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Note to editors: Link to high-res photo and picture caption follow news release text.

TwinCAT CoAgent Accelerates Automation Programming with Built-In AI Tools

Open, model-independent AI assistance for automation programming and controls engineering

SAVAGE, Minnesota, June 23, 2026 – TwinCAT 3 CoAgent for Engineering (TE1700) from Beckhoff extends the company's growing portfolio of machine learning and AI tools via an open-architecture engineering assistant with the flexibility to support the user's choice of large language models (LLMs) and AI platforms. TwinCAT CoAgent helps engineering teams of all sizes adapt to skilled labor shortages, reduce the mundane and repetitive aspects of programming, and meet increasingly tight project deadlines with a fully integrated AI-enabled engineering tool for automation.

Beckhoff developed TwinCAT 3 CoAgent for Engineering as part of its continued investment in ML and AI technologies for automation. The AI-powered assistant works alongside controls programmers directly within the TwinCAT XAE engineering environment, providing precise code suggestions, smart optimizations, AI-assisted I/O configuration, HMI support, and documentation enhancements. Users can define requirements in natural language, while TwinCAT CoAgent takes existing project structures into account so that suggestions fit the project at hand.

Because TwinCAT CoAgent is embedded directly in a standard automation engineering environment, results can be reviewed and incorporated without the copy-and-paste friction caused by external chat tools. Throughout the

process, engineers remain fully in control, reviewing and approving every AI-generated result before it is applied.

A defining characteristic of TwinCAT CoAgent is its open architecture, built on the Model Context Protocol (MCP). CoAgent acts as an MCP Client that connects to specialized MCP servers for PLC, I/O, HMI, and Beckhoff Information System operations. The same open standard lets customers connect to their own MCP servers for proprietary documentation, ERP systems, or maintenance knowledge, so that company-specific resources become part of the engineering dialog. This bidirectional extensibility enables TwinCAT CoAgent to adapt to established workflows rather than forcing users to adopt new ones.

Equally important is freedom of choice at the LLM level. TwinCAT CoAgent is not tied to a single AI provider: established models from OpenAI, Anthropic, or others can be used, and locally hosted models can be deployed for fully air-gapped operation when data sovereignty or corporate policy requires it. As AI models continue to advance, this flexibility ensures that users can always work with the most suitable model for their environment, without system architecture lock-in.

AI-driven benefits for operations

In an upcoming feature extension, TwinCAT CoAgent for Operations (TF1700) will provide users at runtime with new capabilities to operate, maintain, and troubleshoot automation systems. It can also leverage continuously monitored process values, log files, and KPIs to help detect deviations. When initiated by an operator, TwinCAT CoAgent for Operations will help create structured problem-solving processes together with maintenance and service personnel. TwinCAT CoAgent for Operations will provide an interactive service agent that makes ongoing operations more intelligent. The benefits will range from faster troubleshooting and improved transparency to consistently higher quality standards in reporting.

In internal testing and pilot deployments, the TwinCAT CoAgent assistant has shown productivity gains of 20 to 30 percent, particularly in areas such as onboarding to existing codebases, documentation, and maintenance. With the TE1700 software package, Beckhoff continues to expand its portfolio of ML and AI tools for automation, positioning TwinCAT CoAgent as an open, language model-independent engineering assistant that integrates seamlessly into existing workflows and adapts to the way teams already work.

www.beckhoff.com/twincat-coagent

www.beckhoff.com/te1700

Link to high-res photo:

https://www.beckhoff.com/media/downloads/press/2026/pr152026_beckhoff_us.zip

Press picture:



Picture caption:

TwinCAT CoAgent delivers powerful AI-assisted engineering and programming support across every stage of the automation lifecycle.

At Beckhoff, automation is our calling. We empower engineers to differentiate and succeed as industry leaders – to harness new technologies, embrace open standards, and solve the world’s most complex problems. Founded and led by engineers, we organically create advanced controls, communication, IoT, and motion technologies that become unique tools for your one-of-a-kind challenges in an age of digital transformation.

As a global partner with U.S. headquarters in Minneapolis, we remain committed to sustainability, inclusivity, and support for the people behind the automation. So, whether you’re powering the EV revolution, dazzling on Broadway, launching satellites, or developing fusion energy solutions – you can reach new heights for your business, industry, and humankind.

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