



Smart Building Meeting the Latest Standards

Case Study: VIEGA Headquarter BA17

Space: 3 350 m² | Year of Construction: 2014 | Type: Office | Data Points: 5 200

Owner: VIEGA GmbH & Co. KG

As a high-quality family business and one of the market-leading manufacturers of drinking water systems, VIEGA GmbH & Co. KG also considers itself a pioneer for digital and sustainable building management in its own office buildings. Built in 2014, the BA17 building in Attendorn, North Rhine-Westphalia, combines state-of-the-art premises with high-quality technical equipment and meets the highest standards in terms of energy efficiency and comfort.



33 %

annual operation cost savings

(7.35 €/m²/a)



31 %

annual energy savings

(36.70 kWh/m²/a)



34 %

annual avoided emissions

(15.7 kg/m²/a)

Task

aedifion's task was to identify and implement potential energy savings in the building's operations. Additionally, open interfaces within the building were to be used to merge the building automation data with Viega's proprietary drinking water system into a higher-level evaluation tool.

Solution

By using the smart plug-and-play approach of the cloud platform, aedifion ensured the connectivity of all systems in the building within a remarkably short time. The AI-based data analysis identified potential savings from the very first minute and enabled customized solutions for optimizing operations.

Measures

Following a successful kick-off to establish the project roadmap, the building was optimized in **two steps**:

- 1. Minimally-invasive establishment of connectivity and data availability** through the simple and securely encrypted plug-and-play connection of the aedifion Edge Device. To structure the existing data points, approximately 300 digital twins were created and visualized in the frontend.
- 2. AI-based analysis, operational optimization of the system technology** and results made available on the cloud platform. As part of its full service package, aedifion curated the implementation of the optimization recommendations in several workshops with the operations team.

Achievements

A key aspect of unlocking the building's savings potential was intelligently **adjusting the operating times of the heating, cooling and air-handling units** to match the actual hours of occupancy. This led to significant savings of 123 000 kWh of electrical energy per year, resulting in an annual operating cost reduction of EUR 24 609.

The AI analysis also identified further **optimization potential in the building's district heating control system**. Oscillations in heat production were affecting all downstream systems, causing increased wear and requiring frequent readjustments.

Another success was **uncovering a deviation in the operation of the cooling machine**. Through intelligent data analysis, this problem was identified and corrected early on,

resulting not only in improved energy efficiency, but also in the avoidance of potential failures and costly repairs in the future.

At room level, potential savings were identified in the energy transfer systems. **Optimization potential was found in both the run times and heating curves of the building's concrete core temperature control**. All adjustments were integrated into the on-site building automation system, allowing for long-term monitoring.

Summary

Overall, the results for BA17 were consistently positive. True to the principle of "acting instead of reacting", thanks to aedifion it was possible to identify and exploit operational optimization potential within a very short period of time, even in such a modern building.

Customer Feedback

"As one of the world's leading providers of building technology, we also want to continuously improve our own facilities. The aedifion cloud platform gives us a powerful digital tool to reduce costs and energy consumption in our high-tech building operations. The experienced engineering team provided us with expertise and dedication, ensuring we were well supported throughout the process - and the results speak for themselves!"

Manuel Alfes

Head of dec. Facility Management |
Viega GmbH & Co. KG

