

Pilot Project TechHome Altstätten

A Vision becomes Reality



Figure 1. Fully networked: Sabine and Peter Sieber in front of the display in the kitchen

With the help of their employer and other sponsors family Sieber in Altstätten designed and built TechHome – a sophisticated pilot project showcasing intelligent living in their home. The house is equipped with an extensive home network for maximum comfort and security.

Peter Sieber knew that all the data in his home had to be accessible from anywhere – bathroom temperature, outdoor surveillance cameras in the yard or MP3 files. All the data is transferred over Ethernet and KNX.

The basic principle during design was to use as many standardized systems as possible which allows the interconnection of hardware from different manufactures into one system. KNX was a clear choice for the building services system. With the new components even the audio Multiroom system can now be integrated. The distribution of all other data was done over Ethernet with TCP/IP and a standard communication wiring.

Benefits of KNX for this Project

- Pilot and showcase building for electrical installation company Rhv Elektrotechnik AG who supports the local market for intelligent living in the region
- Sophisticated and smart network architecture with a multitude of controls
- High flexibility through the use of conduits in the floor of all rooms

Project Nr.: W6 / 06 / D

Country: Switzerland

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.)
 - Industrial
 - Other
- PUBLICITY

Trade / Systems

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

Size

- Number of Areas / Lines: 1/2
- Number of KNX-Devices: approx. 80



Figure 2. Floor conduits allow later retrofits



Figure 3. The KNX audio components allow the access of different sound sources from every room and the control of the sound and volume

Sophisticated Features

Sensors for motion, light detectors, smoke detectors or windows contact switches in all rooms allow for a high degree of comfort and security.

The software package David V8+ features many audio/video functions – i.e. an electronic program guide or the automatic recording of the top 40 hits and logic and time functions for the KNX system

Involved Parties

Owner:

Sieber Family, CH-9450 Altstätten

Design and KNX integration:

RhV Elektrotechnik AG,
CH-9450 Altstätten

Maximum Flexibility and Automation for Comfort

The TechHome aimed for maximum flexibility which was the reason to go with a floor conduit system. This allows the future addition of power, network, audio, video etc. at any location in the house without the need of construction work. Technology, design, ambience and aesthetics are combined. Family Sieber did consider the fact of electro smog and took the following measures. Even though the house has more conduits and wiring than the most single family homes, the electromagnetic radiation is far smaller due to the metal coated wires and smart routing of conduits.

The building uses different systems to create scenes. The bedroom scene of the parents: Similar to radio alarm clock the homeowners are woken up by pre-programmed music and the lights of the room are slowly turned on. The lights on the way to the bathroom stay dimmed. The exterior doors are not opened with conventional keys but with pocket transponders. Once the door receives the signal the door opens "magically" by itself.

The KNX audio system allows the selection of the sound source from the stereo system or any other sound system from every room in the house. It also allows the adjustment of sound

and volume independently in every room. The system is controlled through KNX sensors that are also used for other systems.

Universal software as central element A standard software packet that can communicate through KNX and Ethernet was used for all central functions. Thanks to modern client-server technology and a standardize interface all devices down to handhelds can be used to control the system. A wide range of functions are available: mail programs, video and audio recording as well as the visualization of the building services.



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