



# Learning with LONWORKS® Technology at the University of Zürich

**T**he Further Education Centre at the University of Zürich is a forum for learning and exchanging knowledge. Keeping this in mind, the building was designed to encourage both intensive learning and communication. The ambient conditions within the building play a crucial role. This is why the University chose a LONbased building automation system from Honeywell Building Solutions to ensure optimal air-conditioning and lighting whilst at the same time minimizing energy costs.

A total of 33 systems are integrated, including ventilation and air-conditioning, cold water supply, district heating, single room control with VVS and cooling ceiling, AV systems, water preparation, sun blind control, lighting control via DALI and remote monitoring via Ethernet. Due to open architecture of the LON network, Honeywell were able to install devices from different manufactures to provide the customer with a “best of breed” solution.

For example, the compact sunblind actuators from Somfy were ideal for installation in the ceiling and devices from SVEA are used for dimming the halogen lamps in the restaurant and controlling the DALI ballasts.

## Lighting

Lighting in the seminar rooms and lecture theatres can be individually switched on, dimmed or set according to pre-defined scenario values such as, for example, “bright”, “medium” or “dark”. As soon as the last person has left the room, the occupancy detector automatically sends a message for the lights to be turned off after a defined follow-up time. This ensures that energy costs for lighting are kept to a minimum.

## Sun blinds

When a room is not being used, the sun blinds are automatically closed to prevent overheating which reduces the amount of energy needed to cool the room. The blinds are automatically opened as soon as someone enters. Occupants can also adjust the position of the blinds

themselves via a keypad or touch panel located in the room.

## Ventilation

**Air-quality**  
sensors ensure there is always a good supply of fresh air in the rooms. The sensors measure the amount of CO2 so that fresh air can be circulated as needed. The amount of fresh air supplied to a room is controlled via VVS (Variable Volume Flow Controller) boxes equipped with integrated LON volume controllers from Honeywell. The Honeywell Excel 10 VVS compact controller is a VVS controller with an integrated microbridge air volume sensor and damper actuator.

The required amount of supply and exhaust air is calculated and controlled by the VVS controller. Users can also manually adjust the amount of supply air according to their own preferences using the keypad.

## AV System

Easy operation of the AV systems in the seminar and lecture rooms is assured thanks to the “AMX” multimedia control system. The AV systems are operated via the same touch panel used for operating and displaying the room automation. The control commands between the AV system and the room automation are transmitted via an AMX-LON gateway. The person giving a presentation can conveniently select the desired level of artificial lighting and position of the sun blinds.



A special feature of the AV system is automatic mobility tracking via the LON system. The entire AV system is mobile and mounted on a wheeled casing. When the AV system is plugged into the mains, the LON network automatically registers its location and grants access to the touch panel in the relevant room.



### Building Management

The entire building automation system is connected via Ethernet to the central service centre at the University of Zürich. The service centre is responsible for all of the building automation equipment and systems in 75 university buildings with a total of 8,800 rooms and floor area of 3330,000 m<sup>2</sup>. Remote monitoring and operation is carried out via the Honeywell Enterprise Buildings Integrator™. The Enterprise Buildings Integrator enables facility staff to centrally optimize the performance of systems and ensure the comfort of both students and staff. Thanks to the LON-based system, the Further Education Centre at the University of Zürich now has an efficient, easy to maintain building automation system that creates the ideal atmosphere for learning and advancement.

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