

PROJECT REPORT FOR PUBLICATION

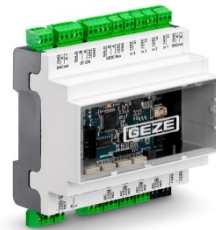
Leonberg, 30 May 2018

System competence and service: networking solutions from GEZE in the new Vector IT campus



Intelligent building control system in the new Vector company headquarters: GEZE solutions offer significant advantages in planning and operation:

- customised digital networking solutions with BACnet
- smart networking of more than 180 doors in the GEZE Cockpit building automation system and integration into the building management system. central monitoring and operation – even greater convenience and security in normal operations and in case of danger
- interdisciplinary functionality and interaction: easily accessible at any time and from any location
- energy efficiency: interaction between door technology and climate control
- support for the construction phase: communication between the experts from different trades



Photos: Left: Jürgen Pollak for GEZE GmbH, right: GEZE GmbH

More than 180 door solutions from GEZE in the new headquarters of Stuttgart IT company Vector. Doors are networked in the GEZE Cockpit building automation system using interface modules and are integrated into the BACnet building management system.

The IT campus is the new company headquarters and another flagship for the IT specialist Vector Informatik in Stuttgart-Weilimdorf. The project was awarded a platinum German Sustainable Building Council certificate, and received the council's diamond status for outstanding architecture with unique design and cultural quality. With 34,000 square meters of built-up area with a foyer open on all four floors, 6,500 square meters of office space, an auditorium, seminar areas, a canteen and an underground car park, the building offers plenty of space for the company's 600 employees.

Maintain an overview at anytime and anywhere

Doors and windows, heating and ventilation: the idea is to maintain an overview of the functionality and interaction of the individual trades, so that they can be operated at any time and from any location. These demands are essential to ensure maximum security, the greatest possible user comfort and an efficient, economic operation of the building. More than 180

primarily multifunctional safety door systems must be professionally monitored and operated. Because of this, all of the automated door systems were networked in the GEZE Cockpit building automation system via an interface module and integrated into the BACnet building management system.

Distribution boxes bring it all together

Using the wide range of options offered by its standard range of door, window and safety technologies as well as its comprehensive solution competence in project construction, GEZE provided customised digital networking solutions. The GEZE-specific solution with distribution boxes also managed to impress the builders and planners of the Schmelzle + Partner office. These distribution boxes are the main nodes linking all the lines with the IO 420 BACnet interface module. The uniform design of the GEZE distribution box allows the building manager to have an overview of the interfaces with other modules at each door, and thus also of the networked building technology – no matter how different the functionality of the individual door may be.

Smooth operations: GEZE ensures communication

It goes without saying that GEZE also provided comprehensive support services for realising the project within the shortest time: in the case of multifunctional doors in networked solutions, communication between the various trades is of the essence. The door functions must be precisely tuned with other trades already during the planning phase, for the desired door behaviour to be achieved. With a project coordinator and a central point of contact for all the experts involved, GEZE assumed responsibility in all phases of the project, coordinating the cooperation of builders, planners, metal builders, safety experts, fire protection experts and electrical installers as well as system integrators, to ensure the best possible interaction of the individual systems. The GEZE service monitored the flawless implementation of the project by coordinating the interfaces between the trades.

The 'gateway to the campus'



Photos: Jürgen Pollak for GEZE GmbH

The eighteen-meter-high, 500-square-meter glazed foyer, the 'gateway to the Vector campus', is impressive and inviting with a large, yet intricate, door system. The entire system combines barrier-free door convenience, access control, burglar resistance, emergency exit protection and reliable smoke extraction in the event of a fire, with remote operation and monitoring. Two triple-leaf fully automatic revolving doors are additionally equipped with automatic curved sliding doors as night locks. For access for all, the twin doors are flanked by double-leaf automatic emergency exits with 'strong' Powerturn swing door drives. With the Smart swing function, the doors can also be easily opened manually. One of the doors is used as a smoke and heat extraction fresh air opening. K 600 retractable arm drives automatically open the doors in the event of fire, and keep them wide open, so that smoke and heat can escape rapidly while ensuring a supply of fresh air. With an access control system and an IQ lock AUT self-locking panic lock, the other door serves as a full panic door. In the event of danger, it can be opened from the inside by anyone, even when locked. The TZ 320 door control unit is the leading safety component of the entire door system, which controls and monitors the doors on site. Via the building management system, the building managers can remotely record the status of this door, as well as of all other doors in the building, at all times. They can modify a door's status or change the mode of operation (e.g. 'permanently open', 'automatic'). Commands can be issued for single, multiple or all doors (central locking). Individual 'door scenarios' can also be stored, so that doors can be opened or closed automatically in a time-controlled manner.

Advantage of the GEZE Cockpit building automation system

The GEZE Cockpit building automation system and IO 420 BACnet interface module handle data exchange between the doors and the building management system. "Door intelligence" information (such as whether the door mode is open or closed, locked or unlocked, or interference) are provided by the interface modules via BACnet MS/TP. GEZE Cockpit translates BACnet MS/TP to BACnet/IP. The system only transmits the data requested by and relevant for the building operators to the building management system, which displays it on different computers. Data is filtered by GEZE Cockpit to create the welcome side effect of reducing data traffic on the network.

All the listed commands and processes on a door – and therefore also anomalies – are traceable, because the results are fed back to an event log. Alarm messages or an undesirable door status can be dealt with immediately. Emergency exit protection (RWS) can be triggered to open a door in case of danger. Maloperation, unauthorised access, and the abuse or manipulation of emergency exit system-secured doors are displayed immediately. The modes of operation (unlocked/locked) of self-locking panic locks can also be invoked and activated.

Multifunctionality: comfortable, safe and centrally operable



Photos: Jürgen Pollakfor GEZE GmbH

Complex door technology, fine-framed and centrally controllable. The LED background lighting of the door control unit (right) shows the door's status as 'locked'.

On the first floor there is a multifunctional safety door in an area accessible only to authorised persons at certain times. Equipped with the Powerturn F drive, the FT500 electric strike for fire protection doors and the TZ 320 door control unit, it is used as a fire section door and a barrier-free emergency exit. The FTV 320 escape door lock unlocks the door when authorised, by pressing the emergency stop button of the door control unit or via the fire alarm system. All door functions can also be monitored and controlled via the building management system. The building managers are spared long distances. A sophisticated door design was achieved despite the complex door technology: the Powerturn is only seven centimetres high. The FTV 320 escape door lock and the electric strikes are so small that they need only minimal space in the door profile. To visually highlight the door's status, the TZ 320 'stainless steel' design door control unit was additionally selected, together with the 'backlight' LED display.

A large number of the interior doors are equipped with the various versions of the GEZE electric strikes range. Controlled by Powerturn drives or an access control system, they are also 'players' in the building management system and allow easy, remote, automatic opening of the doors.

From above:
The FTV 320 escape door lock secures emergency exits from unauthorised access. In the event of danger it unlocks reliably, even under heavy preload. High retaining forces prevent break-in attempts.

Indispensable in buildings with many fine-framed doors: The smallest electric strikes by GEZE ensure an easy automatic opening.



Photo: Jürgen Pollakfor GEZE GmbH

Close collaboration: hold-open and climate control systems



Photos: Jürgen Pollak for GEZE GmbH

Via the building management system: hold-open systems are also used for climate control in the canteen.

The interaction between the hold-open and climate control systems in the building management system can best be seen in the canteen. Two-leaf full panic emergency exits can be used in their entire width for access for all and as a fresh air opening in the event of a fire. In the event of a fire, the doors are unlocked using the MBZ 300 smoke and heat extraction control unit, via the self-locking IQ lock AUT panic lock, and are automatically 'opened up' to the maximum opening width via the K 600 retractable arm drives. The alarm status of the smoke and heat extraction control unit and the 'open' status of the doors activate the smoke extraction motors. The door status, which is automatically forwarded to the building management system, enables the building manager to take immediate action: when the alarm status is reset, the hold-open systems close via the door closers and lock automatically. In case of danger, the doors can be opened safely by pressing the panic bar. The CB flex carry bar ensures that the door leaves open in the correct order and are not forced into position.

The advantage of this solution is that the doors can be manually set up in summer operation or for natural ventilation, and can be closed electrically by the GEZE electric hold-open system in the guide rail of the door closer. The building managers have the authority to decide, via the building management system, when the doors should be open and when they must be closed. From the inside, of course, users can operate the door at any time. The door status detected in the building management system is communicated to the climate control system, which can then adapt the settings in an energy-efficient manner. The doors can be automatically controlled in combination with weather and air quality sensors as well as time controls. The electric hold-open system can be activated or deactivated in the same way. This 'intelligent' control ensures a solution that is both energy-efficient and burglar-proof.



Photos: Jürgen Pollak for GEZE GmbH

Maximum safety in the auditorium: equipped with the IQ lock EL DL self-locking panic lock, both door leaves of the full panic door can be opened from the inside in any situation. After people have escaped, a secure lock protects against unauthorised access from the outside and ensures protection against burglary. Using the IO 420 BACnet interface module, the panic lock can be released from the outside, via the building management system, to open the doors, and its status (unlocked/locked) can be monitored.