KNX®

JOURNAL

The New ETS5

KNX RF
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Euroskills 2014

KNX Awards
Projects

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2014

**The worldwide STANDARD
for home and building control**

Winners of KNX Award 2014

10ᵗʰ Award Ceremony reflects the international character of KNX

International – Europe

Risk Control GmbH / BR-Tech GmbH / Gottwald GmbH
(Austria) with "Economy University Vienna"

International – Asia

Total Automation (UAE)
with "Concourse A – Dubai International Airport"

International – Africa, America, Australia

AMC German Technology / KNXin (South Africa)
with "House Doepler"

Publicity

Vecolux bvba (Belgium)
with "Plus Energy House – Passief-live"

Winners and Nominees in front of 1500 guests from 80 countries at the KNX Award in Frankfurt, the 1ˢᵗ of April 2014.

Special

Smart Building Design GmbH (Switzerland) with "Energy self-sufficient Finca los Miticos near Santa Margalida Mallorca"

Energy Efficiency

Emes Electromechanical Ind.&Trd. Co. Ltd. (Turkey) with "GAMA Headquarter"

Young

Electro-mechanical Engineering Craftmanship School (Croatia) with "KNX model – Energy Efficiency"

People's Choice

Smart Building Design GmbH (Switzerland) with "Energy self-sufficient Finca los Miticos near Santa Margalida Mallorca"

You'll find the projects of the winners honored with a KNX Award during light+building 2014, illustrated in detail on the following pages.

Links: *http://www.knx.org/knx-en/knx-awards/2014/index.php*   *http://www.youtube.com/knxAssociation*

Off-grid finca on Majorca uses KNX technology

Enables easy monitoring of energy and water use

Who doesn't sometimes dream of escaping to a private hideaway far away from it all? The owners of Finca Los Miticos in Serra Son Fullos on the sun-drenched island of Majorca can do just that. Although the finca is not connected to a public electricity or water supply, thanks to KNX building automation it is just as safe and comfortable as any other modern home. KNX manages not only lighting, solar control functions and energy efficiency in the building, but also the property's own electricity and water supplies.

The company responsible for the KNX installation at Finca Los Miticos – Smart Building Design GmbH from Jonen in Switzerland – was the recipient of not just one but two KNX awards this year: the Special Award, and the brand new People's Choice Award, in which the company received 16.5 % of the total votes. The finca has 450 m^2 of floor space and stands on a 1.5-hectare plot of land. It has a generously-sized living and dining area, a modern kitchen, four bedrooms, three bathrooms, and a 60 m^2 swimming pool.

Diverse benefits

When night starts to fall over Serra Son Fullos, numerous LED lamps inside and outside the finca create an inviting mood. The lights are controlled with KNX/DALI components. KNX/RGB controllers are used for the lights in the living room.

The KNX installation not only creates comfort and convenience for users, but is energy-saving as well. For example, presence and motion sensors on paths, in the hallway, etc. make sure that the lights in

Finca Los Miticos on Majorca is a superb testimony to the versatility of KNX

those areas are only switched on when necessary. There are push buttons in the hall and bedrooms that allow all lights to be switched off from a central point.

The shutters, which are also controlled by KNX, can be operated in some cases in groups using a bus push button, or centrally via the visualisation.

KNX controls and regulates both the room temperatures in the finca, and the amount of heat generated by the property's own solar heating system and oil burner. The ventilation system is controlled on the basis of data from KNX indoor air quality sensors.

The finca's own electricity supply would not work reliably without the help of KNX-based automatic control. KNX monitors both the photovoltaic system and the current charge level of the backup battery. For statistical purposes, energy-use data are

stored in a database every 15 minutes and, when the backup battery gets too low (i.e. the charge level falls below 52 %), the backup generator is activated and starts topping up the battery. To minimise energy consumption, where necessary the kitchen appliances are switched off to reduce the load on the network.

Notification when water is running low

It is important that the level of the water in the rain and well water cisterns is constantly monitored. This is done by sensors that measure the water levels and send the results to the visualisation. Even the horses that sometimes visit the finca can be sure of a reliable supply of water in their drinking trough: if, on a dry summer's day, it looks like the water in the trough is going to run out, KNX notifies the owner that a delivery of non-potable water is needed. To protect against burglaries, the finca is equipped with KNX presence and motion sensors capable of triggering an alarm. For added security it is also fitted with CCTV and a VoIP video intercom system. An important feature from the point of view of building users is the visualisation of a

central server, which is connected to the KNX installation, intercom and IP cameras via an IP network. The data produced are processed and optimised for display in mobile browsers. This enables the user to receive error messages or notifications that critical values have been exceeded, via an iPhone or iPad serving as a mobile control panel. In this way KNX gives the occupants a reliable overview of the state of the building services in the finca.

Benefits of KNX for this project
- Monitors the solar panels, backup battery system, cisterns, oil tank and building technology
- Controls the emergency power supply
- Demand side management
- Controls LED technology
- Controls ventilation and solar control equipment
- Intrusion detection
- Fire detection
- Visualisation and mobile operation via iPhone or iPad

Technical highlights
- KNX manages the property's own energy and water supplies
- Warning message is transmitted if water is running low in horses' drinking trough
- Visualisation of electricity use including statistics to enable further optimisation

Companies involved

KNX system integrator:
Smart Building Design GmbH,
Peter Sperlich,
Jonen, Switzerland,
www.smart-building-design.ch

Project type:
Detached house

Building services/system components:
- Lighting
- Solar control
- Alarm systems
- Technical monitoring
- Energy management
- Visualisation
- Interfaces

Size of installation:
Number of KNX devices: 120