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SUCCESS STORY

Grünbeck Wasseraufbereitung GmbH equips systems with Helmholz components as a standard

FOCUS ON SECURE REMOTE MAINTENANCE AND NETWORK INTEGRATION

PLC-controlled systems of the Grünbeck Wasseraufbereitung GmbH must be maintained remotely and be securely incorporated into higher level networks. As is shown by the example of a new ultrafiltration system, both requirements can be fulfilled with system components from Helmholz.

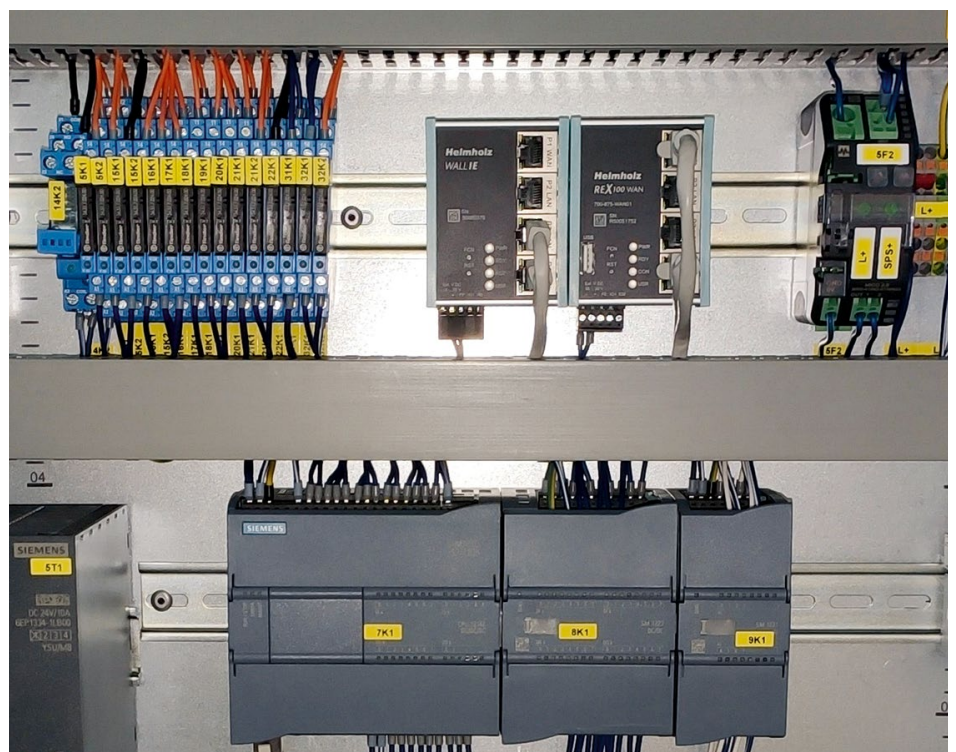
Those who operate a public swimming pool or a whirlpool require this new development from Grünbeck Wasseraufbereitung GmbH: The spaliQ:UF200 ultrafiltration system carries out the entire pool water treatment process there, thus ensuring excellent water quality. “The spaliQ:UF200 is a goose that lays golden eggs,” is product manager Florian Seiler’s summary. With its method of filtration, the system ensures not only water free of germs, but also manages all upstream and downstream process steps of pool water treatment, from water removal through temperature control to final disinfection.

REMOTE AND INTEGRATION-CAPABILITY AS CENTRAL REQUIREMENTS

The complex system is controlled via a PLC and an HMI panel. Because control system concepts must generally meet additional requirements in the face of digitalization, the Grünbeck experts utilized the current new development as an occasion to realize appropriate solutions fit for the future. Specifically, this revolved around the themes of remote access and integration.

Only regular maintenance guarantees the high quality standards. Called for were therefore new ways for remote maintenance and thus the remote capability of the control system. Swimming pool technology is also no stand-alone solution, but rather part of a comprehensive building technology environment. Several IP addresses had always been necessary for the necessary integration up to now. These often need to be changed with a great deal of effort for a later commissioning. This gave rise to the second question, which Jakob Eisenach, responsible at Grünbeck for the theme of automation in the Systems Technology segment, describes as follows: “Our goal was: the customer can easily and safely integrate our control system into his network without us having to either change or adapt our control system. We were thus looking for a single, clean interface between our control system and the network of the customer.”

In order to realize the remote and integration capability, a choice had to be made between two components from Helmholtz: the industrial router REX 100 and the Industrial NAT Gateway WALL IE. There were already four arguments in favor of the Helmholtz solutions, which Jakob Eisenach describes as follows: “The devices are easy to configure, compact in design, and very robust. The price was also right for us.”



REX 100 Ethernet Router



WALL IE Industrial NAT Gateway/Firewall



INDUSTRIAL ROUTER REX 100

The REX industrial router from Helmholz enables simple, flexible, and safe remote maintenance of Ethernet components and transparent data communication. All standard engineering tools are supported via an interface. The result is that the maintenance PC is located virtually in the system of the customer. Data packages can thus be directly forwarded to the automation network.

The security requirements are correspondingly strict. Data transmission therefore generally occurs encrypted via a secure OpenVPN tunnel. This technology ensures a very high level of security for the communication path between the OpenVPN gateway. The myREX24.net portal from Helmholz serves as the switching center for the OpenVPN communication between programmers and the customer system. This means that both sides can establish the OpenVPN tunnel as an outgoing connection. Firewalls and/or restrictions imposed by services are thus a thing of the past, as these only limit data traffic entering the network, but not outgoing data.

INDUSTRIAL NAT GATEWAY WALL IE

The strictest cybersecurity standards must also be ensured for the integration of the system control system into a higher level network. The system network is viewed as a LAN (Local Area Network) in this context, and the higher level network as a WAN (Wide Area Network). In order to effectively protect both from external attacks, the LAN network must be securely integrated into the higher level WAN or be separated from it.

The Industrial NAT Gateway WALL IE assumes this function. In concrete terms, the components protect the networks in that they precisely regulate which participants may exchange data with which device. Jakob Eisenach is especially enthusiastic about one function: "The possibility of routing without mixing the IP addresses is truly a unique selling point!"

WALL IE works on the WAN side with a virtual IP address. The access rights are thus reliably limited to authorized persons. The automation network is protected accordingly. In contrast, the IP addresses positioned behind the WALL IE remain hidden and are not visible externally. If the company network is now endangered by a hacker attack, the automation network remains unaffected by this behind the WALL IE.



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PROVEN IN PRACTICE

Both Helmholz components, REX 100 and WALL IE, have in the meantime both been deployed successfully for more than a year at Grünbeck and will be installed in the spaliQ:UF200 as a standard for the first time. It is not least the users that profit from the new system, as automation expert Jakob Eisenach points out with an example: “The customer must now administer only a single IP address for the entire system, namely that of the WALL IE, and accesses the touch panel visualization directly through it.”

Maintenance work, for example, in the case of error messages can now also be carried out remotely thanks to the REX 100. User administration ensures that only authorized Grünbeck technicians can access the corresponding systems via the myREX24.net portal.

Should on-site deployment be necessary, this can be optimally planned on the basis of the already existing diagnostic data. On the basis of these advantages, Grünbeck has completely converted its service concept to REX with the new ultrafiltration system. Further systems in the Systems Technology segment will follow.



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