SUCCESS STORY LOXONE CAMPUS (AT)

At the epicentre of intelligent building automation.

A showcase project for learning and experiencing.

As a specialist for intelligent building automation solutions, Loxone has been supporting specialist planners, architects and building owners in the implementation of their building projects since 2009. With the help of its more than 25,000 partners worldwide, Loxone has already implemented more than 250,000 projects. Founded in 2009 in Kollerschlag, Austria, the company›s mission is to use automation to create more energy-efficient, comfortable and safe buildings. Built in 2023 in the same place the company itself was founded, the purpose of the Loxone Campus is to make it possible to experience the building automation of tomorrow, today. The 15-hectare complex includes a hotel with a wellness centre, an auditorium, a restaurant, multiple office spaces and warehouses. It shows visitors what working and living may look like in the future. The entire heating, cooling and ventilation of the Loxone Campus was also designed to be automated and demand-controlled, which is why numerous communicative HVAC components from Belimo were used. Your advantages: Effortless integration into the building management system, energy-efficient operation and maximum comfort in the building. The Belimo Tree and Air interfaces enable seamless integration of the devices.

BUILDING TYPE
Multifunctional building

PROJECT
New construction

TRADES
Heating, Ventilation and Cooling

PRODUCTS
Belimo Energy Valves with thermal energy meter, 6-way-EPIVs, PIQCVs, air damper actuators, VAV, sensors

BELIMO®

Intelligent energy efficiency and comfort.

«Our key requirements were to supply the extensive building stock of the Loxone Campus from a single technical centre, to meet the individual requirements of the variously used areas and at the same time to ensure that all areas were designed to be as flexible as possible for the future,» says Jochen Sexlinger, Chief Technical Planner for the building project. To ensure optimum indoor air quality, most of the campus is CO2, humidity and temperature-controlled. At the same time, the building complex is intended to be operated as energy-efficiently as possible. All Belimo components are connected to the Loxone building automation system via MP-Bus for this purpose. Loxone has developed the Belimo Tree and Air interfaces for the seamless integration of Belimo products. Each interface enables the effortless connection of MP-Bus-compatible Belimo devices.

Belimo Energy Valves enable reliable energy monitoring

Only as much energy as is needed.

The entire hydronic system in the main distribution system is designed to be electronically pressure-independent with Belimo Energy Valves. The Energy Valve provides all the important information that Loxone needs for energy monitoring and management. «We use the Belimo Energy Valve™ because it combines many functions in a single device – from metering to control to delta T management,» says Jochen Sexlinger. «The Energy Valves allow us to monitor energy reliably. We can check the system at any time and optimise its operation». All hydronic balancing was done digitally, down to the smallest zone. This reduced the commissioning effort to a minimum.

The 80 hotel rooms in the Loxone Campus are equipped with ceiling induction units for heating and cooling, for which electronic pressure-independent 6-way valves (EPIV) from Belimo are used. Flow sensors from Belimo and sensors from Loxone measure the

"With the help of the Belimo Energy Valves and the 6-way characterised control valves, we can supply each consumer with the right energy as required and know exactly how much energy is flowing where."

Jochen Sexlinger
Chief Technical Planner
Sexlinger Consulting Engineering GmbH

Belimo air damper actuators and sensors ensure optimum operation of the air handling units in the Loxone Campus.

heating and cooling energy required in hotel rooms, saving energy when the rooms are unoccupied or when hotel guests are away. The ceiling induction units are installed in a two-pipe instead of a four-pipe version. Heat/cool changeover and control are implemented by a single 6-way valve. These solutions required fewer components, thus saving on both product and installation costs.

The underfloor heating and cooling ensures a comfortable temperature in the office spaces at the Loxone Campus. The associated energy manifolds are equipped with pressure-independent characterised control valves (PICQV) from Belimo. The heat pump is operated using bad-point control: «We need a different amount of water for heating than for cooling, and, thanks to the manifold, we need to draw only so much energy as is actually required at any given time,» says Jochen Sexlinger.

Multiple ventilation systems in the Loxone Campus ensure that all areas have comfortable temperatures, air humidity levels and CO2 concentrations. All ventilation systems are also equipped with ventilation damper actuators from Belimo. The ventilation of the Loxone campus is designed to use only as much outdoor air as is actually required, and to work with the recirculation air in the building, as part of overall energy efficiency requirements. Due to the reduced effort required for air conditioning, an optimal room climate can be ensured with low energy consumption, even when the outdoor air is dry in winter.

Efficient in every area.

The connection of all components to the building automation system of the Loxone Campus proved to be advantageous not only once the buildings had been put into operation, but also enabled extreme efficiency during the initial commissioning of the systems: «Whereas previously each room had to be set individually, here it was sufficient to program one of the hotel rooms and roll out the settings to all the others, thanks to the digital interfaces,» recalls Jochen Sexlinger. «Thanks to intelligent building automation, such as we have here at the Loxone Campus, systems no longer need to be designed for full load, but can be operated in such a way that only the energy required is consumed. This would not have been possible with analogue systems,» he concludes.

Energy manifolds with pressure-independent characterised control valves from Belimo

“By controlling and evaluating the Belimo Energy Valves, we benefit from maximum energy efficiency at the Loxone Campus.”

Thomas Moser
CEO Loxone Group

All inclusive.

Belimo is the global market leader in the development, production, and sales of field devices for the energy-efficient control of heating, ventilation and air-conditioning systems. The focus of our core business is on damper actuators, control valves, sensors and meters.

Always focusing on customer value, we deliver more than only products. We offer you the complete product range for the regulation and control of HVAC systems from a single source. At the same time, we rely on tested Swiss quality with a five-year warranty. Our worldwide representatives in over 80 countries guarantee short delivery times and comprehensive support through the entire product life. Belimo does indeed include everything.

The "small" Belimo devices have a big impact on comfort, energy efficiency, safety, installation and maintenance.

In short: Small devices, big impact.

- 5-year warranty
- On site around the globe
- Complete product range
- Tested quality
- Short delivery times
- Comprehensive support

EN - 10.2023 - Subject to technical modifications

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