

# KNX serves pharmaceutical research

## Janssen Research centre extensively networked in Belgium



The new research centre of Janssen in Beerse/Belgium

At the Beerse site of the pharmaceutical company Janssen a new research centre was built, the Discovery Research centre (DRC). The goal was to introduce new methods that increase the efficiency of research. This was achieved by the use of flexible installations and new building standards. The automation company Egemin realised in cooperation with the engineering company Van Looy a high quality building management system using KNX and Ethernet, meeting the severe requirements of the pharmaceutical research.

Energy efficient systems support the flexible lab concept and allow to already meet a number of goals of the next generation: energy preservation, modern lab ventilation control and the latest technology for lighting, heating and cooling. In order to realize the high requirements, several systems were compared. The result of this analysis showed that KNX is the best system as regards performance, price/quality ratio, standardisation and user friendliness.

### Advantage of KNX in this project

- Highly efficient facility management owing to the integration of the entire KNX installation into the Integrated Management System IMS
- Meeting the high requirements towards building engineering in a research lab, e.g. by the use of the Merten glass push button for optimal hygiene
- Use of sensors for various application domains, e.g. presence detector sensors by integrated room automation

Projectnumber: Z1/04/E

**Country: Belgium**  
**Year of Construction: 2003**

### Area of Application

- Residential buildings
  - Family home
  - Apartment block
  - Residential care home for senior citizens
  - Residential care home for the disabled
- Functional buildings**
  - Office block / public office**
    - Commercial enterprise
    - Retail office
    - Restaurant and Hotel
    - Cultural building (cinema, theatre, museum, etc.)
    - Clinic / hospital
    - Educational building (school, college, etc.)
    - Leisure facility (sports center, spa, etc.)
- Industrial building**
- Other**

### Facilities

- Lighting**
  - Shading/Light control
- Heating, ventilation, air conditioning**
  - Alarms
- Technical monitoring**
- Energy management**
  - KNX visualisation
- Interfaces to other systems**
- Remote monitoring/-operation**
- Other application**

### Scope

- Number of areas/lines: 5/55**
- Number of KNX devices: 2259**



Winner:

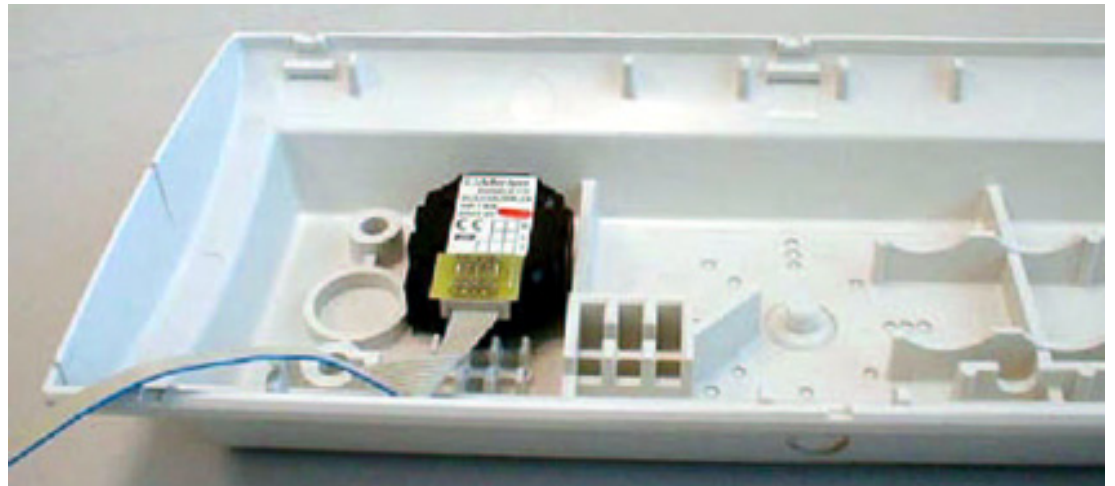
**Of the first prize  
KNX Award 2004**

# Integrated Roomautomation with KNX

Projectnumber: Z1/04/E



Operation in the labs is ensured via the Merten glass push button Tracent with integrated display



▼ Amongst others the following functions were realised with KNX:

- individual room control for offices and conference rooms
- lighting control for offices, conference rooms and various labs
- Automatic lighting control for research labs
- Lighting control in technical rooms via IP5x push buttons and binary inputs
- Lighting control in refreshment areas
- Emergency lighting with directly integrated KNX bus coupling units
- Function of KNX nodes as KNX to LAN interface

Room automation is realised with KNX controllers with OPC-Server and software functional blocks as well as connection to the TCP/IP network. This links the KNX system to SCADA (Supervisory Control and Data Acquisition; management software for visualisation, alarm handling, trend detection, history, data archiving, etc.). This is referred to as 'Integrated Room System' in this project.

## Automatic lighting control of the research labs

Lighting can be controlled via Merten glass push buttons Tracent with double 4-fold key pad and integrated display. Owing to its totally smooth surface, the panel allows a perfectly hygienic

## Etap- Emergency luminaire with an integrated KNX bus-coupler

operation and an easy cleaning of the surface. In this way, the high requirements of a lab environment can be met.

The predefined brightness value is determined by SCADA across the network and is dimmed up and down again in a cycle as set by parameters. In this way, a natural climate can be simulated for the animals living in the lab. When working in a room, by operating the glass push button it is possible to increase brightness by 500 lux. Temperature, humidity, pressure values as well as the number of the active cycle can be read from the display. Lighting sensors constantly measure the light intensity and log this on the IMS. In this way, it is ensured that complex tests are not disturbed and the results cannot be distorted. ▲▲

## Involved companies

### Building owner:

Janssen Pharmaceutica N.V., B-2340 Beerse

### Project engineer/architecture:

Van Looy Group nv, B-2140 Antwerpen

### KNX System Integrator:

Egemin NV, B-2070 Antwerpen

## Technical details

- The emergency lighting has an automatic self test system, which is linked to KNX bus coupling units. Moreover, fault signals are transmitted into the IMS. Tested are the correct functioning of the lamp, the battery state and the electro- nomic control.
- Operation of the building controls in the labs is ensured by the Merten glass push button Tracent with double 4-fold key pad and integrated display, a custom-built product to meet the strict hygienic requirements.