



CASE STUDY

E.ON CONNECTING ENERGIES GMBH, GERMANY

Wireless sensors create added value for the industry

But wireless is more than just a low-cost alternative to cables, as the following practical example shows. Wireless sensors reliably and quickly send the necessary readings, such as temperature and moisture, to the central controller despite hampered conditions within the industrial environment. This means energy saving potential can be exploited directly and with low overhead.

August 2015, Chantal Colle, merkur Funksysteme AG

Energy efficiency is a continual issue in the industrial sector too. On the one hand, because energy for manufacturing industries represents an increasing cost factor. On the other hand, because increasingly stricter standards and stipulations apply on the national and international level.

And it was also about best possible control of energy consumption in the Energy Contracting project at a larger industrial enterprise in Germany. As the project manager, Uwe Nasick at E.ON Connecting Energies GmbH put his trust in the solution from merkur Funksysteme. „We managed to connect up all wireless sensors quickly and easily to our automation system”, he explains.

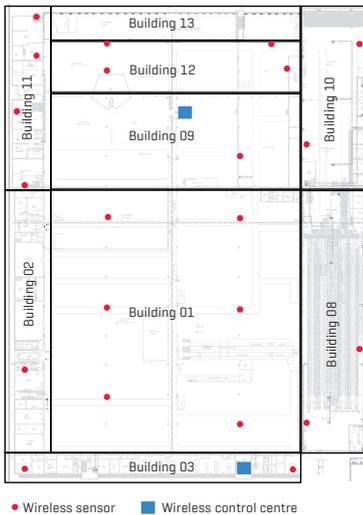
Obstacles in the industrial sector

Uwe Nasick knows about the challenges of such projects in the industrial sector. „Reading temperature and moisture

values over a large area can quickly become a stumbling block - depending on building structure and building size.” At 27,550 m², the 9-part production building in question is one of the biggest sites, corresponding to the size of about five football pitches. The factory building is also well equipped with many machines and materials. „So, it’s no easy undertaking”, he adds.

Good planning is the be all and end all

For control of the industrial installations [ventilation, heating and air-conditioning], Uwe Nasick required temperature and moisture values. It was possible for him to determine these values using the very latest wireless sensors. Uwe Nasick specified the installation locations of the wireless sensors in line with the assignment of control circuits, reference rooms and machine workplaces. Precision planning was required to correctly position the wireless sensor. „No compromises were made”, says Uwe



Floor plan for the industrial area project, Germany

Nasick. „Verification of room or building values is agreed contractually in every energy saving project.“

Wireless opens up new directions

Until recently, Uwe Nasick was not aware of the benefits of wireless. He had always installed sensors with extensive cabling. This often required laborious planning and costly building work. Especially when existing cable routes were inadequate. Or when the installation locations of production machines and work areas suddenly changed during the conversion phase. Laying new cable routes did not seem possible in every case. Issues such as fire protection, building size and sources of interference from production machinery often hindered planning. They ultimately prevented cables from later being routed from one room to the next. „The limited options for extending cable routes, and timing resulted in us opting for wireless“, explains Uwe Nasick. The wireless solution works perfectly - even for elements that are difficult to penetrate, such as steel and concrete. Also, any sensors can be connected over wireless quickly and easily, even when there are planning changes.

Added value and increased value

„The solution fits very well into the existing infrastructure of our customer. It enables us to work quicker and more



Wireless outdoor sensor for temperature

flexibly“, confirms Uwe Nasick. „After just brief training, users are able to operate the system themselves“. In terms of specifics, the mounting locations of reference sensors can be changed and optimised. The solution is also flexible as regards installation over multiple floors or fire protection zones.“

E.ON Connecting Energies GmbH installed a total of 33 wireless sensors [for temperature and moisture], two wireless central controllers and one wireless repeater in all nine buildings. And that in just 1.5 workdays. All those involved in the project are in agreement. Speed of installation, reliable wireless communication in adverse ambient conditions, and cost benefits of 50% offer considerable added value as compared to classic cabling. And the optimised energy consumption not only enables the customer to save money - it also means increased value for the environment.

33 wireless sensors

Area spanning 27,550 m²

9 buildings with up to 3 floors

1.5 days for implementation

50% cost saving