



Property
Dominium Group HQ

Customer
Generali Deutschland
Holding AG

City
Cologne

Service
Optimized climate control with
MeteoViva Climate

Area
265,000 sq ft

Technology
District heat connection,
ventilation technology (central and
decentral, partially with adiabatic
cooling), 4 heating circuits,
57 cooling circuits (cooling ceilings,
CCT), 32 zones, 419 data points

Savings
26 percent on heating,
A/C and ventilation costs
(climate adjusted)

Amortization
1.7 years

Climate Control for a Unique Building

The insurance industry has driven towards sustainability quicker than other industries. Therefore Generali Deutschland has taken an approach with its property management division to use the intelligent climate control system from MeteoViva as a means to reduce the company's CO₂ footprint and achieve a more sustainable environment.

Project

The Dominium is located just 300 meters from Cologne Cathedral at the heart of the banking district. Since 2009, it has served as the Group headquarters for Generali Deutschland. The impressive new building, which houses nearly 600 employees, has some special architectural features: It combines five separate buildings, incorporating a former Commerzbank building, which is now a protected landmark, and a historic sandstone facade. MeteoViva Climate has been in operation at the Dominium since October 2013. The technology ensures that every area of the building is always optimally heated and air-conditioned. Due to the complex HVAC technology that is installed in those buildings, many employees were complaining about significant temperature fluctuations in the various areas throughout the year.



„The intelligent control of heating and air-conditioning in our buildings is making an active contribution towards optimizing the Generali Deutschland Group's CO₂ emissions.“

Christina Hohn,
Central Facility Management for
Generali Deutschland
Services GmbH



© Generali Deutschland

Assignment

The challenge with the Dominion was its inhomogeneity. The buildings combine new and historic parts and number of floors varies between six, seven and nine floors plus loft constructions. On the ground floor, which has a mix of offices and special use areas, such as a private bank and the company restaurant, the ceilings are at the standard height of 4.25 m. On the upper floors, which are used solely as office space, the ceiling height is 3.45 m. This mix is reflected in the climate zones: nearly 100 zones were initially identified at the Dominion by the MeteoViva engineers. While heating and warm water use district heating via 4 heating circuits, and can

even use the ventilation system when necessary, cooling and air conditioning for most of the rooms is provided via CCT and central ventilation systems, with one smaller area utilizing cooling ceilings with a single-room control. Complaints from employees regarding the room climate would spike during the change of seasons and could not be managed despite comprehensive HVAC technology. As a result, MeteoViva was tasked with providing a solution that supplied pleasant room temperatures throughout the year while simultaneously lowering energy costs.

Implementation

When the MeteoViva engineers connected their system to the existing technology at the Dominion, one of their first tasks was reducing the number of climate zones. Additionally, they analyzed the building and its material make-up based on construction plans. They also assessed the property's ceilings, floors and lighting along with its external construction elements and orientation relative to the sun. Even the working hours and the distribution of the people in the building were used to tailor the computer model to the property.

The goal was to provide more exact data flowing into the Dominion's climate control system. In the final stage before launching operations with the model, data points on influences and measurements were defined and a digital interface to the building's management technology was established. Since then, the MeteoViva Monitoring system has proven to be very effective. The responsible facility management employees can now detect and correct errors, like faulty pumps or cooling circuit mixers (valves), much quicker and more targeted.

Conclusion

In the first year of operation, the running costs for heating, air conditioning and ventilation were reduced by 26 percent. This corresponds to savings of nearly € 49,000. The executives at Generali Deutschland now estimate that their investment in the installation will amortize in just 1.7 years.

Furthermore, employee complaints about room temperatures (too hot or too cold) decreased by 90 percent after the conversion, which was not announced to the staff. The Group has already begun expanding its use of MeteoViva technology to other properties in its real estate portfolio.