

DEOS case study: large German insurance company relies on DEOS

Wired and radio-based: DEOS offers customized room automation



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The main building (built in 1970) of this large German insurance company (anonymized at the request of the company) was equipped with building automation from Johnson Controls in 2005.

In the most recent renovation wave in 2014, parts of the building were modernized with a DEOS building automation system (16,000 data points).

The next step was to modernize the building automation systems in the west and east wings (Building 2), each of which has seven floors, and the central tower, which has 14 floors. The total usable floor space of 88,000 square meters consists of various office configurations (from individual offices to open-plan) as well as training and conference rooms.

The increasing energy awareness of the insurer, the discontinuation of the built-in building automation and the increasing failures of the control system were the drivers for the search for a new automation solution. The DEOS solutions were in competition with other manufacturers and system houses as a result of the call for tenders. The project department of DEOS AG, which plans and implements MSR projects in their entirety within a radius of approx. 100 km around the Rheine and Oberhausen sites, was awarded the contract for this project.

Conversion off the Johnson Controls system to DEOS during operation: more energy savings and optimized operation

This renovation project focused on two major DEOS solution areas for room automation: a) wired room automation around the room controller Regio Ardo and b) the radio-based LoRaWAN room solution with the battery-free heating thermostat DEOS TEO.



Marcel Stöber,
Head of DEOS Projects

“When modernising the MSR systems, we were faced with the challenge of carrying out our work while the building was in use. Originally, five different solutions for automation of the clearing system were planned. In the end, eight different solutions were implemented. We were able to implement this request without any problems thanks to the versatility of the Regio Ardo,” says Marcel Stöber, Head of Projects at DEOS, “Projects & Service” division.

Decentralized room automation: Regio Ardo compact controller

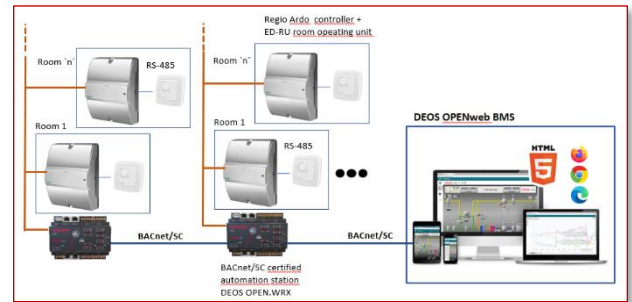
The Regio Ardo is a configurable zone controller. It is characterized by quick installation, simple configuration using predefined templates and fixed application programs. The DEOS mass parameterization tool also saves valuable time and ensures more economical project execution. The room units ED-RU used with a setpoint knob are designed for operating the room controller.



The solution is manufacturer-neutral and future-proof thanks to the open communication standards BACnet and Modbus on the controller, and it can also be expanded with other building automation systems.

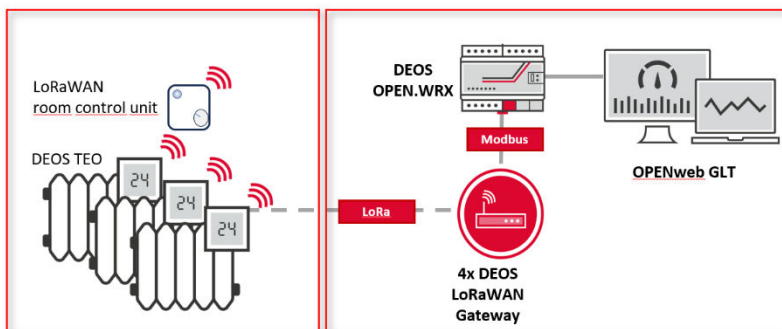
The highlight: if the head controller or the BACnet/SC communication fails, the Regio Ardo controllers continue to work independently and ensure a good indoor climate.

The connection of the deliberately simple room units (ED-RU series), with integrated temperature sensor for controlling the setpoint adjustment to the controller, is via the RS485 interface.



Radio-based room automation with DEOS TEO

The DEOS TEO wireless room solution with the LoRaWAN room thermostat was used in the training and seminar building. TEO effortlessly replaces the old rotary thermostats. The customer was impressed by the quick installation during ongoing building operations, the simple operation and the ease of integration into the overall automation solutions.



The temperatures are now automatically set centrally via a PC/mobile phone and a standard browser (target values are received via the connection to the automation stations) and according to specified usage times – at the end of the working day, at the weekend and during company holidays. With TEO, there is also no need for the tiresome battery changes required by other smart thermostats.

The battery-free LoRaWAN wireless thermostat DEOS TEO also achieved the required building automation efficiency class B (DIN V 18599). The existing building management system was updated and new operating graphics were added. The server structure was also modernized. A second independent server-based building management system, DEOS OPENweb, was installed in the modernized House 2.

Technik at a glance

- DEOS OPENweb BMS**
 The existing server-based building control system was modernized and a second new one was set up.
- Room controller**
 114 x Regio Ardo from the sister brand Regin with 84 x ED-RU room control units
- DDC OPEN.WRX**
 15 x BACnet/SC certified DEOS automation stations
- IO-modules / CAN bus**
 435 x different DEOS IO-modules (analog/digital) with CAN-bus connection
- Project size**
 Approx. 7,700 data points
- Wireless room solution (LoRaWAN)**
 84x battery-free DEOS TEO, 30x wireless room thermostats
- Interfaces & Protocols**
 BACnet/SC, BACnet MS/TP, Modbus, M-Bus, LoRaWAN



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