



Property
Sparkasse Düren, Main Office

Customer
Sparkasse Düren

City
Düren

Service
Optimized climate control with
MeteoViva Climate

Area
69,965 sq ft

Technology
District heating, ceiling cooling plates,
radiators, ventilation systems.
14 zones, 148 data points

Savings
25 percent

Amortization
1.8 years

Healthy Climate in the Workplace – Sparkasse Leads by Example

Normally, it is the Sparkasse Düren that is advising its customers on how they can make their homes more energy-efficient. Now, the credit institute rooted in Düren is itself a forerunner in terms of climate-friendly heating and cooling at its main Düren offices.

The Project

Sparkasse Düren's 69,965 sq ft large building is located at the center of the Rhineland district town. The Düren district's more than 48 branch offices and self-service branches are managed here in addition to on-site customer service.

The building is a combination of old and new structures with a customer hall nearly 23,681 sq ft large stretching over two floors, individual offices of varying sizes and conference rooms. There are also various utility rooms. The growth of the structure over the years and its inhomogeneous use suggests how difficult it must have been to maintain an optimal indoor climate in the various rooms and use the HVAC technology efficiently.



„Despite extensive technical equipment, employees complained time and again about the sub-optimal room temperature in the past. Thanks to MeteoViva Climate, this situation has changed significantly for the better. I heartily recommend this technology to my fellow colleagues.“

Udo Zimmermann, Executive Board member Sparkasse Düren



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The Assignment

At Sparkasse Düren's main offices, heating and air-conditioning is provided via a complex HVAC system that is operated by multiple centrally distributed building management systems. Cooling machines, ventilation and A/C systems with heating and cooling elements, cooling ceilings, wall heating and cooling panels and air curtain systems are all used in addition to a static heating circuit connected to district heating. Despite this extensive technology, employees regularly complained about the sub-optimal room temperatures.

Implementation

MeteoViva knew that a thorough analysis of the existing systems and automation technology would be necessary in order to later optimally coordinate the operation of every component on the basis of a precise mathematical model. To do this, the engineers identified 14 climate zones in the building as well as the necessary data points for later measurements and operations. A subsequent potential analysis showed possible savings on heating costs of about 26 percent. With this prognosis, the implementation of MeteoViva Climate was given a green light.

Conclusion

The indoor climate has significantly improved thanks to MeteoViva Climate. Satisfaction with the room temperatures has risen notably since implementing this technology compared to previous years. Here, Sparkasse Düren decided to focus on employee participation. The current temperatures of the individual climate zones in the building are visible for all employees at a central location. The client was also very happy with the development of the energy costs.

Particularly during extreme weather or weather changes, it was difficult to adjust the temperature in a timely manner. With the help of MeteoViva Climate, a pleasant room temperature between 21 and 24 degrees Celsius should be achieved all year-round in the offices and customer halls. Along with more comfort for employees and customers, there was an economic objective as well. The energy costs, which were well above average compared to similar buildings, were to be significantly reduced.

Additional data points were established for the launch and a digital interface with the building management system was installed. Furthermore, the previously multi-stage fans were subsequently equipped with frequency converters in order to ensure the dynamic operation of the ventilation and A/C system based on actual ventilation and heating needs. A six-week test phase was then implemented to fine-tune the computational model and train personnel on the monitoring system.

In just the first year of operation, Sparkasse Düren reduced its energy costs for the building by 25 percent (climate-adjusted). The customer was surprised at how quickly one could notice the results and that the savings were so close to the initial projections.

The Executive Board at Sparkasse Düren is so impressed with this system that it looks forward to recommending it to others within the Sparkasse association.