

Buildings
Simply Made
Better

aedifion



Digital Retrofit for Future-Proof Existing Buildings

Case Study: Retrofit at Trinity, Cologne

Gross floor area: 17 778 m² | Year built: 1994 | Type: Office | Owner: AEW Invest GmbH

As one of the world's largest real estate investment managers, AEW places great emphasis on the consistent digitalization and sustainability of its existing buildings. A prime example is the "Trinity" located in the vibrant Zollstock district of Cologne. This office building, constructed in the 1990s, offers its tenants spacious, modern spaces while setting standards in energy efficiency and comfort. This was made possible through a tailored digital retrofit and subsequent optimization of the system operation via a cloud platform. Since the "Trinity" lacked the necessary digital communication interfaces for a plug-and-play connection to the cloud, aedifion was commissioned to first implement a digital retrofit of the systems. Following this, all consumption-related data would be centrally collected in the cloud, and energy efficiency would be enhanced using AI.



Comprehensive data availability and integration through digital interfaces



Vendor-independent communication between building systems



Complete transparency regarding technical building operations



Cost and CO₂ savings through increased energy efficiency

Project Execution

The optimization process began with a site inspection and a detailed inventory of the technical building equipment (TBE) to assess the building's level of digitalization and develop a customized digitalization plan. Based on this, the following measures were derived and implemented:



Installation of Air Quality Sensors

- Objective: Continuous monitoring of air temperature, humidity, and CO₂ concentration
- Partner: LineMetrics GmbH
- Implementation: Installation by aedifion



Conversion of the Heating Controllers to the BACnet Communication Protocol

- Objective: Read and write access to the heat generators and vendor-independent communication between different systems
- Partner: Jörg Walbeck Elektroanlagen
- Implementation: Commissioning and acceptance by aedifion, retrofitting by Stark Elektronik GmbH



Installation of Ventilation Sensors and Non-Invasive Electricity Meters

- Objective: Monitoring of temperatures and electrical consumption of the ventilation systems
- Partner: Thermokon Sensortechnik GmbH
- Implementation: Commissioning and acceptance by aedifion, retrofitting by Jörg Walbeck Elektroanlagen

By digitally upgrading the building, operational data can now be captured in real time via the aedifion cloud platform. The AI-driven software continuously analyzes opera-

tions and offers recommendations for optimizing performance. Additionally, a predictive control system ensures that the rooms are heated efficiently and according to demand throughout the day and across all seasons.

Success Factors

- Full-service package: Planning, commissioning, and acceptance of all measures
- Extensive network of hardware providers and digitalization partners
- Close coordination and collaboration of measures with asset, facility, and property management

Conclusion

"Every Asset Counts" - because even today, the market offers specialized solutions to enhance data availability and energy efficiency in every building. The project at "Trinity" serves as a model for future retrofit projects aimed at modernizing the technical building equipment of older properties.

Customer Feedback

"The project at 'Trinity' demonstrates how minimal invasive retrofitting and the use of intelligent building technology can achieve significant ecological and economic benefits in older properties. The aedifion team seamlessly coordinated the entire process, and we are thoroughly satisfied with the implementation."



Mario Berning

Associate Director | Asset Management
AEW Invest GmbH