aedif**io**n

University Building Meets the Latest Efficiency Standards

Case Study: LGS6 SRH University Heidelberg

Gross Floor Area: 14 175 m² | Year of Construction: 2002 | Type: University Building

SRH University Heidelberg is a private, state-recognized university and part of SRH Holding – Germany's largest non-profit foundation company. Its innovative academic concept integrates digitalization and sustainability with the vision of providing students and faculty with a safe and productive learning environment. A prime example of this concept is the LGS6 building on Ludwig-Guttmann Street, located on the Heidelberg university campus, which offers maximum energy efficiency and indoor comfort through the use of the aedifion cloud platform.

40 500 €
annual operation cost savings
(2.85 €/m²/a)

200 MWh
annual energy savings
(14.10 kWh/m²/a)

85 t CO$_2$
annual avoided emissions
(6 040 kg/m²/a)

Solution

aedifion was tasked with optimizing the building's technical operations using its AI-driven software, with a strong focus on sustainability and cost-efficiency. The aim was to identify and eliminate inefficiencies and unnecessary energy consumption, reduce operating costs and CO$_2$ emissions, and ensure a comfortable indoor climate through intelligent, demand-based control.

Implementation

Real-Time Data Collection and Analysis: Shortly after the project was commissioned at the end of 2023, the aedifion cloud platform was connected to the building via plug-and-play integration using a compact industrial PC. Thanks to the high level of digitalization in the building's technical systems, no additional hardware retrofitting was required.

Since January 2024, real-time data from the building automation system has been continuously transmitted to the cloud. There, the software identifies inefficiencies in real time and provides optimization recommendations, which the operations team implements either independently or in coordination with aedifion's project management.

Operational Optimization and Autonomous Control: The immediate measures focused primarily on the ventilation and heating systems in seminar rooms, lecture halls, and foyers. These included:

- Adjusting time schedules
- Correcting setpoint deviations
- Fine-tuning technical components such as pumps, valves, and frequency converters
- Optimizing heat recovery systems for more efficient use of existing energy

An AI-driven automated control system for the ventilation units delivers additional savings in energy, CO$_2$ emissions, and operating costs by adjusting consumption based on temperature data in a demand-oriented manner.

In addition, an emergency alert function was installed in the restroom facilities. It forwards distress signals directly to the operations team, enhancing safety on site.

Conclusion and Outlook

By implementing the aedifion cloud platform in the LGS6 building, significant savings were achieved within a very short time — and without any structural modifications. Thanks to its high scalability, the project provides an ideal foundation for optimizing operations in other campus buildings as well. At the same time, it lays the groundwork for flexible procurement of green electricity through demand side management.

Customer Feedback

"With aedifion's cloud platform, we have a highly efficient tool to continuously achieve savings and unlock even more potential from our already modern university building. From commissioning to day-to-day operations, we've been thoroughly satisfied with the collaboration."

Nicholas Stachowiak
Senior Project Manager TBE, Sustainable Energy Solutions | SRH Holding