KAESER KOMPRESSOREN: Reimagining Design to Operate for Fast Product Delivery and Improved Service

From product design to installation, maintenance, and operation, KAESER KOMPRESSOREN SE delivers top-of-the-line air-compression solutions as a service. To tailor solutions for unique customers across multiple industries, KAESER needed to **digitalize its design-to-operate process**. By working with SAP to leverage the latest in IoT and digital engineering and service technology, KAESER can offer the most economical compressed-air station configuration from planning through implementation.
Streamlining Design, Planning, Manufacturing, Delivery, and Operations

Before: Challenges and Opportunities
• Go to market quickly with tailored air-compression solutions
• Offer air as a service to cost-effectively meet unique customer needs
• Proactively service machines to ensure maximum uptime and lower costs

Why SAP
• SAP S/4HANA® to integrate systems and data enterprise-wide
• SAP® Intelligent Product Design solution to automate engineering and design-document sharing
• SAP Asset Intelligence Network for asset data access and sharing
• SAP Leonardo® Internet of Things solution to gather and aggregate sensor data from customer machines
• SAP Data Intelligence solution for use in data orchestration and engineering
• SAP Analytics Cloud solution to gather insights
• SAP Predictive Maintenance and Service solution to connect data to the back end and improve equipment maintenance

After: Value-Driven Results
• Streamlined design process
• Faster time to market
• More-efficient collaboration with suppliers
• Proactive service and maintenance that reduces downtime and lowers costs
• Higher customer satisfaction

“Our goal is to run as an intelligent enterprise from product design to operating our assets. SAP technology helps develop and deliver tailored products quickly and then proactively ensure they are running at peak performance.”
Falko Lameter, CIO, KAESER KOMPRESSOREN SE

Minutes
For IoT data ingestion time — down from days

One
Data source for engineers, suppliers, service teams, and technicians
Developing **Total Compressed-Air Solutions as a Service**

Car manufacturing, food production, mining, and oil refining are just a few ways companies use compressed-air products from KAESER KOMPRESSOREN SE. A family-owned company established in 1919, KAESER prides itself on providing reliable, energy-efficient compressed-air solutions as well as outstanding customer service.

With Industry 4.0 at the heart of its design-to-operate strategy, KAESER is dedicated to quickly providing tailored air-compression solutions that meet unique customer needs – and getting those solutions to market quickly.

As part of its **air-as-a-service business model**, KAESER must first understand each customer’s requirements and decide what type of machine configuration is needed. It then must collaborate closely with suppliers throughout design to speed time to market. But working with suppliers and internally using e-mail and share drives resulted in both inefficient workflows and a lack of traceability – increasing the risk of design flaws later on.

Then, once a machine was in place, KAESER had to offer proactive field support to ensure **maximum uptime with low lifecycle costs**. Gathering data remotely from IoT sensors could serve to minimize on-site visits, but only if that data could be processed and combined with customer data from existing business systems. KAESER needed a way to interact efficiently with all of its data in order to seize new opportunities and meet customer needs for products, services, and responsiveness around the world.
Teaming Up with a Trusted Technology Partner

With SAP S/4HANA® already at its digital core, KAESER KOMPRESSOREN has the means to **unify and integrate all operations and data**, across all SAP and third-party applications.

Designing a new or adapted compressor requires many specialists. The SAP Intelligent Product Design solution **streamlines document exchange** between engineers and with suppliers and provides redlining capabilities – increasing process transparency, speeding design, and helping quickly identify and reduce errors.

To streamline the design to production handover, KAESER uses the SAP Engineering Control Center integration tool and SAP 3D Visual Enterprise applications to **directly integrate CAD systems with SAP software** to execute the product development process, including making product changes in engineering records, generating bills of material, and assembling work instructions.

To optimize its smart-air services, KAESER connects compressors to SAP Intelligent Asset Management solutions – SAP Asset Intelligence Network and the SAP Predictive Maintenance and Service solution, which are integrated with SAP S/4HANA on premise. This allows service teams, customers, operators, suppliers, and technicians to **access and share asset information** through the cloud.

The SAP Leonardo® IoT solution gathers compressor sensor data, which is processed in minutes through the SAP Data Intelligence and SAP Analytics Cloud solutions. The SAP Predictive Maintenance and Service solution connects that data with back-end ERP and solutions from the SAP C/4HANA® suite, enabling **fast and efficient maintenance**.

The result is total data orchestration in the cloud that allows KAESER to proactively monitor each machine and offer next-generation service at a lower price.
Increasing Customer Satisfaction and Developing New Service Offerings

KAESER KOMPRESSOREN currently has customers all around the globe that are using its new air-as-a-service business model, either through buying compressors and paying a subscription for maintenance or by paying a subscription for both the compressors and the service.

Once customers have provided requirements, engineers can collaborate internally and with suppliers to develop the solution – tracking each step of the design process. Warehouse and transportation management in SAP S/4HANA has also helped streamline the delivery process, assuring the new compressor reaches the customer faster.

With just one source of product, component, spare-part, and service information – including an up-to-date digital replica of each machine – KAESER can communicate more efficiently with parts suppliers to help ensure technicians have what they need at every service visit.

Customers no longer have to worry about compressors breaking down unexpectedly and can be confident that service interventions will be reduced to a necessary minimum, with almost no wait time for components. Not only does this help keep customers’ own operations up and running, it also reduces their overall service costs.

KAESER’s unified, digital, intelligent, and customer-focused supply chain is improving customer satisfaction across the board. It is also giving KAESER the insight it needs to continue meeting new customer demands, offering new digital services, and innovating new business models that will keep it on top of the air-compression market for decades to come.
Connecting Sales and Engineering to Offer the Most Efficient Solution

As KAESER KOMPRESSOREN continues to develop its intelligent design-to-operate process, it is finding new ways to incorporate sales to create a next-generation, connected sales experience for customers.

KAESER is currently running a proof of concept with the SAP Predictive Engineering Insights solution enabled by ANSYS, as that will allow sales engineers to digitally evaluate and compare compressed-air system configurations for technical verification of customer requirements using simulations. The company also intends to increase the efficiency of configure, price, and quote processes using a simulation-based digital twin that could enable fully digitalized sales. This will increase sales efficiency by reducing administrative interactions between sales reps and engineers. Customers will also be able to run multiple what-if simulations to balance costs against their requirements.

Not only will engineering simulation models help improve decision-making across the value chain and lower the cost of sales, they will also allow KAESER to introduce simulation as a service as part of the configure-price-quote process – leading customers to their ultimate goal of developing the perfect solution at the right price.