

Scenarios in a holiday paradise

Comfort and efficiency by coupling KNX with the hotel management system



Stylish waterfall: To prevent a gust of wind from blowing the water in the wrong direction, a KNX weather station switches off the pump when the wind is too strong.

“La Marquise” on the Greek holiday island of Rhodes shows how economic and convenient hotel management can be implemented with KNX. The luxury resort spanning an area of 12 hectares looks like a stylish hotel village with bungalows, green areas and pools. The buildings with luxury rooms, suites, restaurants, bars etc. are fitted with highly modern building technology. The guests already profit from it on arrival: the key card not only opens the door but also activates a room scenario for lighting, air conditioning, TV, hot water, alarm management and information. The KNX installation, which was built by Prousaloglou Pantelis-Konstantinos & SIA OE was presented with the International Award for Europe and supports comfort, security, hotel service and energy efficiency through applications for lighting, sun protection, air conditioning, audio/video, alarm systems and monitoring.

Energy management reduces load peaks

Working together with the hotel management, the system integrator has implemented numerous functions for the well-being and safety of the guests, for energy efficiency and for the smooth operation of the hotel. The interaction of the hotel management system and KNX was developed with IPAS GmbH. The guests can combine their favourite lighting, climate and media entertainment themselves and store them as individual scenes. The key card provides the hotel service with important information, for example when the room is occupied, when it can be cleaned or when guests do not want to be disturbed. If the card holder signals that the room is empty, the lights are switched off and air conditioning devices are switched from comfort to economy mode.

Pre-programmed light scenes are also available in public areas such as the lobby, the bar or the dining room, as well

as the outside areas. Depending on time programs, brightness and hotel management, the light scenes create light moods, ensure safety on the paths and illuminate the architecture. The media control for music in all areas is controlled via KNX audio actuators.

Energy efficiency is an important topic: the fan coil controllers are interlocked with door and window contacts to prevent energy loss. An energy management system for cooling devices, heat pumps and household appliances helps to save gas, water and electricity and prevents peak loads from being exceeded. If emergency power is activated via a generator, an intelligent logic distinguishes between loads that are important for operation and those that are less important and switches them on or off accordingly.

Fault signals and technical monitoring are likewise based on KNX. The display is carried out via a visualisation on the workstation PC or on the move using a tablet PC or mobile phone.

The comprehensive topology was implemented with IP routers and fibre optic technology.

Some details of the project: 8,934 devices and 47,720 group addresses with 124,179 address assignments.

Winner
KNX Award 2012
Category
International –
Europe



Benefits provided by KNX in this project

- Demand-based control for more efficient energy use
- Increased comfort for the guests
- Improved service
- Safety using alarm scenarios
- Energy management
- Simplified control and operation
- Decentralised remote maintenance from any stationary and mobile PC
- Flexibility for modifications
- Staff workload is reduced

Technical refinements

- Coupling with the hotel management system
- All different kinds of scenarios for lighting, air conditioning, emergency operation, security etc.
- Control of the complete audio system
- Doubling of the possible group addresses through second ETS3 project

Companies involved

Building owner:

AETEK.AE – Hotel „La Marquise“, Rhodes, Greece

Architect:

Afoi Chatzikonstantinou OE & Neos Rythmos, Rhodes

Electrical Engineers:

Prousaloglou Pantelis-Konstantinos & SIA O.E, Smart Building Solutions, Rhodes

Mechanical engineer:

V & D Varouxsakis, Ionia, Athens

System integrator:

Prousaloglou Pantelis

Area of application:

Hotel

Functions:

- Lighting
- Heating, ventilation, air conditioning
- Alarm systems
- Technical monitoring
- Energy management
- Audio/video
- Visualisation
- Interfaces to other systems
- Remote monitoring/control

Scope

Number of KNX devices: 8934, Siemens, IPAS GmbH etc.