Case Study

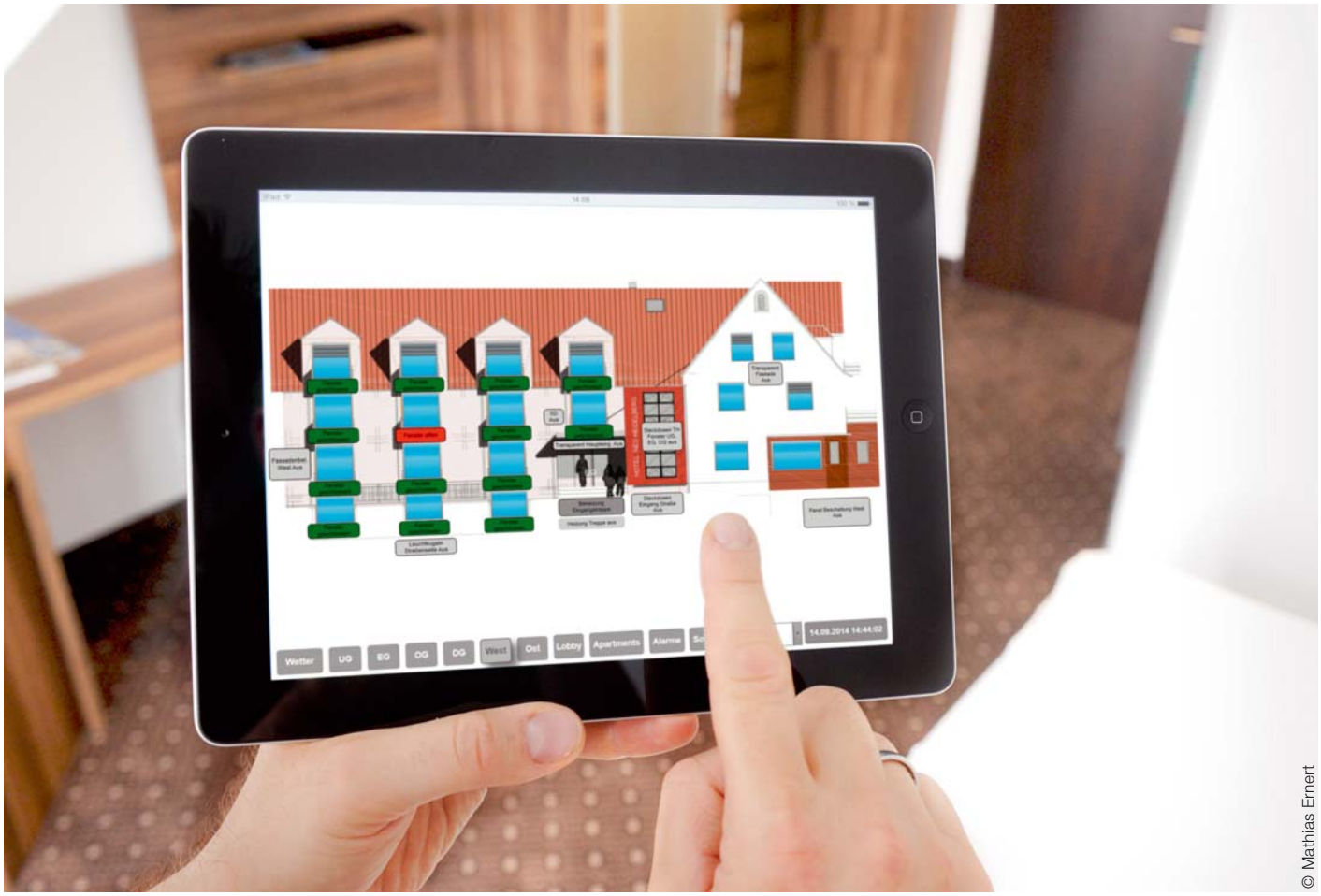
Energy efficient building automation with ABB i-bus® KNX
Networked devices for a pleasant hotel climate

Hotelier David Schwaninger (right) welcomes a guest and adjusts the lighting for him.

The Hotel Neu Heidelberg, Germany, wanted an energy efficient solution for easy operation of its air-conditioning, shading and lighting systems. It needed a technology which not only reception staff could control but could also be adjusted to meet the needs of guests. To ensure the hotel saved energy, the system was also required to react automatically to outdoor conditions.

Hotelier David Schwaninger decided to go with the ABB i-bus® KNX system. KNX is an open standard for interconnected electrical installations in buildings. The connected devices share information via a bus system, and their functions are defined by programming which can be modified at any time. The Room Master RM/S 2.1 makes it possible to control the lighting, air-conditioning and shading in the hotel's rooms, either automatically or to suit the needs of the guests.

"We have had an excellent business relationship with ABB for decades. Many ABB employees are guests at our hotel, and it was from them that I found out about KNX technology. Indeed, it was ABB that ultimately made us the best offer with its Room Master," says David Schwaninger, Managing Director of the Hotel Neu Heidelberg.



Using the visualisation software, devices can be quickly and easily controlled automatically on a tablet.

Saving energy from the basement to the roof

The Hotel Neu Heidelberg is a family-run business in the world-famous university city of Heidelberg. The hotel opened its extension, equipped with energy efficient technology, in 2012. Alongside KNX, systems such as a CHP unit and solar-thermal energy installations work to keep overheads down.

For the energy efficient configuration of the building automation using KNX, ABB provided planning and engineering support together with the following devices:

- RM/S2.1 Room Master
- WZ/S1.1 Weather unit
- ABZ/S2.1 Application unit time
- EM/S3.16.1 Energy module, 3-fold, 16/20A
- TG/S3.2 Telephone gateway
- SCM/S1.1 Security module
- 6122/0x solo motion sensor
- 612x/02 solo touch sensor comfort control element
- 6138/11-xx RTR fan coil with display
- 6164 U Heating actuator
- 6179/01 Busch watchdog 220 MasterLINE
- 6195/27 12f Switch actuator, 10AX

Lower overheads, greater comfort

Automatic device control using KNX doesn't just close the shutters when it's very bright outside. Information on the outdoor temperature also ensures a steady indoor climate. This means that no excess energy is ever used for the room temperature, equating to huge cost savings for the hotel and the highest level of comfort for guests.

"The hotel spends less than two percent of its net turnover on energy – the average industry figure is three to six percent," says hotelier David Schwaninger.