



## SUCCESS STORY

QUAT²RO is realizing online remote access with REX industrial routers from Helmholz.

# DIGITAL REMOTE SOLUTION OF THE LATEST GENERATION

As a digitalization and automation specialist within the HAVER & BOECKER company group, QUAT²RO is providing a fresh breeze in the bulk materials industry – and beyond. One current example of the power of innovation of the corporate subsidiary is an online remote access solution with REX industrial routers from Helmholz, which unite decades of experience with the latest technical possibilities.



COMPANY  
QUAT²RO GMBH & CO. KG

LOCATION  
MÜNSTER, GERMANY

SECTOR  
DIGITALIZATION AND  
AUTOMATION

WEBSITE:  
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Whether the cement, building materials, chemical, mining, or food industries: HAVER & BOECKER OHG, founded in 1887 and an independent medium-sized family-owned company to the present day, is an indispensable partner for the bulk materials industry. In addition to the corresponding special machines and holistic systems, process automation and digitalization solutions have also been playing an increasingly important role in the past 30 years. The company group bundled this wealth of experience and competence in its own subsidiary company in 2016, HAVER Automation, based in Münster. At the start of 2023, the spin-off company, currently with 23 employees, began operating under the present name of QUAT²RO GmbH & Co. KG.

QUAT²RO stands for Industry 4.0 and pursues the goal of expanding the market position of HAVER & BOECKER in this segment through innovative digitalization and process automation solutions, management systems, and business models – as well as lending the digital products within the company group more importance and independence. Through progressive digital product solutions, the company enables its customers to more efficiently design their processes, allowing them to truly direct their own value creation.

QUAT²RO is distinguished by the development, sale, and installation of highly modern, digital software modules, which are tailored to the individual requirements of customers. These solutions enable seamless integration into existing production environments and thus offer sustainable added value.

“With QUAT²RO, we are positioning ourselves on the market as an independent technology and are an innovative partner for future digital developments in machinery and plant engineering,” explains Peer Ketterle, head of Technology at QUAT²RO, who was also responsible for Industry 4.0 themes at HAVER & BOECKER long before this.

## NEW DIGITAL POSSIBILITIES IN REMOTE MAINTENANCE

Machines from HAVER & BOECKER are used worldwide. Correspondingly, the Westphalian manufacturer has also long focused on the theme of remote maintenance – the secure connection between machine control system or network on the one side and an OEM service technician or automation network on the other. The engineers at HAVER & BOECKER had already realized a first remote solution more than 20 years ago with the “Teleservice” of Helmholz. This was subsequently followed by a combination of modem and router, once again in cooperation with Helmholz.

However, this concept also no longer corresponds with the current technical possibilities. The search was thus taken up again in 2016 for a new online remote maintenance solution. Helmholz was not an automatic choice in the process – despite the good experiences to date. “We looked at many solutions on the market at the time and also tested our own,” Peer Ketterle remembers.

A decision was ultimately reached in favor of Helmholz after all – for two reasons, which Ketterle summarizes as follows: “At this point in time, Helmholz was the only provider with a truly functioning solution at the ready. And the long experience in this field of course also spoke in favor of Helmholz.”

REX Ethernet routers



## REX AND MYREX PORTAL

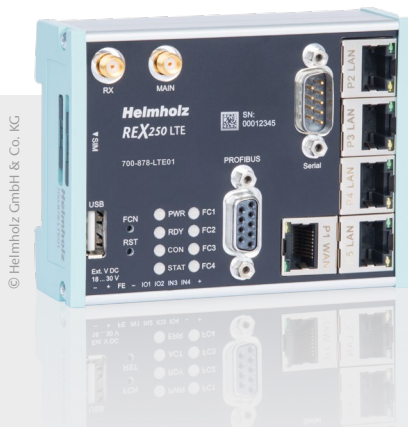
In concrete terms, the Helmholtz concept involves the combination of REX industrial routers and the IoT portal “myREX24 V2.” This interplay enables secure and simple online remote access. While the first router model REX 300 was used at HAVER & BOECKER, the more compact REX 100 also followed as of 2017. The REX200/250 with an expanded functional scope is in the meantime also available for special requirements.

Especially mechanical engineers but also production operations use the REX industrial routers to directly access the Ethernet networks of their machines and systems online, for example, for remote maintenance, for visualization, for gathering data as well as for diagnostics and Web2Go (VNC and remote desktop) applications. The REX series, with its three model series, covers a broad, application-specific spectrum, at the same time offering various access possibilities via Ethernet, mobile communications, or WiFi. The new generation is also 5G-ready and allows the use of the European and the US LTE standards.

The data transmission with all REX models generally takes place encoded via a VPN tunnel. The foundation for this is provided by the secure OpenVPN protocol. The Helmholtz “myREX24 V2” IoT portal thereby serves as a mediation server for VPN communication between operators and their systems. This means that both sides can establish the VPN tunnel as an outgoing connection. Firewalls, as well as restrictions of services or cellular network operators are therefore no longer an issue. This is because they only affect data traffic into the network, but not out of the network. The outgoing connections are then briefly on hold until the VPN tunnel is established, The actual communication then takes place there via the IoT portal.

The remote system thus also in particular fulfills the security requirements of the international IEC 62443 “Industrial communication networks – Network and system security.” The series of standards is divided into various sections and describes both technical and procedural aspects of industrial cybersecurity.

The simple and intelligent user management and the quick configuration of the REX industrial routers have thus already convinced many customers when selecting among providers with similar systems. To this purpose, Helmholtz offers a special test account that makes it possible for potential customers to thoroughly test the performance capability of the IoT portal in advance.



## REX REMOTE SOLUTIONS IN PRACTICE

“We use the REX system from Helmholz on a large scale,” Peer Ketterle from QUAT²RO explains. With this, the IoT pro on the one hand means the functional scope and at the same time the number of installed REX routers, which lies at around 150 annually. Under the QUAT²RO® Remote Service, QUAT²RO markets the online remote access as an autonomous product for own digitalization and process automation solutions with additional QUAT²RO products and for the machinery and system builders within the HAVER & BOECKER group. “The theme of action at a distance experienced another gigantic push during the pandemic, especially with commissioning,” Ketterle specifies as one reason for this success. The authorization for external access with QUAT²RO® Remote Service can take place either on the control panel of the machine control system or via a key or toggle switch. However, the router can transmit data from out of the machine at any time, for example, for monitoring purposes or for emergency calls.

QUAT²RO also offers REX routers and other optional components like smart glasses or dome cameras as pre-assembled kits for retrofitting. Existing machinery can thus be easily integrated into the myREXPortal or the cloud-based monitoring. The portal also ensures transparency and usability when invoicing services: the individual VPN connections and specific comments are recorded there, which extremely simplifies the assignment of the order or machine-specific data flows.

“The REX routers are principally easy to operate and are, of not least importance, affordable,” is how Peer Ketterle summarizes his practical experience of past years. “The hardware is reliable and readily available, so that users usually do not much notice the routers in everyday operation.”



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Peer Ketterle, head of Technology at QUAT²RO

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