

# Privatbrauerei Gaffel Becker & Co. OHG

Energy efficiency and process optimization  
with CloudRail from Belden



Case Study

## Customer

Privatbrauerei Gaffel Becker & Co. Gaffel Becker & Co. OHG, a renowned Cologne brewery with an annual production of 500,000 hectoliters, faced the challenge of digitally transforming its production and bottling processes. The goal was a vendor-independent, scalable solution for acquiring and analyzing energy and production data—with full control over proprietary data and maximum transparency.

The project pursued two central objectives:

- **Real-time energy consumption acquisition:**  
Automated acquisition of electricity consumption data throughout the entire production and bottling area.
- **Transparency and optimization of filling processes**  
Recording of performance metrics and downtime of all filling lines for data-based optimization.

## Challenges

Before the introduction of the CloudRail solution, energy data was manually read from the display of the smart meters and transmitted into Excel spreadsheets—a labor-intensive and error-prone process. An automated, reliable, and scalable solution was urgently needed to improve data quality and efficiency.

Production data from the bottling plants was exclusively accessible through proprietary platforms of the machine manufacturers. An independent, holistic evaluation was therefore not possible, which made overarching analysis and the use of modern business intelligence tools more difficult.

The existing network landscape was characterized by different communication protocols and subnets. A standardized integration of all relevant data sources required a tailored OT network structure that took into account technical complexity and high security requirements.

At several critical points in the production line – especially at conveyor belts and packaging machines – there were no suitable measuring points. This made a complete analysis of the process chain impossible. The lack of sensors led to blind spots in Ingestion and made it difficult to identify optimization potential.

## Discovery

Belden follows a co-innovation approach, in which system integrators like Kramer & Crew actively involve end customers in the development of individual solutions. This allows technology deployment to be clearly linked to business value. The aim of the collaboration was to significantly increase transparency in production.

In Germany, Belden works closely with customers through the Customer Innovation Center (CIC) in Stuttgart. This center is part of a global initiative to develop customized automation solutions.

At the start of the project, Kramer & Crew and the digitization team of Privatbrauerei Gaffel identified suitable applications where initial savings could be achieved through data integration. Connecting the already installed smart meters enabled rapid success and fostered support for the production teams.

While existing systems were connected using network components, missing data points were supplemented via IO-Link sensors. Belden offered a flexible solution from sensor to cloud.

Kramer & Crew has relied on Belden's CloudRail solution for years for the seamless integration of production data. The interface forms the basis for data processing in Microsoft Fabric and the Power Platform—for innovative solutions with high scalability.

## Solution

Over the course of a few weeks, 135 Siemens Smart Meters (Modbus TCP) were seamlessly connected to Microsoft Azure through industrial switches and CloudRail. Sensors (IO-Link), controllers (OPC UA), and other data sources were seamlessly integrated.

The data is locally preprocessed via Azure IoT Edge and transmitted in encrypted form to the Microsoft environment—for maximum security and efficiency.

A unified data format (UNS) forms the basis for consistent reporting and performance analytics in Microsoft Fabric and Power BI.

Electricity consumption and production data are centrally displayed and analyzed in Power BI. Visualization enables informed decisions in energy management and production planning.

The CloudRail-Azure interface forms the technical basis on which Kramer & Crew develops custom solutions with PowerApps and Power BI – for maximum transparency and scalability.



## Results

Thanks to real-time transparency of electricity consumption and production data, Privatbrauerei Gaffel was able to purposefully analyze and optimize its energy use. Already in the first month of operation, approximately 15,000 kWh were saved. The return on investment (ROI) was less than six months – clear evidence of the cost-effectiveness of the solution.

A key concern was control over the company's own production data. Thanks to the direct connection to the Azure Data Lake, all data remains in the enterprise's possession – without intermediate storage on Belden systems. Local preprocessing and encrypted transmission ensure maximum data security and compliance with internal IT guidelines.

Comprehensive capture of production metrics such as efficiency, OEE, and downtime enables data-driven analysis and targeted optimization. Bottlenecks are identified, maintenance cycles are adjusted, and the overall performance of the bottling plants is sustainably improved.

The solution is fully compatible with current and future Microsoft technologies. It can easily be expanded to other production lines and locations – without additional hardware or complex configurations.

Gaffel Brewery has implemented a high-performance, secure, and future-proof digitization solution together with Kramer & Crew and the CloudRail solution from Belden. The combination of real-time data, standardized architecture, and full data sovereignty forms the foundation for sustainable energy efficiency and continuous process optimization.

Belden's Data Solutions can connect a wide variety of industrial Protocols to Microsoft Azure via a secure, scalable, and flexible Data Integration Layer. In combination with network components, Belden is a one-stop shop for data acquisition, contextualization, and integration with IT services. System integrators like Kramer & Crew use this foundation for comprehensive solutions including dashboards, analytics, and ERP integration.

# About Belden

Belden Inc. delivers comprehensive Connectivity Solutions, that offer our customers, their customers, and the world unexpected opportunities. We promote ideas and technologies that enable a safer, smarter, and more successful future. Throughout our more than 120-year success story, we have continuously evolved as an Enterprise, but have always pursued our primary goal: to create connections. We make this possible by connecting people, information, and ideas. The headquarters of our Enterprise is located in St. Louis. We have manufacturing facilities in North America, Europe, Asia, and Africa.

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