

# DEOS AG Case Study

## St. Franziskus Hospital - 34 % energy saving with DEOS TEO wireless radiator thermostat



ST. FRANZISKUS-HOSPITAL  
MÜNSTER

With around 600 beds, St. Franziskus Hospital Münster is a central healthcare provider in Münsterland. More than 100,000 patients are cared for annually in a large number of specialties. The hospital is part of the Franziskus Foundation, a Christian sponsor of 14 hospitals and other facilities. DEOS AG's project partner is the FACT Group, the foundation's own service and consulting company for all secondary services in the healthcare sector.



St. Franziskus-Hospital Münster

## Energieeinsparung mit DEOS TEO im Gebäude nachgewiesen

Against a backdrop of significantly higher energy costs in 2022 and rising global awareness of the need for greater sustainability and less energy consumption, large-scale consumers such as hospitals are increasingly looking at innovative ways to achieve these goals.

One of the major energy consumers in hospital operations is heating. DEOS AG's experience suggests that just under 70 % of energy consumption is attributable to room heating. This is where DEOS AG offers great leverage with the battery-free DEOS TEO radio radiator thermostat. Wireless and easily installed, it provides real-time measurement and control data to the building automation system, resulting in significant and measurable energy savings. A simple example of the benefit is the automatic radiator switch-off as soon as a window is opened.

In an initial pilot project, 34 DEOS TEO radiator thermostats were installed and put into operation in a bed-carrying ward at the St. Franziskus Hospital in Münster. The aim was to achieve a return on investment of less than three years and to avoid battery waste from operation.

Even in the first few weeks of operation, energy savings of around 34% were achieved compared with an identical station without DEOS TEO thermostats. If these differences can also be demonstrated in long-term operation, the roll-out to further stations and functional areas will be carried out quickly. The existing building automation system will be successively adapted.



Battery-free and patented DEOS TEO radiator thermostat with LoRaWAN and optional energy monitoring.

## Perfect interaction - for the best possible solution

The FACT Group, project partner of DEOS AG, advises and supports hospitals, rehabilitation clinics and care facilities in the operation of their secondary services such as technology, IT, business services and medical documentation. FACT also has its own specialist planning offices for building services engineering, building automation, medical technology, elevator technology and energy management. More than 1,700 employees serve 250 healthcare facilities, including over 100 hospitals.



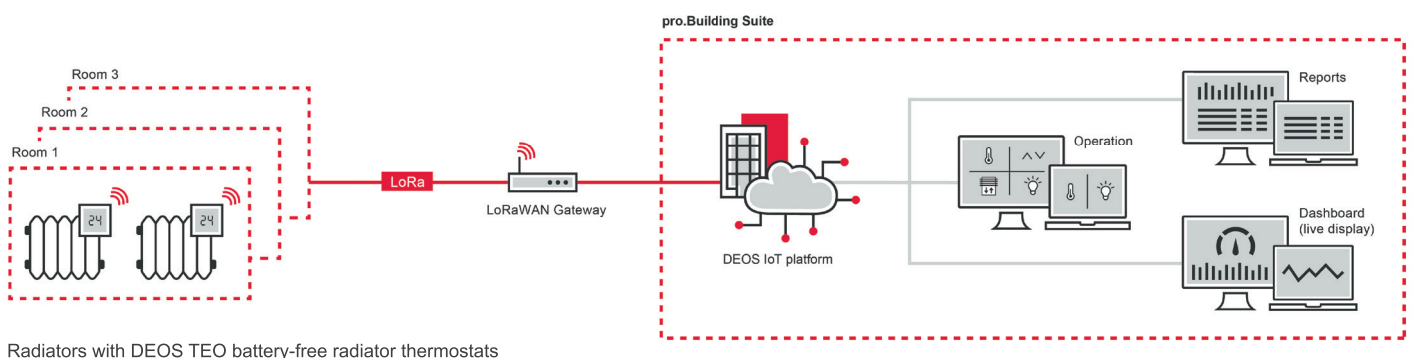
„In our search for innovative approaches to increase sustainability and reduce energy consumption, we became aware of the DEOS TEO battery-free LoRaWAN wireless thermostat and the LoRaWAN wireless solution. The quick and easy installation and the expected short ROI fit our ideas of a smart solution.“ Markus Prior, Team Leader Building Automation at FACT Group.

## Smart Building - professional and safe solution

DEOS TEO as a professional solution for buildings differs in many points from the Smart Home mass products. For example, the extremely high LoRaWAN radio penetration in the building, the maintenance-free battery-free operation of the DEOS TEO and the IT security of the data transmission speak for the clever TEO use in the professional building sector. The solid TEO design in a metal housing, the optional vandalism protection as well as the cost-effective setup of the LoRaWAN network infrastructure in the building are also convincing.

## The focus is on rapid implementation and energy savings

The TEO The wireless power supply is provided by the built-in patented thermogenerator and the control & operation is done via radio / LoRaWAN. The LoRaWAN gateway installed in the building is connected to the building automation system via the standardized Modbus interface, regardless of manufacturer. In this application with the automation station from Schneider Electric.



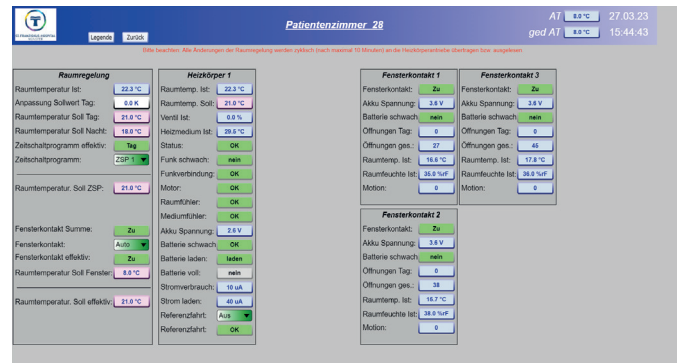
## The result speaks for itself: 34 % energy savings

The direct comparison of the TEO installation with window contacts immediately produced a heating cost saving of 34%. From now on, no one will forget to turn down the heating when opening the window. In the future, time and occupancy functions can also be activated to save even more energy.

TEO also scores points for on-site operation: Nothing can be set on the device itself on site, and that is exactly what is required here. The manual intervention on the desired temperature is carried out by the staff via standard browser and the automatism is stored in the time calendars.

## Further expandable: energy monitoring

With the DEOS solution there is the possibility of a live evaluation of the energy data to make the performance of the system clear. Energy saving effects can be recorded and documented. This gives operators an individual overview of the energy savings per room, floor and building.



## Technique at a glance

- **DEOS TEO radiator thermostats**  
34 rooms with 34 battery-free DEOS TEO radiator thermostats, connected via LoRaWAN.
- **Pilot/test installation**  
One floor with DEOS TEO vs. a similarly used floor without smart thermostats.
- **LoRaWAN window contacts**  
63x radio-based window contacts for detection of opening and automatic temperature reduction
- **LoRaWAN Gateway**  
1x LoRaWAN Gateway with Modbus interface for building automation and DEOS Connect-Box for remote system maintenance.
- **Interfaces to automation**  
Via Modbus from DEOS LoRaWAN Gateway to Schneider Electric automation.

## Conclusion

- Energy savings of 34 % with battery-free DEOS TEO radio radiator thermostat.
- Return on investment under 3 years.
- Secure remote access via DEOS Connect-Box.

## Detailed information desired?

Please contact us directly!

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