

Smart Road Show for Intelligent Living

Modern lifestyle KNX technology hands-on



Figure 1. View into the Smartcube at the IFA 2005 in Berlin

The company CA Brachtendorf GmbH + Co KG, with the support of several sponsors, designed a traveling booth, the so-called Smartcube. It features a smart home that contains an interior and exterior reception area, a bedroom, living room and bathroom to showcase many of the numerous intelligent functions within a living space.

The concept was designed to allow its setup by two people in only a few hours and is small enough to fit in a small truck. The designer paid great

attention to detail with respect to the applied materials and of course the complex KNX technology that is installed in the Smartcube.

The showcased features for different living situations include examples of lighting, shading, heating and window control with wired and wireless operation. In addition, the home showcases a Multiroom music system, a weather station, an alarm system, video communication and camera surveillance. All systems can be operated through a visualization system.

Benefits of KNX for this project

- Perfect interaction of KNX components from different manufacturers for functionality across different trades
- Clear visualization, e.g. heating functions
- Demonstration of different operating possibilities and switch design wired and wireless
- Integration of multimedia devices into the system through the integration of KNX with TCP/IP

Project Nr.: W5 / 06 / D

Country: Germany

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: 1/1
- Number of KNX-Devices: approx. 60



Figure 2. Smartcube entrance with intelligent mailbox

Simple Display of Complex Technology

The Smartcube is designed to show visitors their living situation with the benefits of modern KNX bus technology. Therefore, normal low-key living

situations are highlighted. To better demonstrate some of the technologies, the heating system is shown symbolically: a radiator mockup shows the current power output with red lights which are connected to a KNX dimmer. If the windows are opened, the lights immediately turn off, signaling the energy saving functionality that is possible with KNX. To prevent the overheating of the room, the windows are opened automatically. With all of these different functions, the interaction of different trades is emphasized and demonstrates how more comfort, safety and energy efficiency are achieved. Another example: The motorized windows can be directly controlled over KNX. For cooling, the windows are tilted open. If occupants leave the home, the central KNX system closes all open windows. The window contacts are also connected to the alarm system and heating control system. This is how the multiple use of KNX sensor is demonstrated.

Sophisticated Features

- Mailbox automatization: "You have mail" – the first opening of the mailbox latch switches on a blinking LED light in the hallway. Emptying the mailbox switches the light off again
- Alarms trigger different functions: opening of all shades, blinds, awnings, and unlocking of all doors to open up emergency exit routes. Switching on all of the lights as well as an SMS send function with alarm message.

Involved Parties

Concept and KNX system integrator:
CA Brachtendorf GmbH & Co KG,
D-40219 Düsseldorf



Figure 3. Smartcube living room with modern entertainment system

Multiroom System and Extensive Visualization

Every room is equipped with its own music zone. This is made possible with the Homeserver and the interaction with Ethernet components. The communication between devices is performed through IP commands. The interconnection of KNX and Ethernet allows multimedia devices to be integrated into lighting scenes, central functions or presence simulations.

The entire system is visualized on the Homeserver with a floor plan of the Smartcube, tabularized display of all functions, multiple system pages and an overview of connected IP cameras. The clearly arranged setup of the booth allows a good demonstration of the interplay between KNX devices and the visualization system.



KNX Association

Bessenveldstraat 5
B - 1831 Brüssel-Diegem
Phone: +32 - (0) 2 - 775 85 90
Fax: +32 - (0) 2 - 675 50 28
E-Mail: info@konnex.org
Web: www.konnex.org

Anfragen an die Redaktion:
Inquiries to the editorship:

Redaktion KNXJournal
Lüdersstraße 10
12555 Berlin
Germany

Telefon / Phone

+49 - (0) 30 - 64 32 62 79
+49 - (0) 30 - 64 32 62 78
E-Mail: knx-journal@konnex.org
redaktion@knx-journal.com
Web:
www.konnex.org/news/journal

Awards



KNX Award 2006
Category Publicity