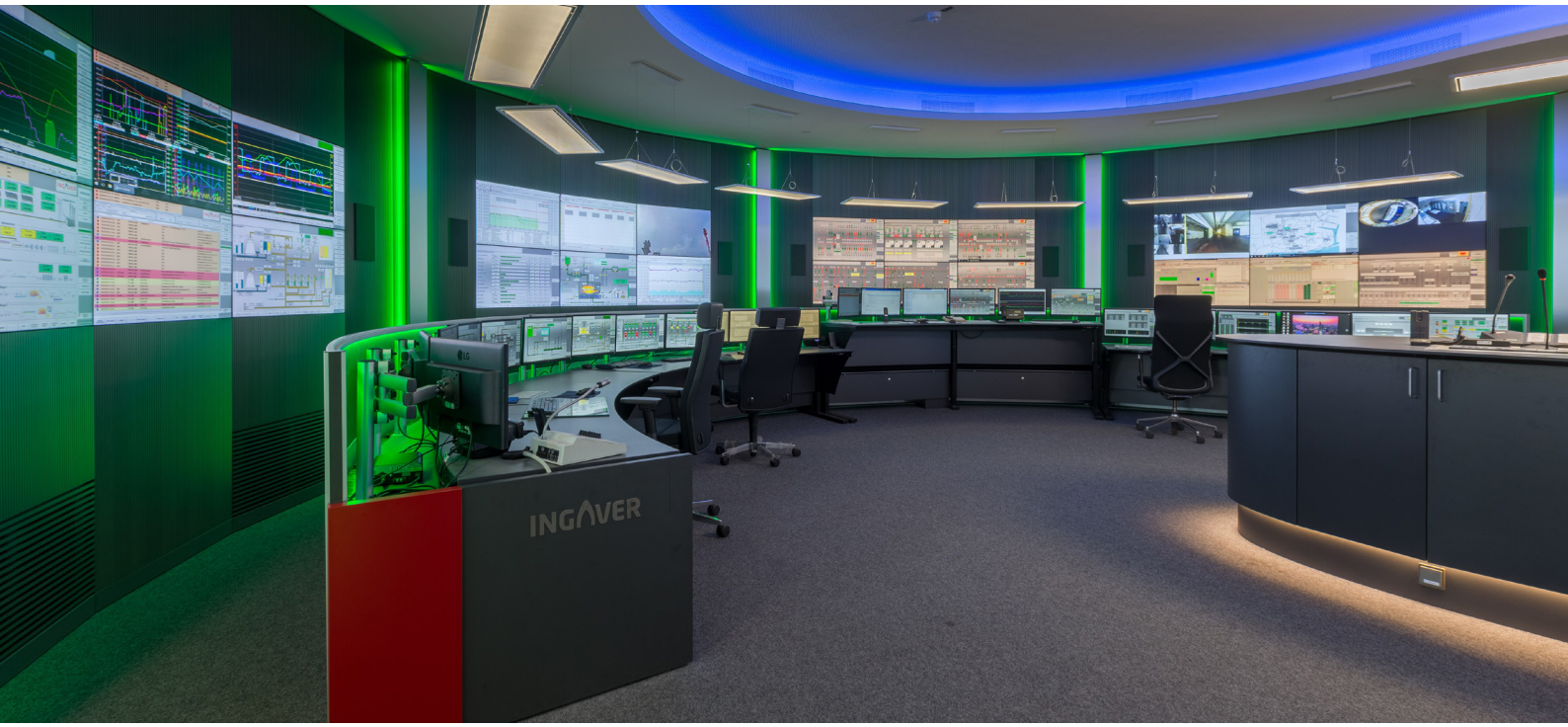
Reliable energy and utility supply in the steel industry with zenon

INGAVER modernizes energy and utilities control center

In the energy-intensive steel industry, a secure, uninterrupted supply of energy and utilities is essential for stable production processes. At ArcelorMittal's Bremen location, INGAVER Innovative Gasverwertungs-GmbH is responsible for managing the energy and utility supply systems. To consolidate a patchwork of legacy visualization systems, INGAVER chose zenon from COPA-DATA. zenon provides a centralized platform for the steel business with better end-to-end process transparency and operation of energy and utility management.



Rising energy costs, the transition to renewable energy, and increasing demands for a reliable energy supply are intensifying the pressure on operators of energy-intensive facilities. At the same time, production processes must run on a stable basis around the clock – meaning operations are highly sensitive to interruptions in supply. Even brief outages can have serious consequences for equipment and processes. Stable and secure control and visualization technology is critical. Systems are needed that can provide 24/7 transparency, minimize energy losses, and make it possible to respond quickly.

At ArcelorMittal in Bremen, a range of different visualization systems had been installed over time. As a result, there was limited ability to connect processes and data was scattered across different systems. In addition, the incumbent systems were not easy to use.

FROM STAND-ALONE SOLUTIONS TO ONE CENTRALIZED PLATFORM

Some of the visualization systems used in Bremen had been partially discontinued by their manufacturers and could not meet new requirements. To resolve these challenges, INGAVER chose to replace the existing mix of systems with a single, future-ready solution based on the zenon software platform. Thanks to its 300+ drivers for off-the-shelf connectivity with



zenon integrates a range of systems and controllers in a common user interface. In this way, the modern control room supports stable processes in a highly sensitive production environment.

diverse equipment, zenon makes it simple to integrate diverse system landscapes – even when they've grown organically over time.

Key requirements for the new system included trend visualization, data storage, and the ability to detect changes or anomalies at an early stage. The ambition was to enable ArcelorMittal to pinpoint energy losses more rapidly, manage processes more efficiently, and detect errors before they became serious issues. ArcelorMittal wanted to be able to respond more quickly to events so it can operate its energy and utility supply services in a more sustainable way.

MODERNIZATION DURING ONGOING OPERATIONS

The migration to the new process control system was carried out in stages without interrupting live operation. INGAVER carried out the transition in stages, systematically replacing existing systems so that production could continue to operate safely in parallel. First, the utility supply system was switched to zenon. The experience gained during this stage was then incorporated into the plan for the gradual modernization of the plant's energy supply system.

zenon now provides a centralized platform for managing both the power and utility supply services for the entire location. Today, the zenon software platform integrates a wide range of systems and controllers in a standardized interface to enable intuitive operation. Data and energy and utility readings can be evaluated and analyzed centrally.

Technicians and engineers have gained access to relevant information, even from outside the control center, with INGAVER's integration of zenon Smart Clients.

BETTER TRANSPARENCY AND HIGHER SYSTEM UPTIME

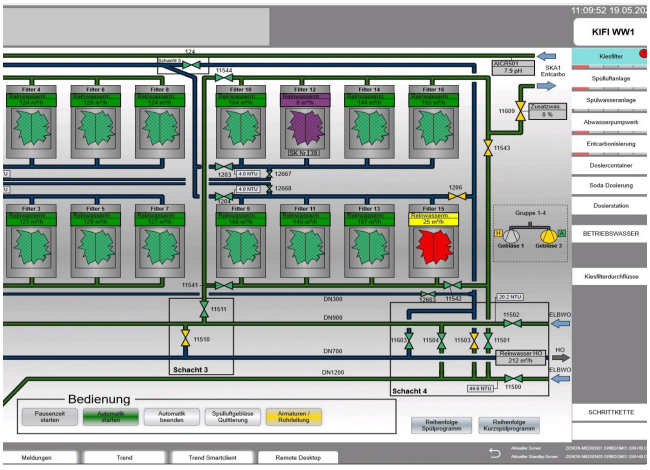
A major benefit of the new solution is the improved visibility that it provides over all energy and utility supply processes. Data from all the various areas of the plant is now combined on a single software platform, enabling centralized analysis.

The analysis and reporting functions in zenon enable operators to detect trends earlier and assess operations comprehensively and in real time. As a result, employees can react more quickly to selectively optimize processes.

High system uptime was another high priority for the project team. The infrastructure includes redundant power supply and redundant network connections. Distributed server structures and geographically separated control room concepts ensure high system availability. zenon's out-of-the-box redundancy concepts make it easy to reliably configure this kind of resilience.

As a result, INGAVER has ensured critical functions continue running, even when errors occur. Individual zenon computers can operate independently of the main system as standalone units. This makes it possible to work on the main system without interrupting operation. Control functions will persist even if the main system fails.

Marc Laux, Electrical Engineer at ArcelorMittal in Bremen, explains, "In our environment, every system has to run with absolute reliability. Downtime can have major impact on our



Visualization of the gravel filter system with zenon



Trend analysis and reports provide visibility and insights for monitoring and managing energy and utility supply services.

processes and equipment. For this reason, system uptime was a decisive factor for us."

HIGH USER ACCEPTANCE

The new control center proves its value through its impact on employees' day-to-day work. Today, all divisions of the company work with a standardized user interface and clear operating structures. This is a huge benefit over the previous mix of different applications and helps to reduce operator cognitive load and minimize the potential of error.

The high level of user-friendliness of the new system simplifies onboarding and enhances operational safety. Technicians and engineers benefit from the new ability to access the entire process control system directly from their offices via zenon Smart Clients.

The flexibility of zenon means that the system can continue to evolve. zenon's high connectivity makes it easy to add or update equipment. And its forwards and backwards compatibility make it easy to take advantage of new zenon features. New requirements can be flexibly integrated and existing functions continuously optimized. INGAVER sees additional potential to make processes even more efficient in the future as its team implements further optimization projects.

"We always approach change from the perspective of working with our employees. Particularly in critical control center environments, this calls for a great deal of sensitivity and trust," says Marc Laux. "zenon adapts flexibly to new tasks and developments which is an important benefit. The system will be used over many years, so it will continue to develop. Looking back at the early project stages, it's clear just how much our requirements have already evolved."

With its new control center, INGAVER has set the foundation for ensuring that energy and utility services at the ArcelorMittal Bremen location run efficiently. zenon's open architecture, high system uptime, and intuitive operation ensure reliable performance while at the same time providing a basis for the plant's continuous optimization and development.

HIGHLIGHTS:

- Centralized platform for power and utility supply services
- Integration of diverse systems and controls into a single interface
- High system uptime ensured by redundant architecture
- Trend analysis and reporting for improved transparency
- Standardized user interface strengthens employee acceptance
- Flexible access to the process control system via zenon Smart Clients
- Modernization in stages during ongoing operations
- Open architecture to meet future requirements