

Buildings
Simply Made
Better

aedifion



Innovation Meets Hospitality

Case Study: Holiday Inn, Düsseldorf

Space: 13 458 m² | Year of Construction: 2016 | Type: Hotel | Data Points: 3 900 | Owner: Invesco Real Estate GmbH

The Holiday Inn Hotels & Resorts brand is renowned worldwide for its first-class service and welcoming atmosphere. The 4-star hotel in Düsseldorf's Quartier Central meets the needs of a wide range of travelers in one of the region's most sought-after locations. Spread over six floors with 209 rooms, a light-filled lobby, various conference rooms, and a restaurant, the hotel offers inviting interior design and a cozy ambiance, making it the perfect place to relax and unwind.



17 %

annual operation cost savings

(2.21 €/m²/a)*



17 %

annual energy savings

(13.92 kWh/m²/a)*



17 %

annual avoided emissions

(3.55 kg/m²/a)*

* Ratio between absolute values from annual projections and actual annual consumption data.

Task

The owner's goal was to gain a deeper understanding of the technical operations at the Holiday Inn to identify potential savings more quickly and sustainably reduce operating costs. Additionally, the property was to be transitioned into automated, user-focused regular operation to ensure maximum efficiency and comfort at all times.

Solution

Based on the results of a detailed building analysis, aedifion developed a specific retrofit roadmap to prepare the hotel for digital operational optimization. Since then, the cloud platform has enabled transparent real-time monitoring of all technical systems and has automatically implemented optimization recommendations during ongoing operations.

Measures

To meet the requirements for efficient building operations at the Holiday Inn, three phases were crucial:

1. **Upgrading the proprietary building automation** to the **BACnetIP** communication protocol to enable manufacturer-independent information exchange between the various systems.
2. **Data collection and analysis** in the aedifion cloud platform through the newly created open interfaces. The intelligent software identifies optimization potential in real time and provides actionable recommendations for continuous operational improvement.
3. **Automated and dynamic control of the technical building equipment** (TBE) through aedifion's AI, based on real-time data and outdoor temperature.

Achievements

When optimizing the hotel's operation, the focus was initially on the running times of the air handling units. By adjusting the time schedules in the conference and kitchen areas, it was possible to achieve demand-oriented operation instead of a 24-hour operation. In the restaurant, the air volume flows were adjusted so that this system no longer runs unnecessarily at full capacity. For the air handling systems in the kitchen and social areas, a dynamic control of running times and supply air temperature was imple-

mented. The set points for the heating and cooling systems are also dynamically regulated to ensure they operate at optimal efficiency. By reducing the pump heads, the temperature spread was normalized and energy consumption reduced. The system temperature for hot water preparation was lowered from 80°C to 70°C without compromising water hygiene. By integrating additional meters and sensors from Deepki and Disruptive Technologies, it was possible to address "blind spots" in the database, allowing for the real-time capture and analysis of information that had not been considered before.

Customer Feedback

"With aedifion's cloud platform, we have a powerful tool to better oversee and continuously improve the technical operations of our hotel. The team provided excellent guidance and support during the retrofitting of missing hardware and communication protocols. From prioritizing optimization measures to the implementation and ongoing performance monitoring, we are thoroughly satisfied!"

Dirk Dahlhaus

General Manager
Holiday Inn Düsseldorf City

