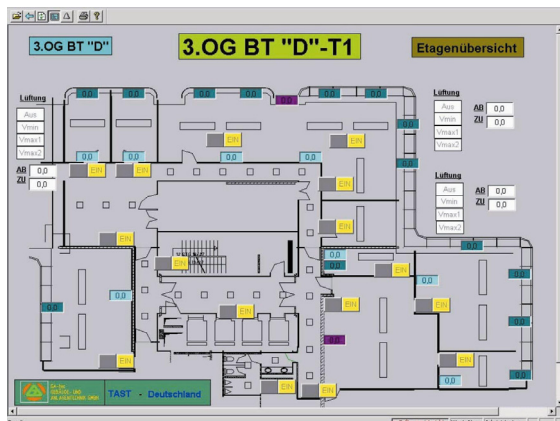


During renovation of the West-LB building in Düsseldorf,



the following KNX functions have been implemented.

1. Central and decentral lighting control in public areas.
2. Central and decentral lighting control incorporating an active constant light control in offices.
3. Decentral individual climate control in all offices, with setpoint setting by the building control center (German: GLT) analogue valve control for heating and air conditioning.
4. Air volume flow control in the offices following the GLT commands. Also, heating in the inner rooms is done using the air volume flow control (supply and outlet air).
5. Central functions realised by an interconnection to the GLT, and a central visualization.
6. Complete visualization.



The building is a highrise building (5 underground floors, 1 intermediate floor, floor level, 11 upper floors) divided into 5 areas.

To be able to provide the high number of data points (> 30,000) and to meet the required complexity with KNX, we decided to create multiple **KNX worlds** for the building. Together with the planning agency GERTEC, 8 KNX worlds were defined and interconnected with glass fiber cables and media couplings. A KNX IP backbone and corresponding area lines using additional line couplings that are distributing signals on the KNX were created.

This approach allowed to develop a very stable KNX system. The big amount of presence and motion sensors, the KNX visualization and the GLT coupling allowed for additional running cost cutting effects.

Beneficial to this project were the simple and economic installation of the KNX buses with twisted pair wire as well as the almost indefinite control capabilities of illumination, sun blinds, air flow and climate control.

Particularly the new and high requirements towards bus systems, regarding the improvement of energy and maintenance costs, require the transmission of lots of field bus data.

The widespread ethernet with its high bandwidth offers a crucial benefit for use in networks of buildings or parts of buildings. So abundantly clear may be increased stability and performance of networks.

Therefore, ethernet is a very useful addition to KNX bus with twisted pair wire, although it cannot fully replace it.

The combination of both systems is the solution that the worldwide KNX community is using with growing success now.

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