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# Harnessing Building Digitalization for Modern Office Properties

## Case Study: Beta - Atrium Charlottenburg

Leaseable Area: 39 232 m<sup>2</sup> | Year Built: 1996 | Building Type: Office Building

The “Beta - Atrium Charlottenburg” property in Berlin, awarded the Gold Certificate by the German Sustainable Building Council (DGNB), impressively demonstrates how targeted retrofit measures can turn legacy buildings into data-driven environments with major digitalization opportunities.



Full transparency regarding the technical building operation



Manufacturer-independent communication of building technology systems



Increased energy efficiency, cost and CO<sub>2</sub> savings

## Initial Situation and Objectives

The owner's goal was AI-supported optimization of building operations with a focus on energy and cost savings, CO<sub>2</sub> reduction, and indoor air quality. The challenge: A technical building services setup that is only partially digitized, fragmented data, and missing communication interfaces required an initial digital retrofit of the relevant systems.

## Project Implementation

1. **Current State Assessment:** through a detailed inventory of the level of digitalization of the technical building equipment.
2. **Individual Retrofit Roadmap:** based on the principle of minimally invasive retrofitting, i.e., without structural modifications.
3. **Implementation of the Retrofit Measures:** in close cooperation with the owner, facility management, asset management, and project management.

In particular, those system components were retrofitted that have a high relevance for energy consumption and operating costs:

- **Heating Systems:** Retrofitting of communication modules in the pumps of the static heating circuits.

**Result:** Energy and cost savings through predictive control based on weather data while maintaining the same comfort level.

- **Air Handling Units:** Installation of sensors for temperature and air quality monitoring.

**Result:** Demand-based adjustment of air volume flow and setpoints to maintain temperature limits (e.g., in server rooms).

- **Electricity consumption monitoring and data transmission:** Retrofitting existing electricity submeters with reading modules for consumption monitoring and installation of a LoRa gateway in the heating plant and server room.

**Result:** Mobile network-based transmission of all sensor data to the aedifion cloud platform and establishment of a manufacturer-independent communication infrastructure.

## Conclusion and outlook

In the next step, aedifion will support the planning and commissioning of a new building automation system to control the systems even more precisely and according to demand. Target values and approvals are transmitted automatically, continuously, and in real time via the aedifion cloud platform – for lasting savings in operations.