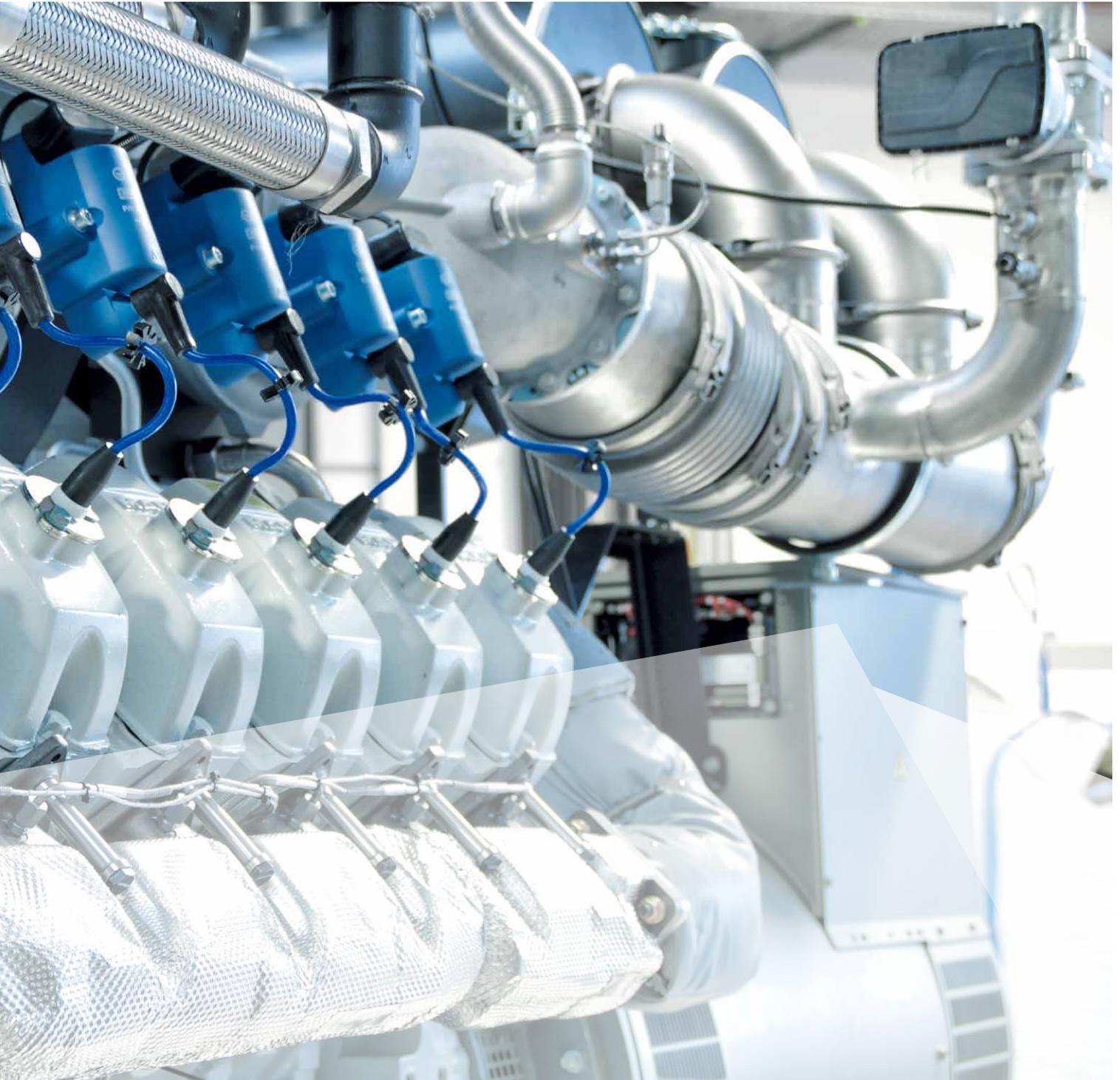**atvise® in the Cloud**

EVERYTHING (AND EVERYONE) IN VIEW

EVERYTHING (AND EVERYONE) IN VIEW

Burkhardt GmbH, based in Mühlhausen, Germany, specializes in efficient combined heat and power (CHP) plants. Customers are supplied with heat and electricity from around 500 ultra-efficient plants. Visualization and user interfaces are created quickly thanks to the object-oriented engineering approach from atvise®. Additionally, global plant data is funneled into a central atvise® cloud environment. Burkhardt uses this data to identify potential improvements for future plant developments. Its service team can also provide fast, targeted maintenance.

Burkhardt's combined heat and power plants provide a reliable source of electrical and thermal energy from a variety of sustainable sources, including wood pellets, wood chips, and natural gas. The cloud solution from atvise® enables the central monitoring of plants worldwide, allowing convenient troubleshooting through remote access.

Sustainable foundation

Burkhardt has used atvise® for the visualization and operation of its CHP plants for the past eleven years. "We initially chose the Bachmann solution for two main reasons: HTML technology, which was not yet widely used, and the software's absolute openness," explains Roland Kipfstuhl, Head of Software Development at Burkhardt. The company was laying the foundations of a future-proof solution. It succeeded: Around 500 CHP plants are now operating worldwide; operated and visualized with Bachmann's solution.

The center of Burkhardt's universe

Burkhardt customers have access to all necessary system functions via clear user interfaces, which simplifies plant operation. However, Burkhardt wanted detailed, remote insights into their customers' systems. The CHP specialist made the right decision early on with atvise®. The cloud-enabled, web-based visualization solution gives Burkhardt secure, centralized access to customer installations and applications.

A treasure trove of data

Around 5,000 data points from each individual CHP plant converge in a private cloud environment at Burkhardt. "With atvise® as the hub, our technicians can access all the necessary aspects of a customer's power plant at any time. Thanks to the web-based interface, service staff have convenient, mobile access to the plant on their smartphones," says the head of software development.

Data is stored for up to two years and condensed by Burkhardt into valuable information. Plant engineers use findings from aggregated measurements, alarms, and malfunctions to further develop and improve their plants.

Concentrated engineering efficiency

The Bachmann solution gives Burkhardt's engineering team more time for de-velopment. With the object-oriented engineering approach, adapting the operating and visualization interfaces of new systems to respective custo-mer applications is fast and straight-forward. Kipfstuhl explains: "When we configure a new system, we draw on a central library filled with abstract, predefined objects. We have packed all our application know-how into these templates - diagrams, faults, alarms, and other elements." Burkhardt specialists can quickly create user interfaces with all the necessary functions. "All we have to do is create project-specific flowcharts, and we can deliver the visualization. This frees up time for our colleagues in the engineering department," says Kipfstuhl.

Versatility like never before

Burkhardt takes full advantage of the flexibility offered by the Bachmann solution. Not only does the R&D department rely on atvise®; the service organization does too. Even spare parts orders are placed via the system. "We put a lot of thought into imple-

Burkhardt utilizes insights gained from the aggregated measurements, alarms, and malfunctions to guide the further development and targeted improvement of its power plants.

»atvise® consolidates thousands of data points from customer power plants worldwide, turning them into valuable information. We use these insights for the targeted further development of our power plants.«

Roland Kipfstuhl
Head of Software Development
at Burkhardt

menting spare parts management. We wanted to cover as much functionality as possible in a shared environment. Thanks to Bachmann's flexible solution, we were able to program this function with JavaScript and Python to perfectly match our business processes," explains Kipfstuhl. Open interfaces enabled seamless connection to the Burkhardt ERP system. Customers have access to a cataloged list of all installed assemblies and system parts via the visualization. "During a service call, they can simply compile their shopping cart via the user interface, and place a spare parts order directly in atvise®. The order is immediately entered into our ERP system, with our shipping and accounting departments notified," says Kipfstuhl.

Safety squared

Such a high degree of networking entails a high level of responsibility, as the specialists are well aware. "When operating a cloud solution, you have to be aware of potential cyber risks," says the head of software development. Therefore, Burkhardt regularly

commissions external partners to carry out detailed system penetration tests. The company refers to the penetration tests that Bachmann carries out at regular intervals on atvise®: "Based on this, we also comprehensively test other security-critical areas, such as VPN tunnels or port forwarding of the firewall," explains Kipfstuhl.

The multi-client capable visualization solution allows the precise definition of user roles – down to the specific rights assignment for each visualization element. This multi-client capability is essential to Kipfstuhl: "Thanks to clear group assignments, our technicians see their topics, and the customer sees theirs. If our support team were to simply connect remotely to the on-site visualization, the customer could observe sensitive information on their HMI, such as access data and passwords."

Higher centralization with single sign-on

Burkhardt is already well positioned in cybersecurity, thanks in no small

part to Bachmann's visualization solution. Nevertheless, it wants to focus even more on this area and implement additional security functions. "atvise® is always one step ahead of us. Bachmann is constantly delivering new functions that we often cannot implement immediately," says Roland Kipfstuhl with a smile. The next update will focus on central login options with "OpenID." This will extend the existing single sign-on (SSO) to connected third-party products.

BURKHARDT GMBH

– Specialist in energy and building technology

– Headquartered in Mühlhausen (Germany)

– Established in 1879, seven locations in Germany and Italy with about 470 employees

www.burkhardt-gruppe.de

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