

Trendsetting Technology and Efficiency

Comfort and Security Around the Home



Figure 1. The spacious single family home in Brixlegg

The owner of this new comfortable home in Brixlegg, Austria had firm ideas with regards to intelligent living. In addition he wanted to connect his company building to his new home. This home has approximately 400m² of living space and an interior swimming pool with a wellness area. During the planning phase the owner voiced his ideas with regards to the heating and cooling control, security and comfort – he wanted a single operating and control system to control the entire system. KNX was the clear choice because of the variety of functions, designs, and trade and location integration: the KNX system of the

owner's company could be connected to his home. All the different trades in the home like lighting, shading, heating, ventilation, air-conditioning, alarm system, energy management and interfaces to other systems are integrated into the KNX system. This allows for a uniform internal and external operation and monitoring. Data from the solar power system, access control and the multiroom audio system is exchanged through interfaces. Data between the home and the company is exchanged between both Homeservers. The owner can access the functions of his home from his company and vice versa.

Benefits of KNX for this project

- Central control of the entire system through a single visualization system
- Air-conditioning of the swimming pool and wellness area
- Optimized heating and ventilation performance in the entire home and increased efficiency
- Wide area network connection of the home and company KNX systems
- Reduction of necessary wires through decentral KNX devices

Project Nr.: W2 / 06 / D

Country: Egypt

Type of Building

- RESIDENTIAL
 - Single Family Home
 - Apartment Building
 - Apartment
 - Other
- COMMERCIAL
 - Office / Public Administration Building
 - Business
 - Sales
 - Hotel and Restaurant
 - Entertainment (Cinema, Theater, Museum, etc.)
 - Health Care
 - Educational (School, University, etc.)
 - Recreational (Sport, Wellness, etc.)
 - Other
- PUBLICITY

Trade / Systems

- Lighting
- Shading / Daylighting Control
- Heating, Ventilation, Air-Conditioning
- Home appliances
- Alarm System
- Monitoring
- Energy Management System
- Audio / Video
- Visualization
- Interface to other Systems
- Remote Control and Administration
- Other Application

Size

- Number of Areas / Lines: 1/3
- Number of KNX-Devices: approx. 136



Figure 2. View into the elegant wellness area

Integrated Functions with KNX

The following trades were integrated into the KNX system:

- Lighting system (90 groups), blinds control, roof windows
- Heating control: radiant floor heating system, additional convectors, air-heater for swimming pool including dehumidification, pool heater
- Ventilation of the swimming pool area (through humidity sensors with link

to the air heater) and exhaust air for wellness area

- Alarm system with connection to phone and access controls system
- Audio-Multiroom-system over Ethernet, linked with Homeserver, room control over KNX switches
- Automatic irrigation system with humidity sensors and monitoring of rain water storage system

A Homeserver connects all the data for the visualization and the remote control.



Figure 3. Example visualization: garden irrigation system

Sophisticated Features

- Integration of several third party systems into KNX: e.g. swimming pool technology, solar controller, water treatment, sauna, gutter heater, access control for control and visualization system
- Interconnection of different systems over KNX: entrance to the swimming pool area without proper code at the keypad will trigger an alarm through the motion detectors
- Setting for the shading system can be customized at the visualization system

Involved Parties

KNX system integrator:

riwitec rieck+winter oeg,
A-6020 Innsbruck

Clear Visualization for All Rooms

A custom visualization surface was developed based on a Gira Homeserver which is applied in the owner's home and company. The surface can be accessed from every web browser and the home offers additional PCs, touch panels, and pocket PCs to control all the functions. The temperature of 22 individually controlled rooms for the heating system is recorded.

The data can be displayed on the visualization system. Lighting scenes can be programmed and saved with the visualization system. If needed, the alarm system can send an SMS through the Homeserver and it can trigger the presence simulation over lights and the shading system. The remote maintenance is possible with the Homeserver and the Internet capable ETS 3. The visualization keeps the user up-to-date with all necessary information including moon phase and weather forecast.



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