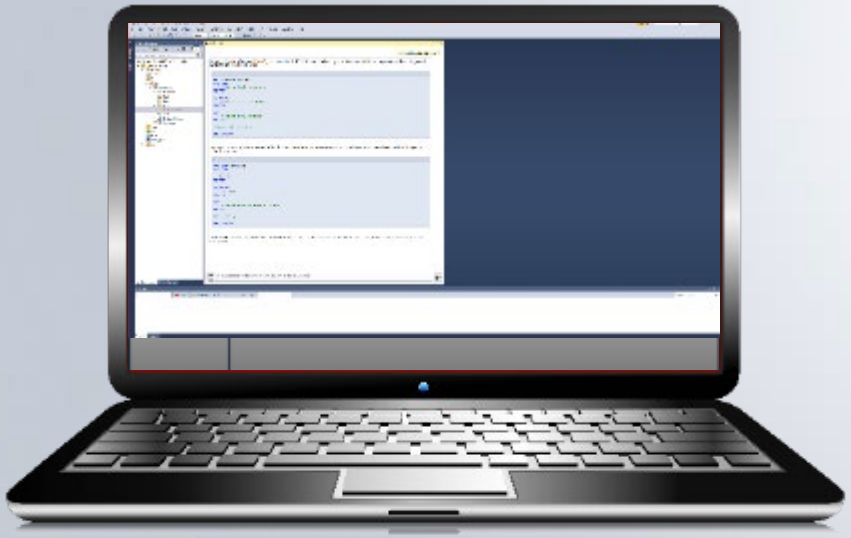
NEW





TwinCAT Chat PLC

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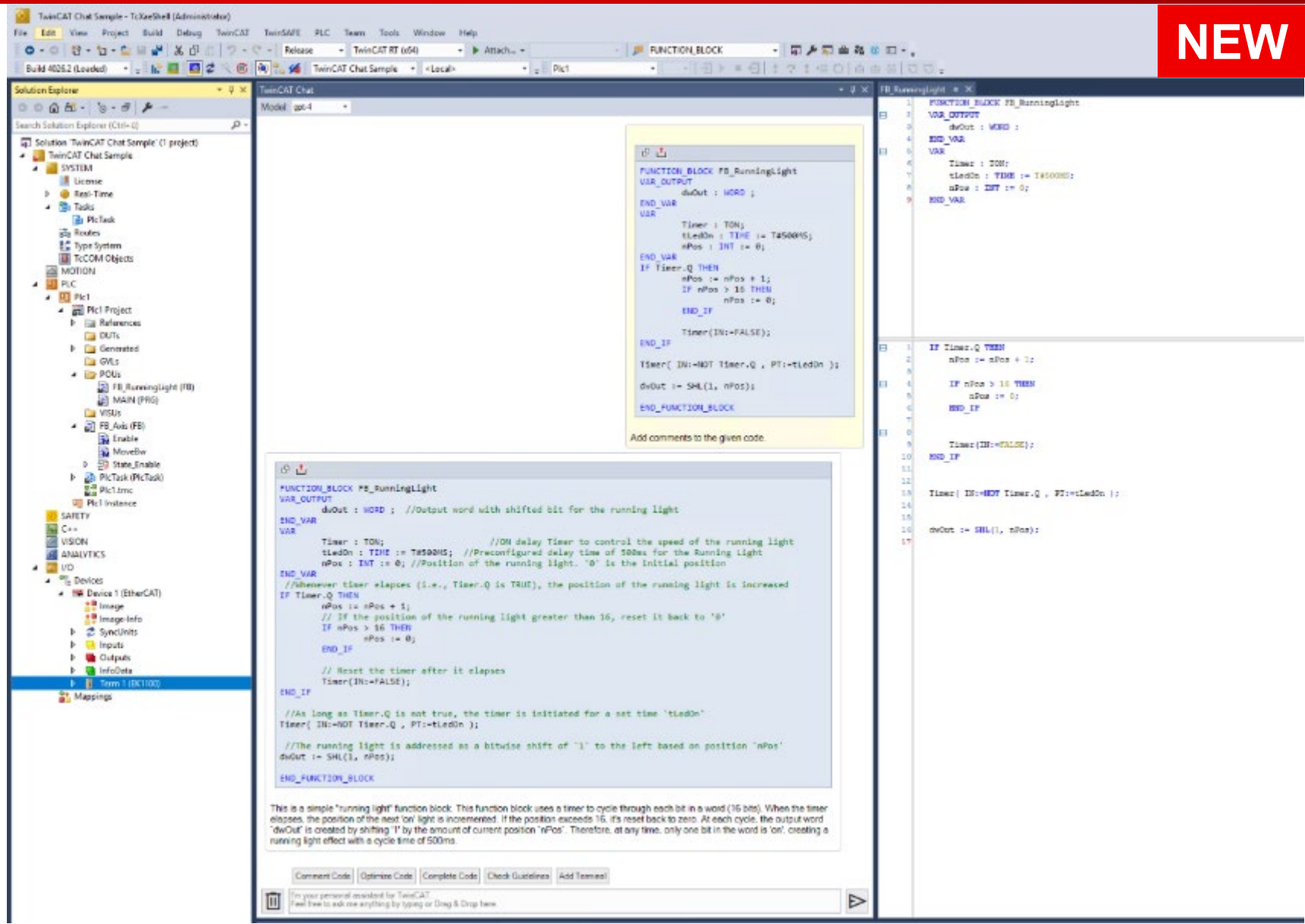
NEW

Common **chat window** in Visual Studio

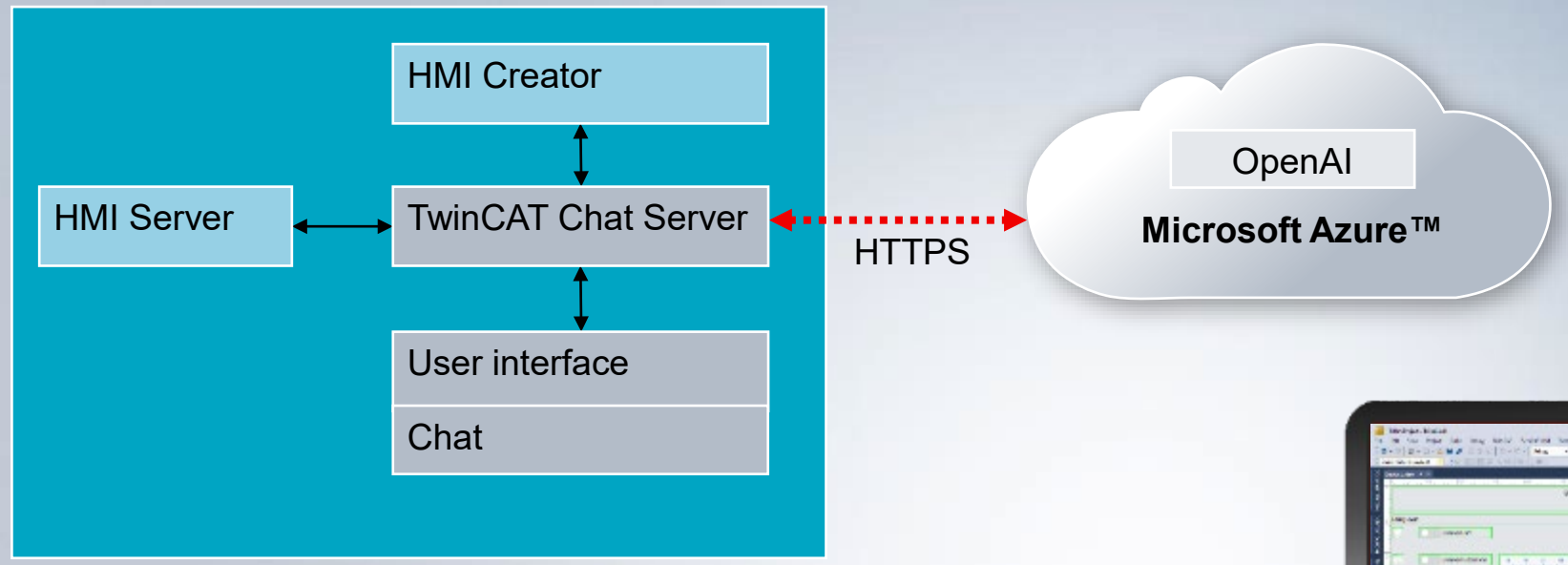
- specialized in handling TwinCAT requests
- includes Beckhoff Infosys content
- IEC 61131-3 syntax highlighting

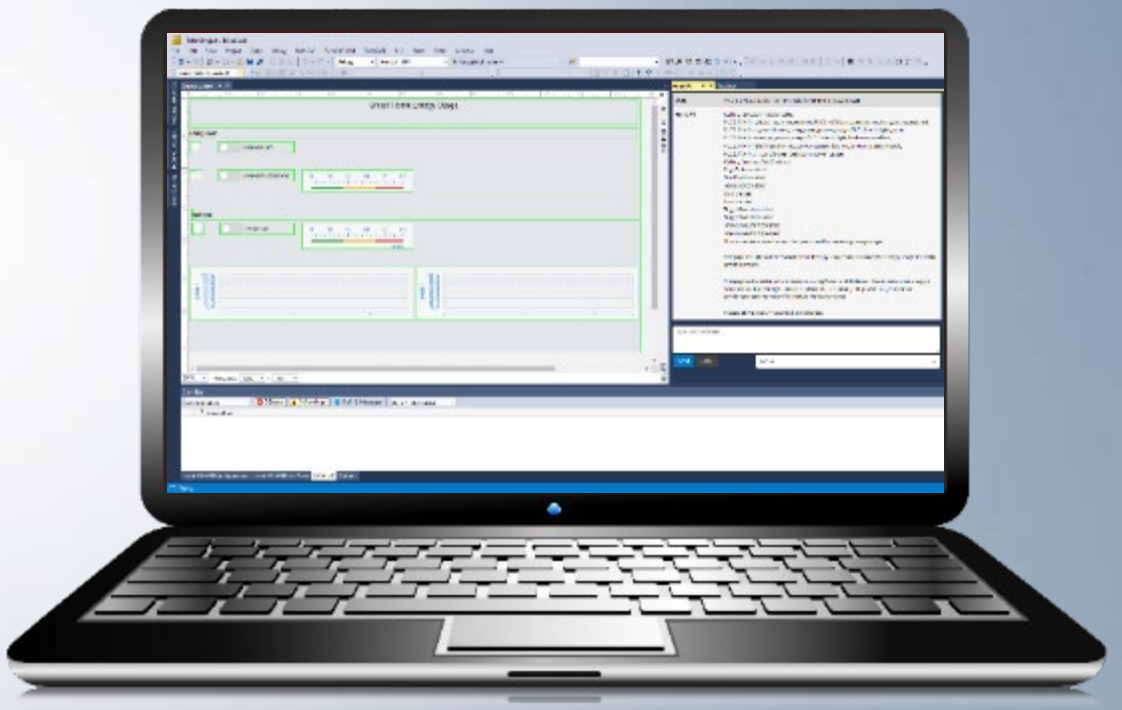


TwinCAT Chat HMI | ChatGPT integration in TwinCAT HMI

BECKHOFF

NEW





TwinCAT Chat HMI

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NEW

I need an HMI for controlling a chemical mixing plant. I have the following PLC variables in PLC1.MAIN: mixture_rate, mixture_volume, mixture_temperature, mixture_pressure, mixer1_speed, mixer2_speed, etc.
Group the mixer speeds and pump statuses together on the left side of the page, valve statuses and tank levels on the right side, and historized data at the bottom of the page.

TwinCAT MC3 | Next generation of motion control

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NEW

Motivation

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NEW

TwinCAT NC2	TwinCAT MC3
limited to 255 axes	no fixed limit on number of axes
limited to one core	multi-core support
limited to one execution and one preparation cycle time for all axes	axis-specific execution and preparation
Base architecture is as old as TwinCAT.	future-proof architecture

TwinCAT MC3 | System integration
Interoperable with TwinCAT NC2

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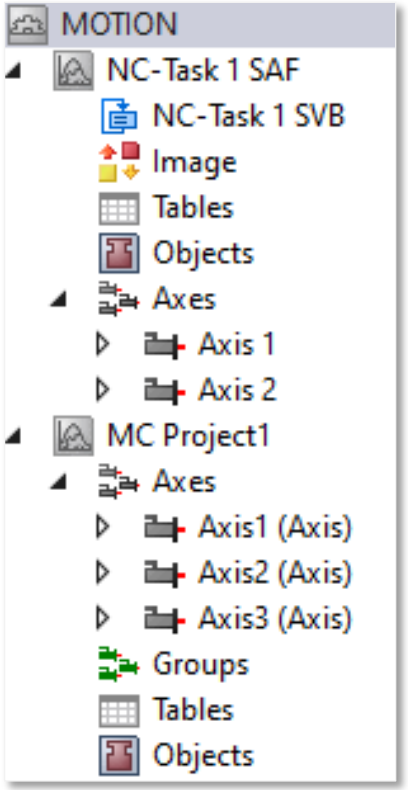
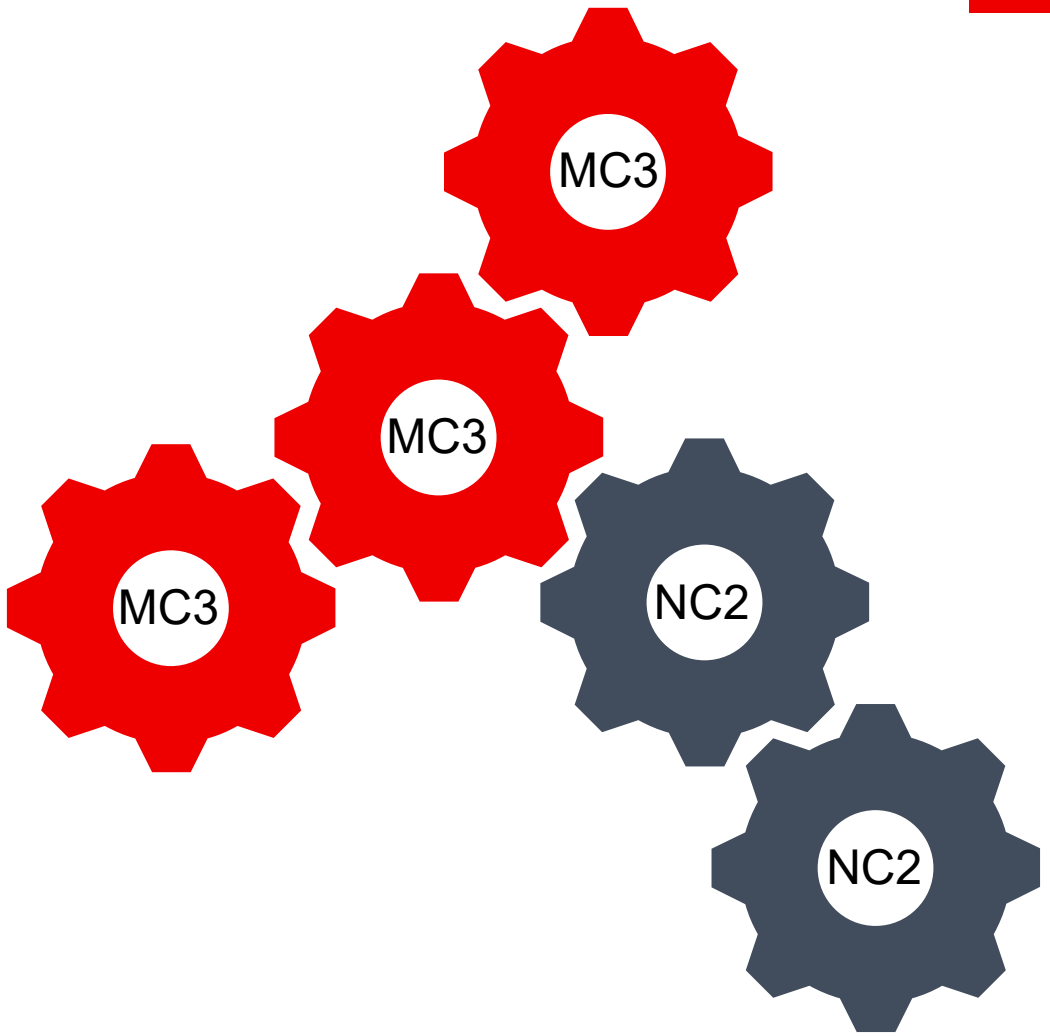
NEW

- NC2 and MC3 axes in the same project
- MC3 axes can be coupled with NC2 axes.





TwinCAT MC3 | Hardware-independent
Simulation of axes

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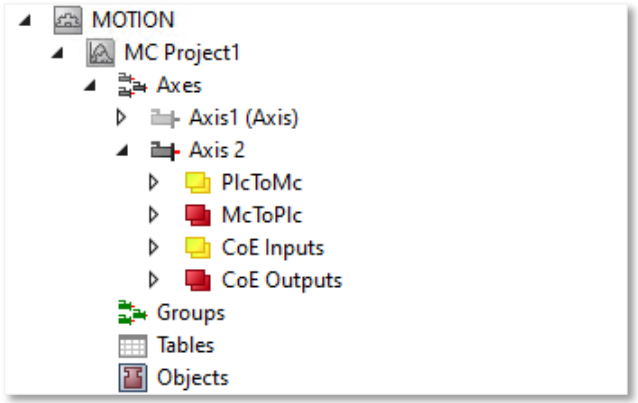
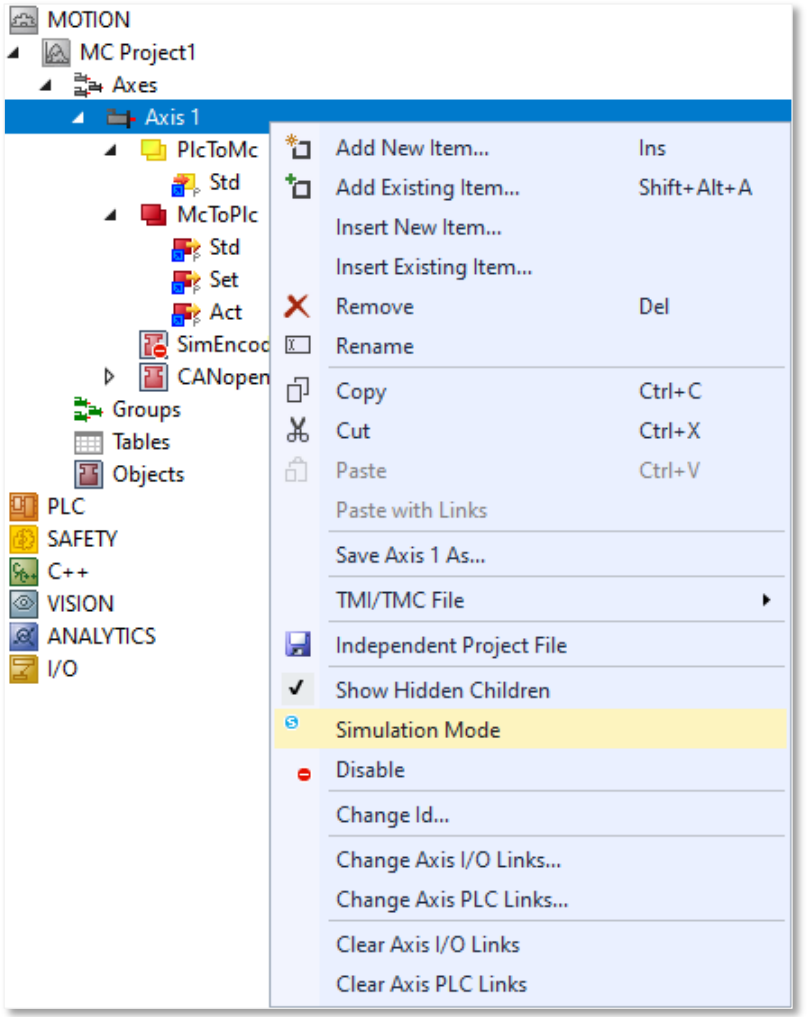
NEW

- mix of real and simulated axes



- activate/deactivate simulation mode with one click



TwinCAT MC3 | Scalable performance
Multi-core support

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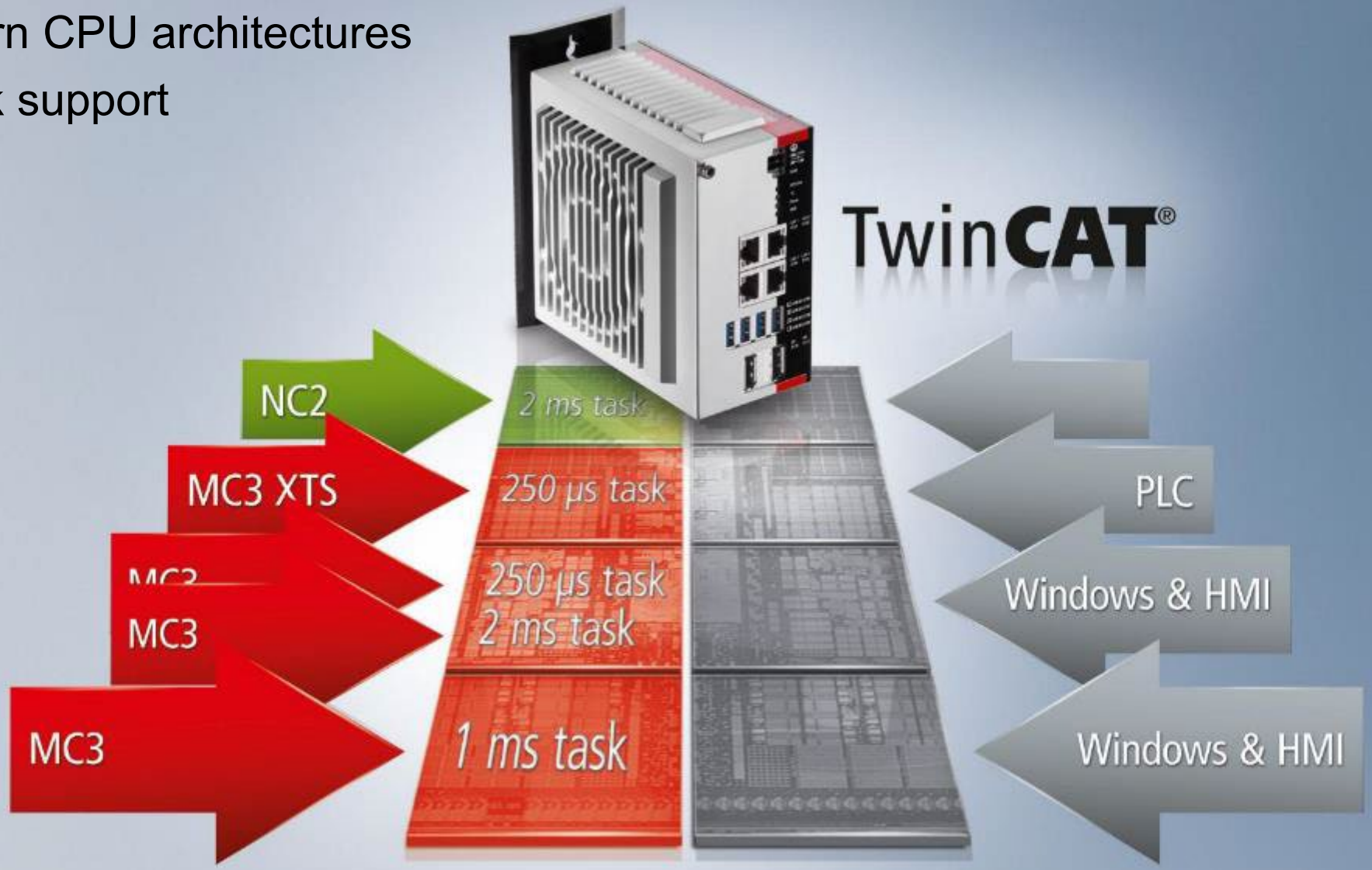
NEW

- for modern CPU architectures
- multi-task support



TF2400 | TwinCAT 3 HMI Audit Trail

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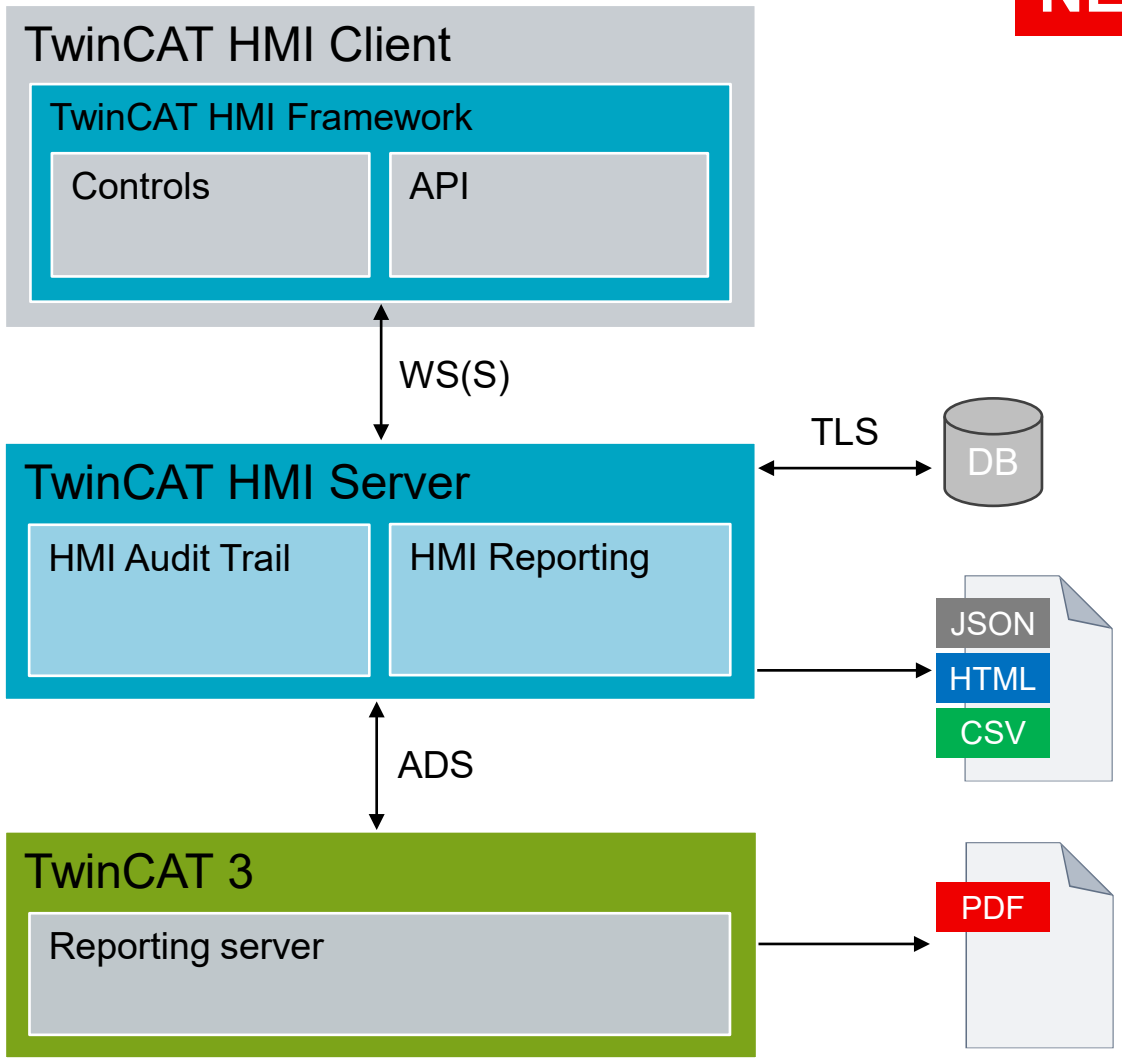
NEW

- recording of
  - HMI symbol access
  - HMI event logger
- electronic signatures
  - reauthentication
  - user comment
- extended user management
  - password rules
  - password aging
- export in different formats



TwinCAT 3 | HMI Reporting extension

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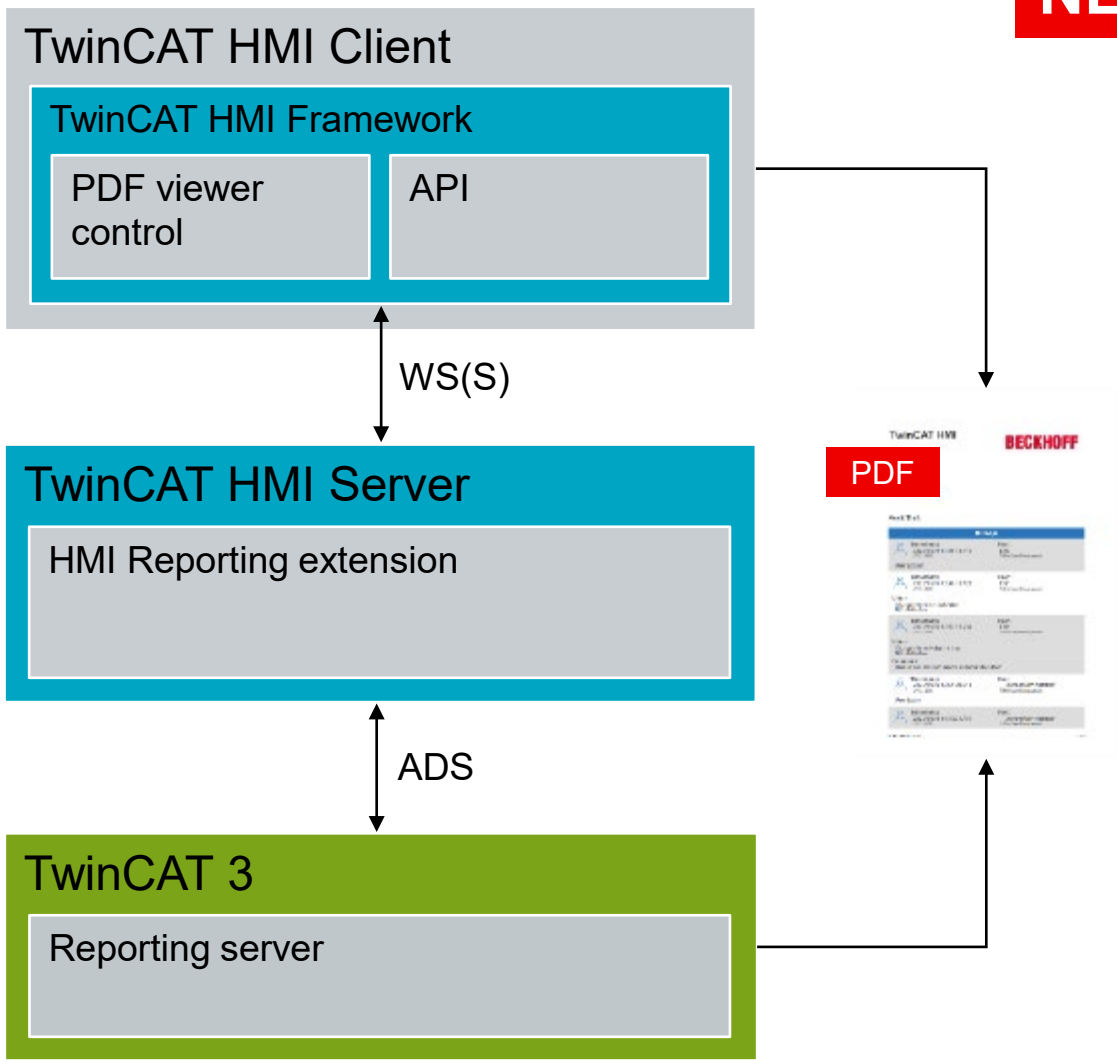
NEW

- extension for TwinCAT 3 Reporting Server
- functions and API for triggering report
- customizable reports (HTML, CSS)
- can be used with and without Audit Trail
- included in TF2000 license



TwinCAT 3 | HMI TwinSAFE Diagnostics

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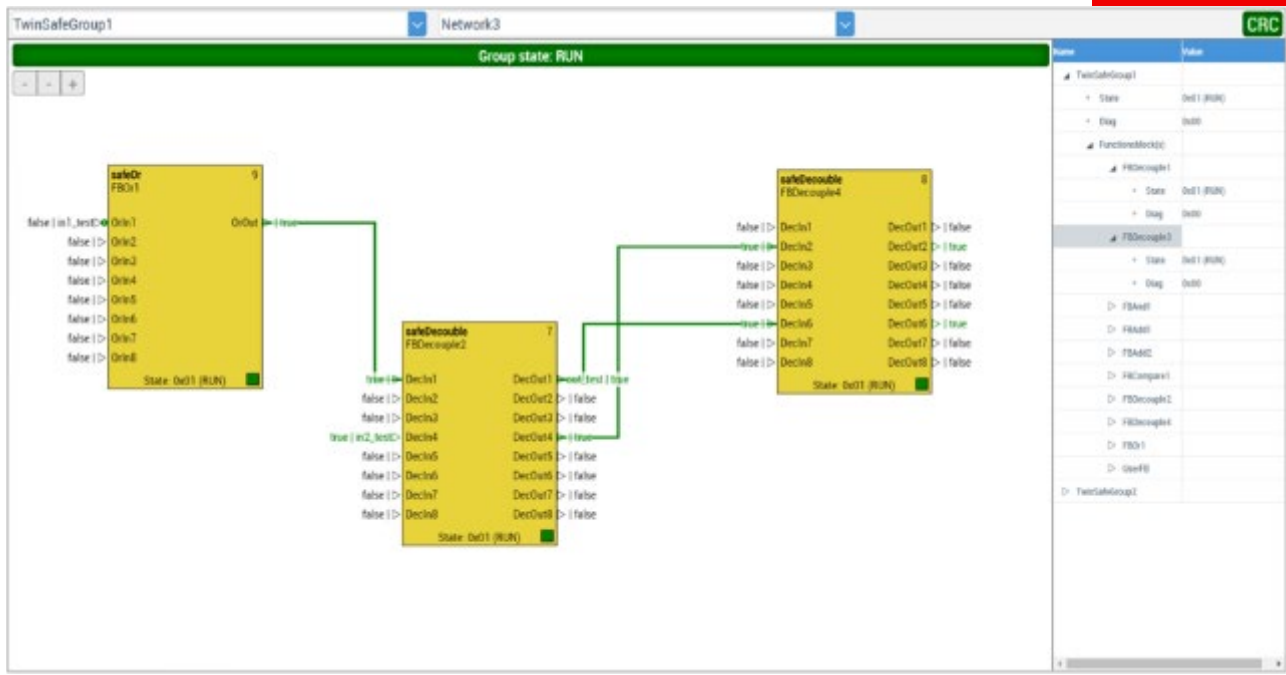
NEW

- display of safety diagnostic information
  - safety logic
  - online values and states
  - CRC (Online/Offline)



- components
  - TwinSAFE Diagnostic control
  - TwinSAFE Diagnostic extension

- included in TF2000 HMI Server license

TwinCAT Measurement

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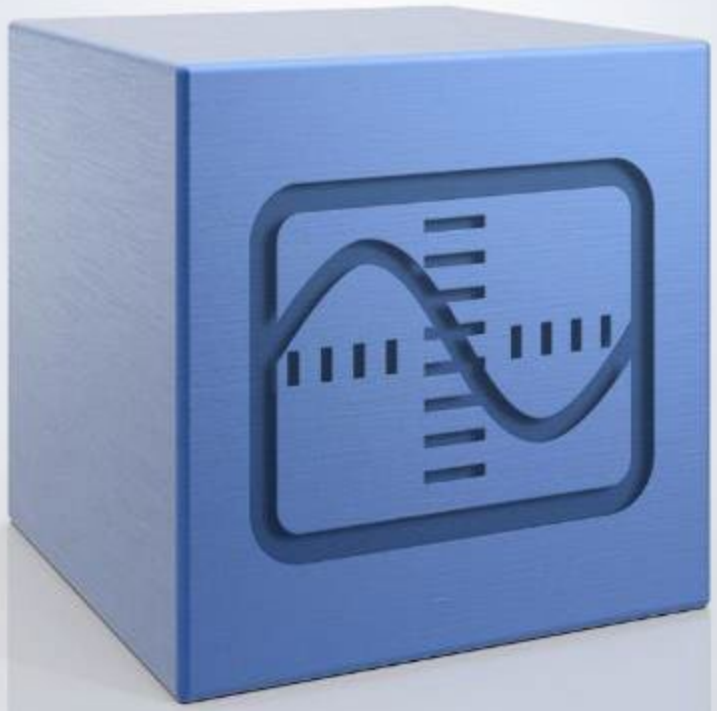

TF3685 | TwinCAT 3 Weighing Library

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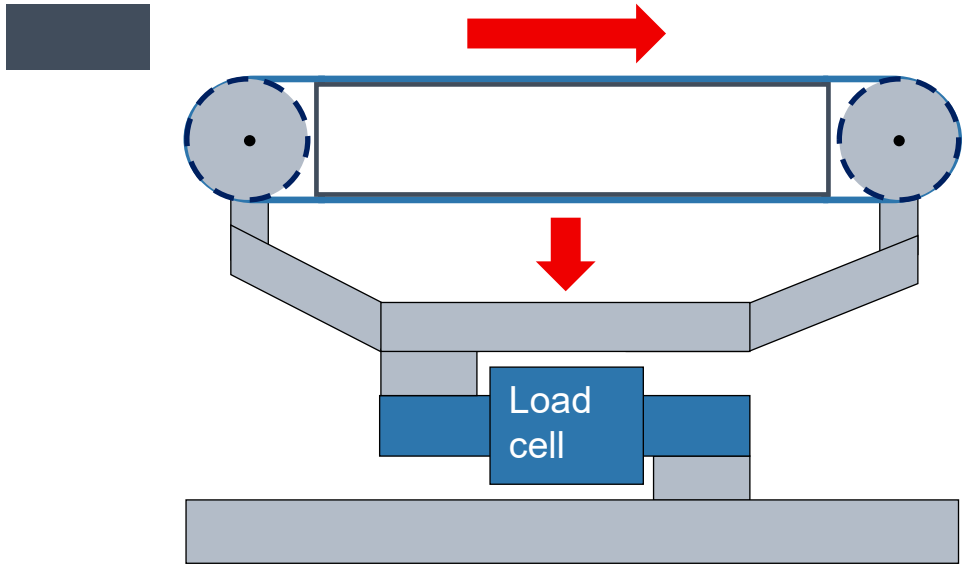
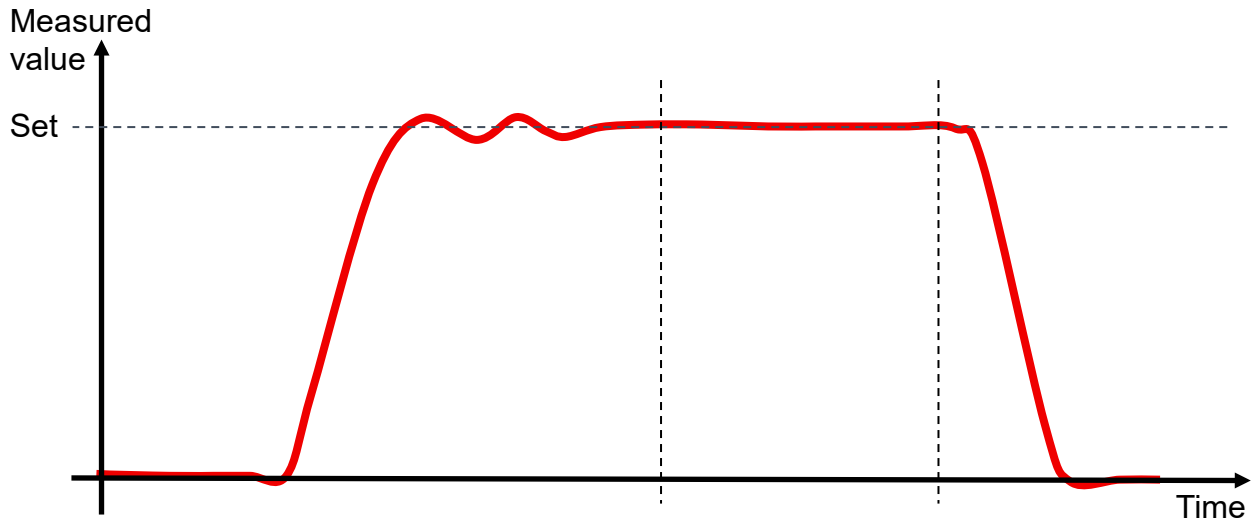
NEW

- dynamic weighing
- supports our EtherCAT Terminals
- no black box application
- smart signal filtering
- reduces number of sensors
- scaling and taring
- manual and automatic triggering
- analytics integration





TwinCAT Connectivity

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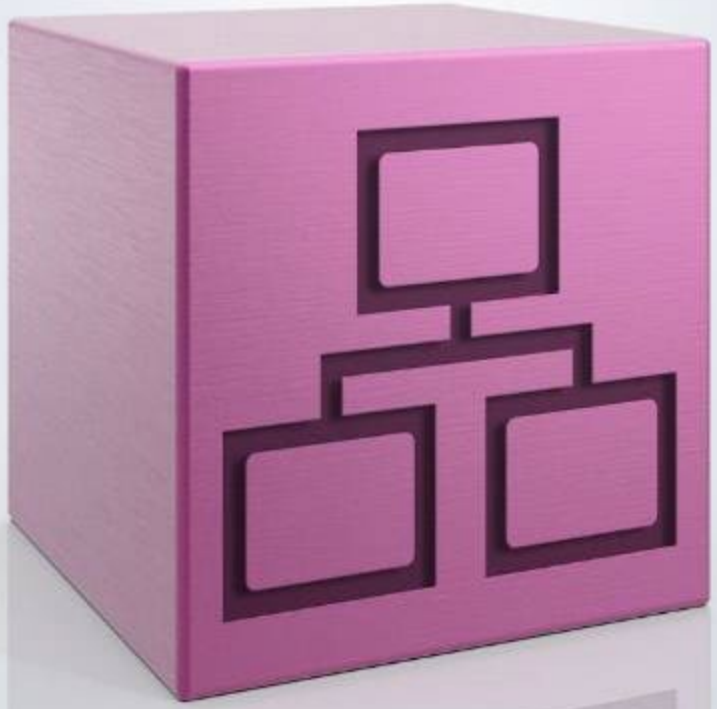

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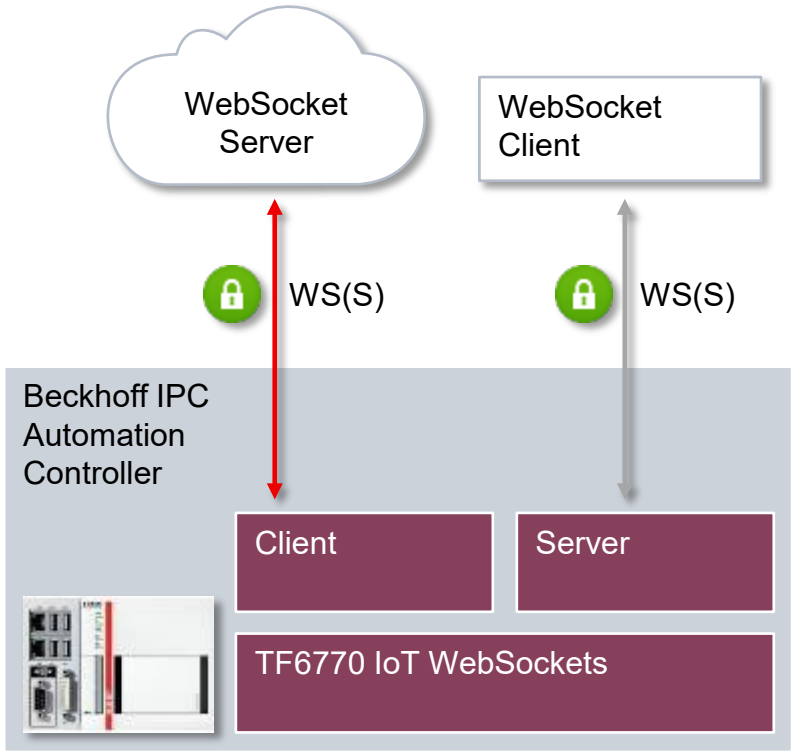
NEW

TF6770 IoT WebSockets (Client)

- extension of IoT driver
  (currently supporting HTTP & MQTT)
- availability with TwinCAT 3.1.4026.0
- bidirectional connection between TwinCAT and WebSocket server
  - advantage: Server can actively send data.



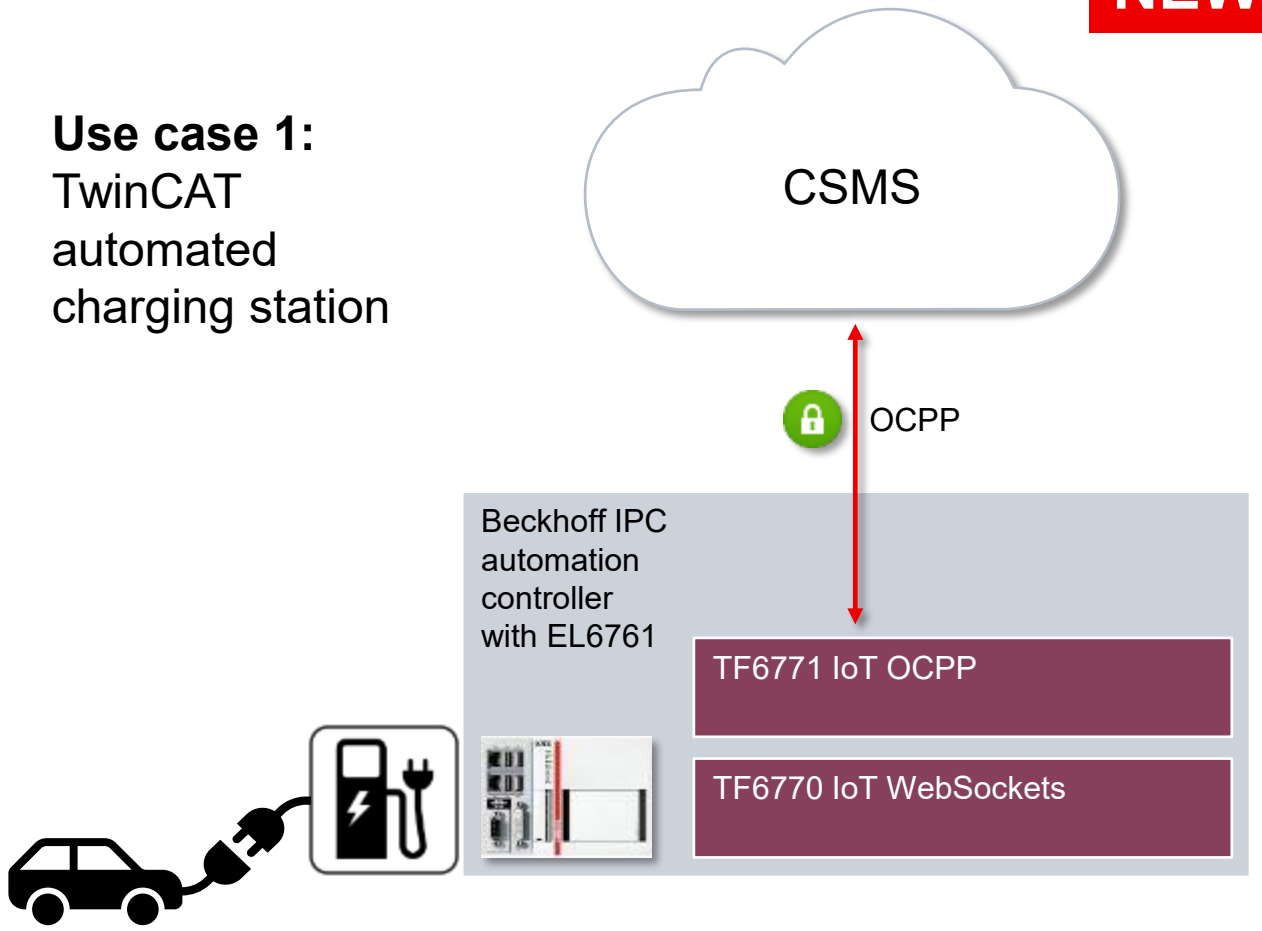
NEW

TF6771 OCPP

- based on TF6770 IoT WebSockets
- communication between CSMS (Charging Station Management System) and charging points

- C++ driver with corresponding PLC library
- OCPP versions to be implemented
  - version 1.6
  - version 2.0.1

Use case 1:
TwinCAT automated charging station

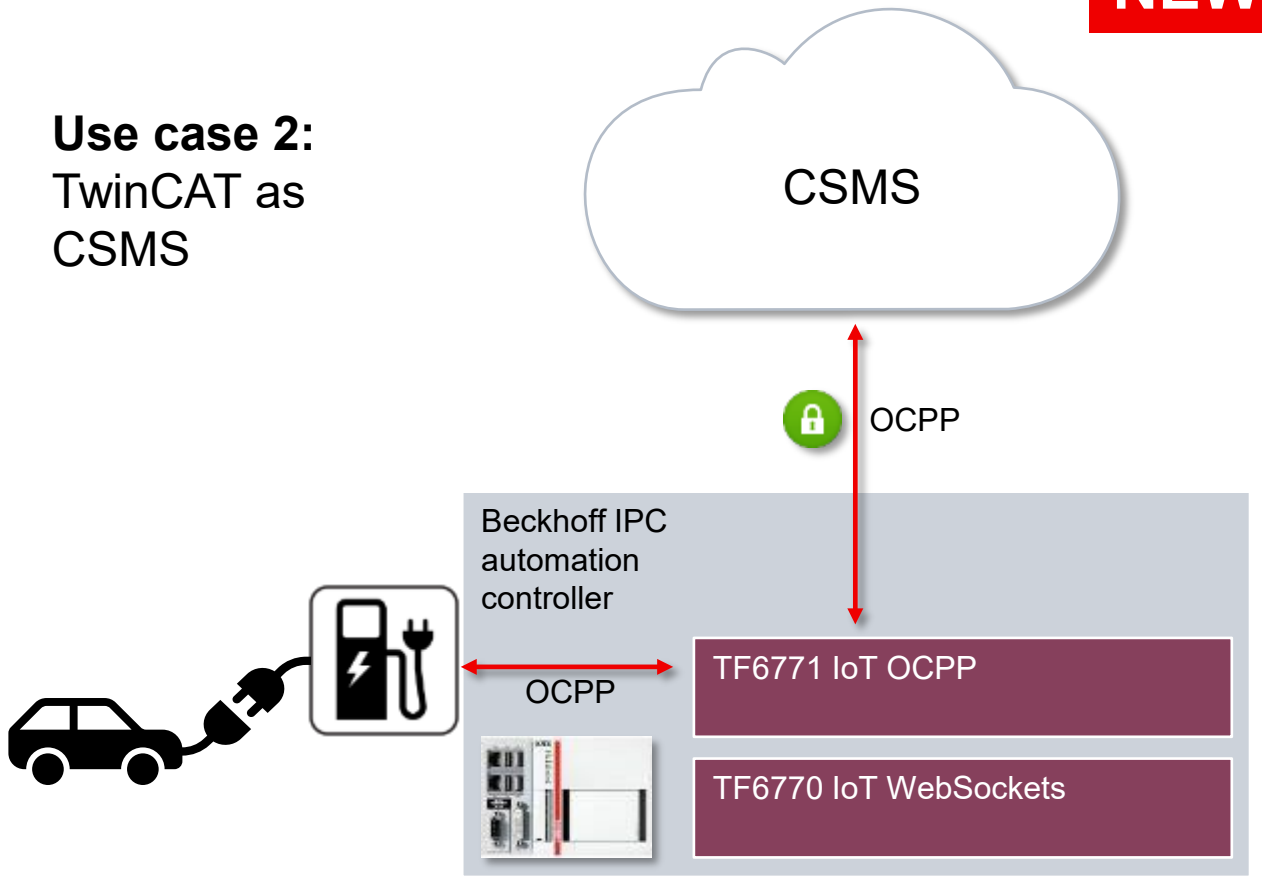


NEW

TF6771 OCPP

- based on TF6770 IoT WebSockets
- communication between CSMS (Charging Station Management System) and charging points

Use case 2:
TwinCAT as CSMS



The latest version of TwinCAT 3.1: Build 4026

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More flexibility in automation development through modularization and extensions

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Modularized setup with TwinCAT Package Management

- Thanks to this novel, media-friendly setup, specific packages can be selected for installation and then installed/updated.
- In addition to the independent component updating option, customers simultaneously benefit from faster installation and shorter update times.

More flexibility in automation development through modularization and extensions

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Supports Visual Studio 2022

- more working memory for bigger projects thanks to 64-bit environment
- The XAEShell supplied by TwinCAT is also available in an updated version, based on Visual Studio 2022.
- TwinCAT 3.1 Build 4026 also supports the 2017 and 2019 versions and the 32-bit TwinCAT XAE Shell, in addition to Visual Studio 2022.

More flexibility in automation development through modularization and extensions

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The following new software products are basing their release around TwinCAT 3.1 Build 4026:

- TE1210 | TwinCAT 3 PLC Profiler
- TC1700 | TwinCAT 3 Usermode Runtime
- TC1701 | TwinCAT 3 Usermode Runtime: External Control
- TC1702 | TwinCAT 3 Usermode Runtime: Fast As Possible
- TF6105 | TwinCAT 3 OPC UA Pub/Sub
- TF6230 | TwinCAT 3 Parallel Redundancy Protocol (PRP)

TwinCAT 3 Engineering

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TE5960 | TwinCAT 3 Autotuning

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- free of charge
- reduces the commissioning time for drives
- optimizes drive parameters and filters with one click
- based on TwinCAT Bode Plot
- will support different Beckhoff drives

TE5960 | TwinCAT 3 Autotuning

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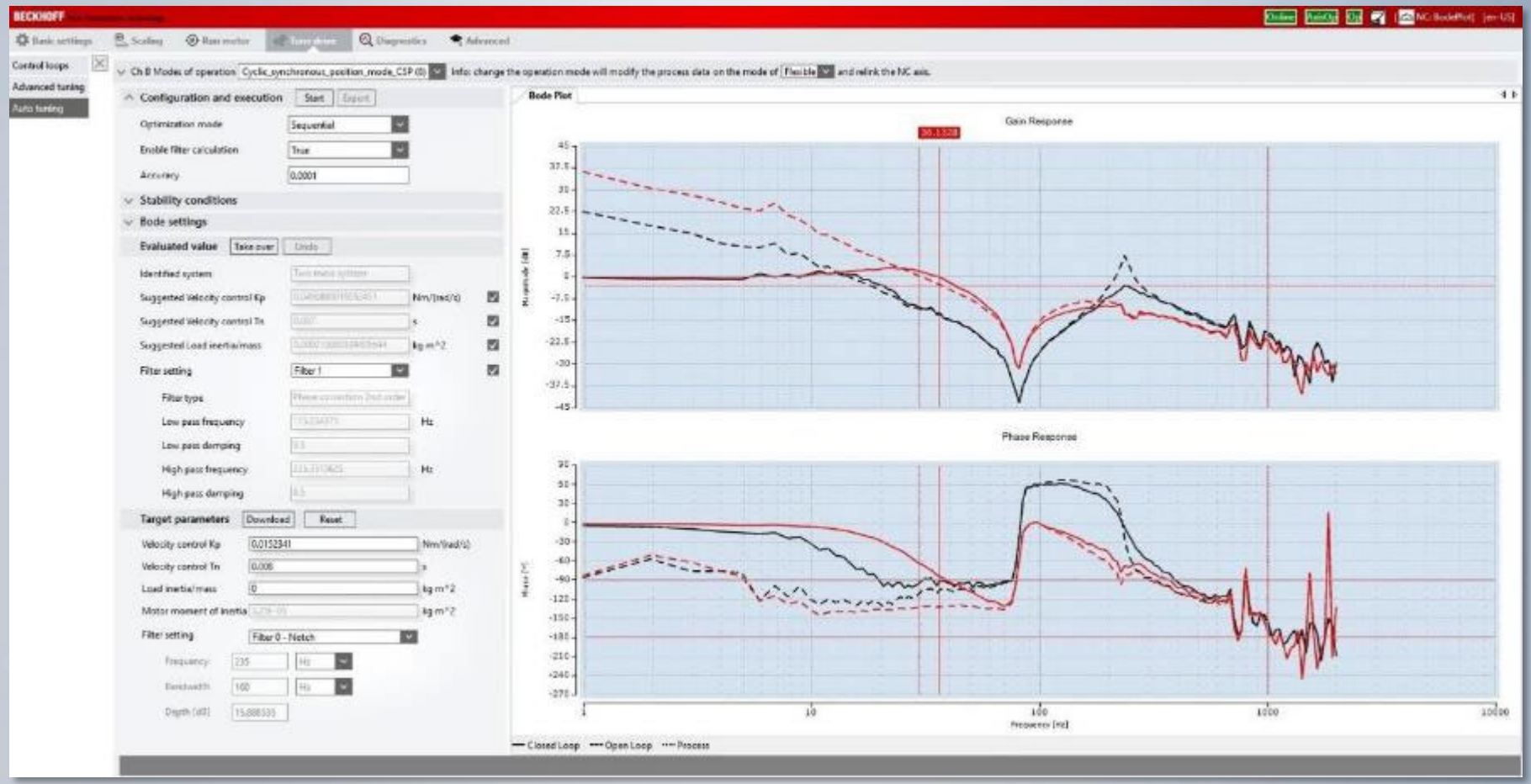
- integrated in TwinCAT Drive Manager 2
- still provides full transparency for experts with Bode plot



- Tuning process only takes a few seconds.
  → based on broadband excitation