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HOW A 120-YEAR-OLD CERAMICS MANUFACTURER TRANSFORMED ENERGY MANAGEMENT WITH MODERN ANALYTICS PLATFORM

Key points

- From 20-page reports to clear real-time insights
- Hours reduced to minutes. Energy peak investigations are now express through visual mapping
- One-click compliance. Transformed EU energy reporting from extensive manual processes to single-click data extraction.

Successful, over century-old production at Paul Rauschert Steinbach GmbH comes from continuous application of long-established knowledge. In energy optimization, knowledge is equally crucial, yet it evolves rapidly, requires constant updates, and must undergo continuous analysis to deliver expected results. This fundamental difference defines the energy efficiency challenge many established manufacturers face today, especially in an era of changing regulations and growing requirements for energy reduction and CO2 emissions.

The Challenge: Energy visibility gaps in a century-old operation

For the 120-year-old company has perfected the art of technical ceramics manufacturing. Their Steinbach am Wald facility represents generations of expertise in creating precision ceramic components, ignition systems, heating elements and plastic moulded parts. The traditional methods and production secrets passed down through generations remain invaluable – these time-tested processes continue delivering exceptional quality today.

Energy management, however, told a different story at Rauschert. While production techniques deserved preservation, energy monitoring systems desperately needed modernization.

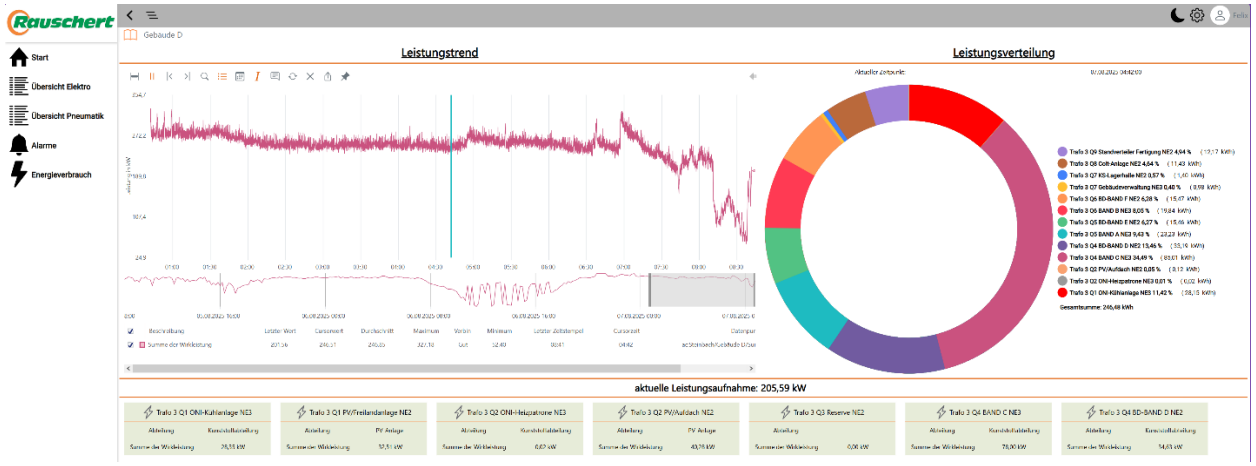
Winter brought unwelcome surprises: unexplained energy consumption peaks that could not be explained. The existing energy management system, now obsolete and unsupported, offered little insight into these problems. Energy data existed in isolation – scattered across buildings A through D with no clear visualization of consumption patterns.

"We had data, but no understanding," explains Fabian Völk from Rauschert's Maintenance/Construction Plant Engineering team. "When energy peaks occur, we couldn't trace their origin. Our monthly reports required manual compilation of 20-page Excel spreadsheets – a time-consuming process that delivered information too late to be useful."

The challenge intensified with EU mandatory energy reporting requirements. Extracting compliance data from legacy systems demanded significant manual effort from dedicated personnel, creating bottlenecks in an otherwise efficient operation.

The Solution: GENESIS platform brings clarity to complexity

Mitsubishi Electric's GENESIS Energy management platform transformed Rauschert's approach to energy monitoring and optimization. The platform provides universal connectivity with existing energy meters. It also establishes a secure system of record for historical energy data, eliminating the manual, Excel-based processes that previously consumed significant time and effort.



The Energy Management tools deliver open universal data connectivity and enterprise integration with existing control systems. The tools include built-in calculations, KPIs, analytics, data historian, and reporting capabilities. The platform's compatibility with multiple meter types enables quick deployment and faster return on investment through reduced engineering time.

The system delivers real-time energy monitoring across all facility buildings, enabling immediate identification of consumption peaks. When winter energy peaks occur, operators can now trace their source through intuitive power distribution diagrams – from facility level down to specific equipment or building sections. Asset-based management allows users to drill down to specific sources of energy inefficiencies and locate suspected consumption offenders.

The platform provides automated report generation that replaces manual Excel compilation. EU compliance reporting now requires just single-click data extraction. Standard consumption, cost, and carbon reports can include electricity, gas, water, and other utilities alongside operational conditions. The expandable architecture accommodates future facility growth, with custom visualization tailored specifically to Rauschert's operational needs.

"What made the difference at Rauschert was giving facility personnel clear visibility into their energy data. This transparency enabled them to quickly identify optimization areas and find ways to maintain production efficiency while reducing consumption across their infrastructure. Our joint efforts demonstrate how well-established facilities can embrace sustainable transformation while preserving their operational excellence," notes Christian Nomine, European Strategic Product Manager Visualization & Analytics at Mitsubishi Electric Europe B.V.

The Results: From 20-page spreadsheets to one complex view of consumption

After one year of operation, the transformation is both measurable and clear. The most striking change: Rauschert's energy management evolved from 20-page Excel spreadsheets compiled monthly to one detailed view of consumption delivering real-time insights with clear conclusions ready to implement.

The implementation demonstrates the platform's core capability to centralize real-time visibility across all facility systems, transforming Rauschert's approach from reactive data collection to proactive energy management. The quick deployment capabilities of the Energy Management tools enabled faster ROI through reduced engineering time and smooth integration with existing infrastructure.

Energy peak investigations that once required hours of manual data analysis now take minutes through visual consumption mapping and drill-down capabilities that pinpoint specific consumption offenders. Monthly reporting, previously a significant administrative burden, generates automatically with relevant insights highlighted.

"The difference is remarkable," notes Fabian Völk from Rauschert. "We've eliminated the time-consuming manual processes that once dominated our energy reporting. What used to require dedicated personnel compiling data across multiple systems now provides instant analysis and useful insights for energy optimization. Our EU compliance reporting, once requiring extensive manual work, now requires a single click."

Platform expandability ensures Rauschert's energy management capabilities can grow alongside their operations, with integration capabilities that support future facility requirements. This project shows that even long-established facilities with existing systems can successfully implement modern energy monitoring solutions. The key lies in choosing platforms that work with current infrastructure rather than requiring complete system overhauls.

Knowing the macroscale

The energy optimization challenge faced by Rauschert extends far beyond individual facilities. Manufacturing consumes around 39% of global energy, with energy costs representing up to one-third of operating budgets in industrial sectors. While operational improvements typically reduce energy consumption by 10% to 20%, combining them with energy-efficiency technologies can boost total savings to 60% or more. This requires industry to save up to 600 billion £ annually, with investment in such technologies typically paying back within three years or less.

Sources: https://www.rinnovabili.it/wp-content/uploads/2025/09/IEA-Energy-Management-for-Industry.pdf