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Better

aedifion



# Tradition Meets Innovation

## Case Study: Kaiser Hof, Cologne

Space: 12 350 m<sup>2</sup> | Year built: 2019 | Building type: Office building | Client: Art-Invest Real Estate Management GmbH & Co. KG

Named after the „King of Prussia“, the Kaiser Hof in the heart of Cologne blends tradition with modernity. On more than 12 000 m<sup>2</sup>, a prestigious property for office space was created using high-quality materials and state-of-the-art technical equipment. The project development by Art-Invest Real Estate was completed in 2019. Thanks to aedifion's innovative technology, the building automation was further optimized even after completion: AI and engineering expertise unlocked potential in energy consumption, system lifespan, and user comfort, while a cloud platform was implemented for further building digitalization and the capture of smart metering data.



# 16.39 %

annual operating  
cost savings

(2.01 €/m²/a)\*



# 18.63 %

annual  
energy savings

(15.7 kWh/m²/a)\*



# 16.25 %

annual  
avoided emissions

(3.7 kg /m²/a)\*

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

## Starting Situation and Objectives

Equipped with high-quality system technology, precise building automation, and state-of-the-art technical standards, Kaiser Hof ensures the highest user comfort with minimal energy consumption and CO<sub>2</sub> emissions. The building services engineering comprises around 10 000 data points, over 300 individual room controls, fully air-conditioned ventilation, and cooling supply with free cooling option and district heating integration. aedifion was commissioned to provide the technical facility management with an efficient tool to reduce operating costs and lower CO<sub>2</sub> emissions.

## Project Implementation

### 1. Connectivity to the Technical Building Equipment (TBE)

The connection of the TBE was implemented at Kaiser Hof via plug-and-play with a preconfigured Edge Device at no investment cost. The device, delivered by parcel post, was put into operation by facility management within minutes and immediately established a securely encrypted connection to the aedifion cloud. Errors in the installer's automation protocol were identified and corrected, and system and automation data have since been continuously captured in real time.

### 2. Continuous Data-Based Operational Optimization

For operational optimization, the building services engineering data were structured in digital twins. Subsequently, a continuous improvement process was established at Kaiser Hof. As part of the full-service package .elevate, an engineer accompanied the facility team from measure identification to success monitoring. Today, the team uses 744 weekly analyses from 359 digital twins to identify potential, resolve malfunctions early, and continuously improve building operations.

## Conclusion and Outlook

Through the aedifion platform, comfort, energy efficiency, and technical functionality were significantly improved at Kaiser Hof. Over 400 valves are monitored automatically, heating curves and operating times optimized, and energy consumption transparently recorded thanks to smart meters from Comgy GmbH. Facility management can resolve malfunctions early and demonstrate savings in energy and CO<sub>2</sub> in both summer and winter operations. The City of Cologne recognized the project's degree of innovation with funding through the SmartCity Cologne GO program since 2021.

## Customer Feedback

"At Kaiser Hof, the challenge was to optimally operate a building constructed to the most modern standards. With aedifion's software solution, user comfort, energy efficiency, and CO<sub>2</sub> balance were significantly improved in a short time."



**Guido Meitz**  
Property Manager