**PRESS INFORMATION**

# From SmartCam to server: evopro relies on ctrlX OS

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- evopro systems engineering AG is a new ctrlX OS OEM
- evopro launches the evoVIU VIUx – the first software-defined camera on a new platform
- VISIONWEBx is available as an app for ctrlX OS, enabling vision applications to be developed, operated, and scaled




evopro systems engineering AG is launching the first software-defined camera, the evoVIU VIUx, and is using the Linux-based operating system ctrlX OS from Bosch Rexroth. (Image source: Bosch Rexroth AG)

**Industrial image processing places very different demands on computing power and hardware depending on the application – from the compact camera directly on the machine to the powerful server. Often, this involves different platforms and development environments, which increases the engineering effort. evopro systems engineering AG has used the Linux-based operating system ctrlX OS from Bosch Rexroth for its new vision automation platform and has become a ctrlX OS OEM partner. In conjunction with the VISIONWEBx vision software, an end-to-end software base is created on which vision applications can be operated and scaled.**

evopro, a subsidiary of Bertrandt AG, is launching the first software-defined camera on a new platform – the evoVIU VIUx. It combines industrial image processing, edge AI, and automation directly on the machine. To enable this, VISIONWEBx is being ported to ctrlX OS and made available as an app in the ctrlX OS Store. This provides vision applications with a common development and runtime environment that can be used on different hardware with ctrlX OS.

"With evopro, we are gaining an OEM partner that consistently combines machine vision with automation. The combination of VISIONWEBx and ctrlX OS creates an end-to-end basis for industrial image processing – from software-defined cameras to edge controllers and IPCs, all the way to servers. Users can choose the appropriate hardware for their requirements and will only have develop their vision application once going forward," says Steffen Winkler, Senior Vice President Sales, Business Unit Automation & Electrification Solutions at Bosch Rexroth.

**One software base for different performance classes**

The porting of VISIONWEBx to ctrlX OS is at the heart of the architecture. evopro's browser-based development and runtime environment enables the creation, configuration, and operation of visual workflows. With ctrlX OS as a hardware-independent operating system, this environment can be used across different device and performance classes.

For example, a vision application can be launched directly on the machine on the evoVIU VIUx and can be operated either on a ctrlX CORE, a more powerful ctrlX IPC with GPU, or on a server with the virtual version of ctrlX OS as requirements increase. The development environment and application knowledge are preserved. This allows computing power and hardware to be adapted to changing requirements without having to redesign the vision solution for each device class.

**Software-defined camera combines vision and automation**

With the evoVIU VIUx, evopro transfers the principle of the SmartCam into the device class of software-defined cameras. The camera captures and processes image data where it is generated and provides the results with low latency for automated processes and AI-supported decisions. An NXP i.MX95 processor and Hailo-8 AI accelerator deliver computing power for demanding machine vision and edge AI applications. Various sensor options – from SWIR and high-resolution global shutter sensors right through to ToF for 3D depth sensing – enable use of the camera for various industrial image processing tasks. Examples include quality control, OCR and code recognition, anomaly and object detection, and process monitoring.

The close integration with the automation allows the information obtained to be used directly for downstream processes. Automation components, including axes, can also be connected via EtherCAT. Separate interfaces integrate the camera into IT and OT networks.

**Flexible expansion of vision and AI capabilities**

As the operating system of the evoVIU VIUx, ctrlX OS forms the software connection to the automation world. The open, app-based architecture combines vision and AI with automation and communication functions on one platform.

The OEM partnership thus underlines the hardware-independent approach of ctrlX OS: The operating system is not limited to control hardware from Bosch Rexroth; rather device manufacturers can use it as a basis for their own products. Alongside the OEM partnership, evopro has joined the partner network ctrlX World, making VISIONWEBx available as an app for ctrlX OS. This means that the vision software can be integrated with other applications from the ctrlX OS Ecosystem and thereby expanded.

"For physical AI, image processing, AI, and automation must work together seamlessly. It is crucial not only to collect and evaluate information from the environment, but also to make it immediately usable for automated processes. The open software architecture gives us the opportunity to flexibly combine vision and AI functions with other automation functions," says Stefan Kraus, Head of Product Development and Product Manager evoVIU at evopro systems engineering AG.

**From quality control to robotics**

The platform covers a wide range of industrial applications. In manufacturing, vision applications can be used for quality control, OCR and code recognition, or process monitoring, and AI capabilities can be added as needed. In robotics, visual information can be used for object recognition, localization, and pick-and-place applications. In intralogistics, objects can also be identified, tracked, and material flows monitored. This turns industrial image processing into an integral part of end-to-end automation processes.

## Basic Information Bosch Rexroth

As one of the world’s leading suppliers of drive and control technologies, Bosch Rexroth ensures efficient, powerful and safe movement in machines and systems of any size. The company bundles global application experience in the market segments of Mobile and Industrial Applications as well as Factory Automation. With its intelligent components, customized system solutions, engineering and services, Bosch Rexroth is creating the necessary environment for fully connected applications. Bosch Rexroth offers its customers hydraulics, electric drive and control technology, gear technology and linear motion and assembly technology, including software and interfaces to the Internet of Things. With locations in over 80 countries, around 31,900 associates generated sales revenue of 6.5 billion euros in 2025.

## Basic Information Bosch

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The Bosch Group is a leading global supplier of technology and services. It employs roughly 413,000 associates worldwide (as of December 31, 2025). The company generated sales of 91 billion euros in 2025. Its operations are divided into four business sectors: Mobility, Industrial Technology, Consumer Goods, and Energy and Building Technology. With its business activities, the company aims to use technology to help shape universal trends such as automation, digitalization, electrification, and artificial intelligence. In this context, Bosch's broad diversification across regions and industries strengthens its innovativeness and robustness. Bosch uses its proven expertise in hardware, software, and services to offer customers cross-domain solutions from a single source. It also applies its expertise in connectivity and artificial intelligence in order to develop and manufacture intelligent, user-friendly products. With technology that is "Invented for life," Bosch wants to help improve quality of life. The Bosch Group comprises Robert Bosch GmbH and its roughly 500 subsidiary and regional companies in over 60 countries. Including sales and service partners, Bosch's global manufacturing, engineering, and sales network covers nearly every country in the world. Bosch's innovative strength is key to the company's further development. Bosch employs some 82,000 associates in research and development.

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