



AIV - Generali Tower

Scope of Project	General building automation of the 18-storey office tower
Particularities	Facility management, energy management, shading, illumination, air conditioning in one central system
Plant Location	Vienna / Austria
Client	AIV Allgemeine Immobilien-Verwaltungs Ges.m.b.H.

KEY FACTS

aX Software	automationX, redundant
aX Hardware	320 Room Control Modules 5 aXpbc1 Profibus counter
aX Server	2 redundant server pairs
aX Client	3 operator stations, every with 1 monitor
I/O's	8.000
Data Points	2.000 from fire alarm system
Interfaces	Facility management Fire alarm system
Network	Control technology: Ethernet Field: 9 Profibus DP lines M-BUS for heat consumption counter



OUR PARTNER

AIV Allgemeine Immobilien-Verwaltungs Ges.m.b.H. is a company that administers the real estate property of the Generali Group and manages about 175 properties in Austria (as well as Central and Eastern Europe). The portfolio includes offices, apartments and business premises.



THE CHALLENGE

The AIV Generali Tower is an 18-storey office tower in Vienna which is managed and serviced by the Allgemeine Immobilien - Verwaltungs Ges.m.b.H.

Here, the building automation system does not feature any EIB or LON bus systems. Instead, perchance unexpectedly, we find Profibus DP providing efficient and reliable control technology in combination with the control system by AutomationX and Simatic industrial components. Additionally, so-called Room Control Modules, a development by AutomationX, not only enable the regulation of individual rooms but also the recording and processing of energy-related data.

THE SOLUTION

Individual Room Control

1,000 cells have been combined into 320 rooms which are connected via five Profibus DP to one redundant individual room server. The complete individual room control and visualization is performed in 500ms.

Energy Supply and Distribution by Room Control Modules

The Room Control Modules with modular basic functions for emergency and on-site operation participate in the Profibus. In combination with the relay control module and the setpoint device, the automationX Room Control Module regulates room temperature, illumination and sun blinds. Via a communication line and the Profibus protocol, pro-

cesses can be controlled and visualized from a central point. The room temperature can be regulated by a combination of setpoint devices and external room temperature sensors, or a setpoint device with an integrated sensor.

System Control

All HVAC systems and aggregates are controlled via a central, redundant server. The decentrally arranged input and output modules are connected to the Profibus DP via a mixed network of optical fiber and copper wires. In total, four Profibus lines are connected to the server. The complete system program and its visualization are performed in 200ms, whereby data is centrally recorded and visualized. Apart from the above mentioned components, an S7 control for visualization is also integrated. Furthermore, a facility management system has been implemented via Ethernet at the ODBC interface. Of course the fire alarm system, including approximately 2,000 data points, has also been included in the visualization.

What made this project special was the flexibility required during its implementation stage. At first, the system was designed only for approximately 1,500 I/O points and 150 individual rooms. During the course of the project however, the number of individual rooms increased to 320, with approximately 3,500 I/O points. AutomationX was able to master these unexpected modifications with excellence.

