ENGLISH

BAB
TECHNOLOGIE

REFERENCES

EXCERPT OF REALISED PROJECTS

THE ATRIAL HOUSE
LAKE MIEDWIE, POLAND

HISTORY AND ENERGY EFFICIENCY COMBINED

The modern house at Lake Miedwie is especially characterized by its original architecture designed by Karol Nieradka. The "Atrium" is a historical building from ancient Rome, with habitable rooms around a rectangular central courtyard. The facade of the building, made of prefabricated ceramic blocks, forms the first high-quality barrier against outside air, temperature fluctuations, humidity and noise. In addition, it has been designed to facilitate air conditioning and the flow of mechanical conditioning systems. The courtyard of the building insulates against wind and sunlight and provides residential users with privacy within the various rooms.

SMART RIGHT FROM THE START

The initial requirements for the house during the planning of the project were primarily the resulting energy efficiency and building intelligence. In this context, the entire building was constructed on a 20 centimetre thick, insulated foundation plate with 2-zone ventilation and two additional heat pumps Solar cells were also installed. All exterior walls have double-chamber and sliding glazing. As part of this energy-modern investment, an intelligent management system based on the international open KNX standard was designed and implemented. BAB TECHNOLOGIE equipment is used here.

CUBEVISION AS CONTROL CENTRE

A future-oriented feature in a house of this size is the comfortable control of the rooms via personal devices such as iPhone, tablet and other devices. This is possible thanks to CUBEVISION visualisation: lighting, underfloor heating, ventilation, music and other intelligent Smarthome functions can be regulated from anywhere. These and other units, such as home alarm or energy recuperation, can also be adjusted in a permanently installed control centre in the forecourt. The audio-video system installed in the living room, which can also be controlled directly, provides maximum visual and acoustic quality. Another popular gimmick are the individual scenes of the CUBEVISION visualisation, which create a certain room atmosphere with just one touch, e.g. through light colour, temperature or music: all control elements can easily be tailored to the users and rooms.

BOOKSFACTORY
SZCZECIN, POLAND

OPERATION CONTROL ON 5000 SQUARE METERS

In Sczczecin, the "Booksfactory" is already renowned. Printing started here in 2017 on several floors. An intelligent building automation system is needed to do justice to the idea of the specialized architectural office "TUES" to create the most modern book printing facility in Eastern Europe. Huge printing halls and office areas had to be taken into account in the planning, on an equal footing with their different requirement profiles. The clever solution of relying on the open KNX standard resulted in the installation of a "smart" electrical system. All this makes it possible to manage the large printing company and its functions effortlessly.

EIB**PORT** AND CUBEVISION MAKE IT POSSIBLE

PrintGroup relies on the award-winning CUBEVISION visualisation system to control the central ventilation, air conditioning or lighting technology in the entire building via smartphones or tablets. CUBEVISION lighting scenes adjusted to working hours are seamlessly linked to the company's Dali lighting system.
Furthermore, automatic heating regulation by the EIB**PORT** ensures the best possible energy efficiency, e.g. by starting the air conditioning or commissioning a gas boiler depending on the outside temperature. The heating and ventilation unit automatically sets the optimum working temperature on the basis of current data - whether for industrial halls or offices. Also handy: the temperature management is linked to the current season, so that heating of the room stops when a window is opened, for example. Print Group has found an investment that even pays for itself: costs are sustainably reduced, dissipation of energy is a thing of the past.

Project management	INLOGIC
Customer	The PrintGroup
KNX devices	EIB**PORT**, CUBEVISION

ELEMENTARY SCHOOL ŻUKOWO
SŁAWNO, POLAND

SMALL TOWN, GREAT SCHOOL

Only about 6500 inhabitants live in Zuckau (pl. Żukowo), 20 kilometres away from Gdansk. All the more reason why the technologically leading primary school became known as one of the most modern of its kind in Poland. The building with an area of approximately 2300 square meters was equipped with a broad spectrum of building automation solutions - a pioneering decision in the field of public facilities.
The trust of the designers of INLOGIC, the project-leading company, is clearly put in the international KNX standard. Especially the saving of energy and costs are considerable advantages of the automation, but also the intuition and innovation of building control. This not only contributes to more comfort, but also to a more focused learning environment with a role model function.

Results become visible fast: the primary school joined the Polish LEMUR programme for energy-saving public buildings, which is supported by the state government. The most significant influence on energy savings lies in lighting, climate and ventilation control. It covers the entire school complex.

BUILDING AUTOMATION & EDUCATION - HAND IN HAND

With the KNX control elements, the building automatically activates and deactivates the lighting according to the class time. Additional motion detectors provide light wherever it is needed. After a certain period of inactivity, unnecessary lights are switched off even during class hours. The lighting of the outdoor area and facade is additionally controlled by an astro clock (switching according to the position of the sun).
In addition, the method of temperature control has been configured to create optimal conditions for teaching and to easily maintain a certain temperature level. Furthermore, the four main types of temperature can be set manually in the classrooms: Comfort, absence, night and

ELEMENTARY SCHOOL ŻUKOWO
SŁAWNO, POLAND

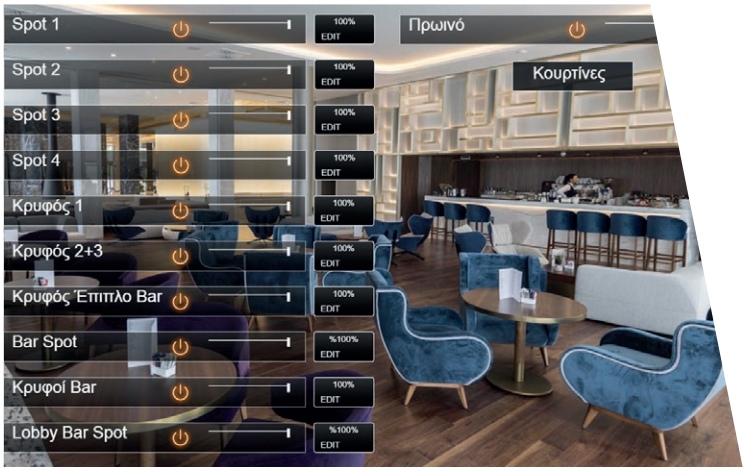
antifreeze. The modes are also automatically activated depending on the scheduled class times and weather conditions. When a window or door is opened, the heating is deactivated and the heat loss from the central heating is immediately reduced. If the system detects no presence for a longer period of time, the heating is automatically switched to standby mode - it returns to comfort mode when an entry into the room has been detected. In addition, the control of ventilation in the building has been integrated into the visualisation for remote control. In addition to the pre-defined operating mode, manual regulation can be easily applied if required. Safety was also taken into consideration, which plays a key role especially in facilities for children. In emergency situations, each control element knows what to do. Even the condition of the fire extinguishing covers in the ventilation shafts can be controlled with the help of the EIB**PORT** visualisation.

Project management	INLOGIC
Customer	Żukowo, Sławno
KNX devices	EIB**PORT**, Data**Warehouse** 2.0

HOTEL MAKEDONIA PALACE
THESSALONIKI, GREECE

HOTEL MAKEDONIA PALACE

Makedonia Palace is a luxury 5-star eight-storey city hotel with 276 rooms/suites, a restaurant, a bar, various event rooms, conference rooms, spa and a pool. The entire hotel, including the public areas and all bedrooms, is controlled via KNX switches, touch panels, tablets and smartphones. Lighting scenes, brightness and time controls automatically create the perfect atmosphere in all areas of the hotel. All guests have access to their own KNX room systems via their mobile phones or tablets and can therefore control lighting, curtains, heating, ventilation and air conditioning individually or with specific pre-designed scenes. In this way, modern, individual comfort is offered without detours for every user.

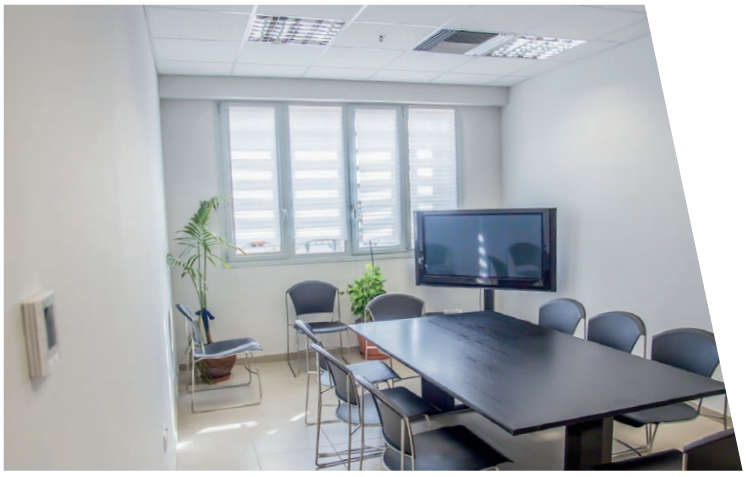


Project management	AUTOMATIONSYSTEMS - TRIANTAFILLIDIS
Customer	Makedonia Palace
KNX devices	EIB**PORT**, Visualisation

MACEDONIA BUILDING COMPLEX
CENTRAL MACEDONIA, GREECE

REGION CENTRAL MACEDONIA, GRAND BUILDING COMPLEX

The complex in the middle of Central Macedonia does not only offer plenty of space for shops and offices thanks to its construction. Almost 10,000 square metres of parking space for visitors and attendants are also provided. It is not an easy task to equip over 30,000 square metres of usable space with KNX; A total of more than 1,000 devices, including the EIB**PORT** and its visualisations, were therefore installed. Each office now has, for example, a presence detector with constant light control that automatically dims the DALI-controlled luminaires and enables the HVAC thermostats to create the perfect building and working environment without employees having to touch a single switch.



Project management	AUTOMATIONSYSTEMS - TRIANTAFILLIDIS
Customer	Central Makedonia Building Complex
KNX devices	EIB**PORT**, Visualisation

HYDRAMA GRAND HOTEL
DRAMA, GREECE

SMART THINKING ON A LARGE SCALE

The Hydrama Grand Hotel is a modern, luxurious 5-star hotel in the restored Herman Spierer Tobacco House, a protected industrial monument with 73 rooms that have been technically modernised in line with the open KNX standard. A future-oriented decision: the new, smart building control system covers over 5000 square metres, on which more than 1,000 KNX devices have been installed. The extremely high demands of the luxury hotel are optimally met with a complex yet handy visual control system. Thanks to the well thought-out visualisation, the management of lighting, heating, ventilation, air-conditioning technology and electric blinds becomes a simple and easily accessible task for the operator and the team despite the wide range of functions - even without a time-consuming instruction.

Project management	AUTOMATIONSYSTEMS - TRIANTAFILLIDIS
Customer	Hydrama Grand Hotel
KNX devices	EIB**PORT**, Visualisation

VWA HELLWEG-SAUERLAND
ARNSBERG, GERMANY

MAXIMUM MODERNISATION THANKS TO BUILDING AUTOMATION

The building of the Administration & Business Academy Hellweg-Sauerland / IHK Arnsberg was completely extended with KNX in the course of the second construction phase. The building complex with its ultra-modern office and training centre is state-of-the-art. With a variety of KNX products, the installation offers a maximum of operating comfort. Priority is given to the automatic operation of all trades, which can however be operated simply and intuitively and are therefore suitable for caretakers. The media technology system can also be completely controlled via KNX. In addition, the building management system can be controlled user-friendly via iPads and computers.

BUILDING MANAGEMENT WITH KNX

1. Lighting: switching, dimming, light scenes and time control
2. Heating, ventilation and air-conditioning: Time-controlled operating modes, individual room control and zone control, valve drive control and fan coil control, underfloor heating control
3. Windows: Individual roller shutter control, group and central control, protection program against wind and rain
4. Protection and security: error output, access control, surveillance via cameras, remote access, etc.
5. Visualization: switches/buttons, PC visualization, web server, touch panels, tablets and smartphones
6. Energy management/smart metering: meter reading, data logging, visualisation,
7. Current detection, peak load monitoring, use of renewable energies
8. Other controls: Audio control, video control, intercom

Project management	EventVision GmbH & Co. KG
Customer	VWA Hellweg-Sauerland / IHK Arnsberg
KNX devices	**FACILITY**MASTER

FURNITURE STORE HÖFFNER
HAMM, GERMANY

FACILITYMASTER SINKING ENERGY COSTS BY 50

Lighting and air conditioning are essential in retail - after all, salespeople and customers should feel comfortable. On large areas, however, this requirement quickly increases energy costs if you do not - as the Finke furniture store in Hamm - rely on the right technology.

Light attracts people - and that is why sales areas and facades all over the world shine particularly brightly. A pleasant climate is also important for salespeople and customers. However, heating, cooling, ventilation and lighting also require a lot of energy. The energy consumption of a sales floor is therefore a decisive economic factor. Because gigantic sales areas lead to gigantic energy costs.

This does not have to be the case, said Dietmar Schneider, energy consultant at the furniture store chain Finke and consistently relied on KNX sensors and actuators as well as on the "EIB**PORT**" and "**FACILITY**MASTER" from BAB TECHNOLOGIE GmbH and reduced the energy bill by almost 50 percent.

DROP THE SWITCHES

Finke houses - is to continuously determine the actual state of light, air and heating and to adapt it to the respective requirements.

Light shines only where it is needed. This means that many networked presence detectors had to be installed. Light switches are almost completely missing. Because one thing energy consultants have learned: The biggest disturbance factor for energy optimization is spontaneous human intervention. Although light is switched on in rooms, it is often not switched off again. The heating temperature is corrected upwards by one employee, the next lowers it. In extreme cases, the air conditioner "fights" against the heating system.

At Finke, sensors ensure that ideal climatic conditions and lighting conditions always prevail for customers, employees and the energy bill. In the background, KNX ensures that all rules are executed. "KNX is reliable and offers all possibilities of automation, even with such a large and complex installation as here. FACILITYMASTER, EIBPORT and the visualisation tools were an important prerequisite for making the building control system compatible with that of caretakers," explains Schneider. Components that are not KNX-compatible have been modified accordingly. Among other things, this was necessary for the two boilers - with positive consequences.

FURNITURE STORE HÖFFNER
HAMM, GERMANY

As a result of the integration into the overall system, the boilers now operate at the lowest level as required 90 percent of the time. Both boilers complement each other if required. Heat is only generated when the room sensors on site report a demand. The number of boiler start-ups was reduced from 271,000 to around 80,000. The goal of reducing costs by 30 to 40 percent was achieved, with a pleasant side effect: maintenance costs were also reduced. With fewer startups and lower operating costs, the components wear out more slowly than in normal use.

LIGHT ON DEMAND

The store opens daily at 10 am. From 7 am until the opening, everything is tidied up and organised. Of course, the sales areas do not have to be continuously illuminated for this purpose. Wherever work is being done - and presence detectors detect this - optimal lighting conditions naturally prevail, other areas are still dark. Without this control, a lot of electrical energy would be wasted on lighting. At the end of the business day, lighting will be reduced by a third. Daylight is also measured and taken into account. At Finke, every room and every segment in the sales area can be addressed individually.

Peak loads are an important factor in the electricity bill. These are created in conventional houses in the morning when the building is "started up". Thousands of luminaires and electronic control gear start simultaneously, as do fans and pumps, and ovens, coffee machines and heating systems in the catering trade. The result is an enormous peak in consumption. Not so with Finke's managed system. It is designed to avoid peaks.

Weekdays, Saturdays, Sundays open for business and the pre-Christmas periods have different scenarios. The control system by Dietmar Schneider and his team, which was developed on the basis of the EIB**PORT** and **FACILITY**MASTER, naturally has a calendar. But even short-term changes, for example due to city festivals and other events, can be set at the click of a mouse. A tedious switching of hundreds of lights and manual control of ventilation and heating is no longer necessary. The focus is not on convenience, but on reliability. The facade is a real eye-catcher. The Philips RGB LED spotlights can be freely controlled in colour and intensity by Dietmar Schneider's control desk. Whether French national colours after the terrorist attack in Paris or Christmas lighting - with the KNX control system it's possible.

FOCUS ON SAFETY

An important aspect of such complex systems is IT security. After all, it could be interesting for criminals to hijack the IT system with the building control of a furniture store and blackmail the company. Finke has also taken precautions here so that something like this cannot happen. Externally, high standards of protection have been implemented for the Internet, but the best possible procedures have also been implemented against internal attacks thanks to the EIB**PORT**s and the **FACILITY**MSATER. Thus, it is practically impossible for criminals to "take over" building control. The Finke furniture stores in Paderborn, Münster, Jena, Erfurt and Kassel are equipped in the same way as the building in Hamm and can be controlled and monitored from there.

Project management	Dietmar Schneider, Energy Commissioner
Customer	Furniture Store Finke (Now called Furniture Store Höffner)
KNX devices	EIB**PORT, FACILITY**MASTER

RESIDENTIAL PROJECT VILLA NATALIA
HALKIDIKI, GREECE

DREAM-AIRBNB BECOMES REALITY

The luxurious holiday experience offers over 900 m² of living space on an area of over 9,000 m² and is spread over three floors. The 8-bedroom villa offers a whole range of modern conveniences that can be controlled via iPads, switches and sensors available in the villa thanks to the intelligent KNX home automation system. Dali, DMX, RGBW, 1-10V and trailing-edge phase dimmers control the homelike lighting. KNX-Modbus controls the VRV/VAM/heat pumps, KNX-Bacnet is connected to the BMS system and monitors all water pumps for water extraction. Temperature/humidity/CO2 sensors ensure a perfect environment, automatically controlling underfloor heating and cooling, VRV and VAM. This ensures a consistently pleasant temperature – whether in summer or winter. Temperature/COP/PH sensors also control the pool heating and water quality. Special water sensors protect against water leakage in the infinity-like pool. Voltage and energy meters also measure the energy consumption in order to control it in an energy-efficient way. Lighting, scenes and blinds are intelligently controlled by a weather station if required. All these functions and others, such as the alarm system, intercom or music, are thus intuitively monitored and controlled via KNX switches and touch screens.

Project management	AUTOMATIONSYSTEMS - TRIANTAFILLIDIS
Customer	Halkidiki Properties
KNX devices	EIB**PORT**, Visualisation

SKI BAR »MUNGGALOCH«
AROSA, GRAUBÜNDEN, SWITZERLAND

SWITZERLAND SKIBAR WITH (LIGHT) TUNING

At 2'134 m.a.s.l. lies the lively Carmennahütte, directly on the Plattenhorn ski run.
The adjoining, famous Munggaloch Bar is especially known among winter sports enthusiasts – for après-ski parties or the Munggapfupf®, named after the bar. Various bands and entertainers provide entertainment here all year round. In summer, the hut is not only a cosy mountain restaurant on the idyllic Legendary Hiking Trail, but also an alpine station for over 120 cows, which also spend their holidays here. The ski hut is easily accessible on foot or by bike.
Within the scope of modernization works an atmospheric KNX installation was realized in the bar: six predefined light color scenes and four predefined light color sequences are available in the DUO**DMX** GATEWAY from BAB TECHNOLOGIE. The reproduction of the scenes and colours was realized with LED strips on the inside, LED profiles on the outside and an LED spotlight on the top of the roof. For an individual, manual lighting control, RGBW colour mixers are additionally used for these areas in the used EIB**PORT** visualisation. In addition, individual circuits can be selected for the bar, the entrance doors and the LED slope lighting spotlights (with an output of 10,000 lumens). The operation of two ventilation windows, which are used for smoke extraction and ventilation, is also possible without detours via the visualisation. In addition to the DUO**DMX** GATEWAY, various functions have been implemented via the EIB**PORT** V3, and remote support and control of the visualisation is possible from anywhere via secure access. All lighting elements, as well as the building automation and cabling, have been installed taking into account the strong fluctuations in temperature and humidity, so that the temperature differences from +24°C to -25°C do not affect the products in any way..

Project management	Schaltpunkt GmbH
Customer	Carmennahütte Arosa AG
KNX devices	DUO**DMX** GATEWAY, EIB**PORT**, Visualisation

TECHNOLOGY CONCERN ANDRITZ
GRAZ, AUSTRIA

THE BEST OF BOTH WORLDS: ANDRITZ GROUP RELIES ON HYBRID SOLUTION WITH KNX AND ENOCEAN

The international technology group ANDRITZ, headquartered in Graz, Austria, employs approximately 25,500 people worldwide. The ANDRITZ GROUP is one of the world's leading suppliers of plants, equipment, and services for hydropower plants, the pulp and paper industry, the metalworking industry, the steel industry, and municipal and industrial solid/liquid separation.

The group's headquarters in Graz was hybridly equipped with KNX and EnOcean components. The project was supervised by Siblik from Vienna, which was also responsible for the rollout.

THE BEST OF BOTH WORLDS

Depending on the required functionality and the local conditions, components such as sensors, actuators and gateways were selected with the more beneficial bus system and intelligently linked via the EIBPORT.

WIDE-RANGING FUNCTIONAL PORTFOLIO FOR AN EFFICIENT WORKING ENVIRONMENT

The system was built on an IP basis. The individual lines are connected by line and IP routers. EIB**PORT** V3 EnOcean was used to implement efficient and particularly convenient individual room control in the office areas, providing control and automation functions.

Several EIB**PORT**s are distributed over the various office wings and also serve as IP and EnOcean interfaces. Ninety percent of all functions such as lighting control, shading or room temperature control are controlled via EnOcean components from Eltako and Thermokon. A total of 1,384 KNX and 688 EnOcean components were installed.

TECHNOLOGY CONCERN ANDRITZ
GRAZ, AUSTRIA

INDIVIDUAL CONTROL WITH THE EIB**PORT**

Values such as the basic setpoint or the operating mode (heating or cooling mode) are specified by the effective building management system. The EIB**PORT** is responsible for general control and communication with the KNX heating actuators. Via its intuitive visualisation, all relevant functions such as lighting control, shading or room temperature can be individually controlled for each office wing.

ANDRITZ' CONCLUSION

The extensive automation functions of the EIB**PORT** guarantee an optimised working environment and lower energy consumption without neglecting the individual wishes of the users.

OVERVIEW: BUILDING MANAGEMENT UNDER KNX AND ENOCEAN

1. Lighting: complete lighting control for indoor and outdoor use
2. Outgoing feeders: switched outgoing feeders - Schuko, display elements, and more
3. Shading: complete external shading - Venetian blinds, Venetian blinds and glare protection
4. Rooms: complete individual room control in the entire building - EnOcean and KNX
5. Others: Integration of status messages as well as fault messages incl. transfer to BMS

Project management	Markus Zack / Siblik Elektrik GmbH & Co KG, Wien
Customer	ANDRITZ GROUP
KNX devices	EIB**PORT**

CULTURAL SQUARE CITY OF AHAUS
AHAUS, GERMANY

GERMAN MUNICIPALITY NETWORKS ITS BUILDINGS AND SAVES EUR 1.2 MILLION IN ENERGY COSTS

Clever building management pays off: The city of Ahaus connects light, heating and air conditioning in its buildings. KNX and EIB**PORT** are made use of here. This has had a particularly positive effect on energy consumption.

Modern building management and resource-conserving action is not only reserved for large companies: Thanks to modern technology, this can also be sensibly retrofitted in existing buildings. The city administration in Ahaus in Westphalia proves this. The medium-sized town with 39,630 inhabitants near the border to the Netherlands is exemplary here. As the home of a well-known German technology company, Ahaus is perhaps closer to the technical possibilities and the sensible use of information technology and telecommunications than some large cities.

It is not so surprising that Stefan Hilgemann, technical employee of the department of real estate management - building construction department of the city of Ahaus - presents the building automation of the Kulturquadrat with music school and city hall and a primary school with a certain portion of pride. Step by step, whenever renovation was required, the conventional building technology was replaced by modern, smart technology and individual technology islands were networked with the overall system.

"KNX NETWORK" PAYS OFF FOR THE CITY OF AHAUS

The system of choice is the world standard KNX. Stefan Hilgemann would like to network even more, for example by integrating all heating systems into the comprehensive control system. This pays off in the short term, but unfortunately some manufacturers refuse the integration with reference to the warranty. And unfortunately not (yet) every manufacturer of boilers offers a necessary KNX interface. Comparative measurements show that specialized stand-alone systems do not necessarily have to deliver better results.

"After the warranty has expired, we gradually integrate all systems into our overall control system. Thus we have a meaningful before and after comparison of the consumption values. In future, only products from manufacturers will be used that can be integrated into our overall solution," Stephan Hilgemann sums it up.

The success of the integration into the KNX system pays off for the city of Ahaus in euros and cents.

CULTURAL SQUARE CITY OF AHAUS
AHAUS, GERMANY

School rooms and concert halls are used in time windows and must therefore be managed intelligently.
Pure individual room temperature control is not effective because the time component is missing. Ahaus relies on the "EIB**PORT**" and the "**FACILITY**MASTER" of the manufacturer BAB Technologie in combination with the room occupancy plan software "CONTROL **R**". With the extensive and proven software, the entire installation of the buildings can be clearly visualized and controlled easily and safely, thanks to IP networking, if necessary also by smartphone via the Internet with VPN SSL or the manufacturer's own **BAB** SECURE LINK.

IDEAL FOR INDOOR CLIMATE AND COST MANAGEMENT

The so-called culture square connects the old building with the new building, music school, adult education centre and town hall. In other words, buildings with very different building structures and uses. The buildings can also be air-conditioned in a conventional way. However, this is not energy-efficient, because independent systems often work against each other rather than with each other. Users have little or no influence. It's different in Ahaus. The intelligently networked systems can be operated optimally for the room climate and costs in any situation.

Special rules apply to a music school. In addition to practice rooms with climate-sensitive instruments, there are halls with audience and stage technology. Stage lights are usually operated via DMX, the hall lighting via KNX. The communication between DMX and KNX was realized via the "DUO**DMX** GATEWAY" from BAB Technologie. Here, too, integration took place for the operator. All lighting is controlled via a screen: with the aid of the "DUO**DMX** GATEWAY" and a touch panel PC, lighting is controlled via a central visualisation system. The user does not need to know which luminaire is operated via which bus.

MULTIPURPOSE MOTION DETECTOR USAGE

Musical instruments are values. The music school and other buildings in the Kulturquadrat use the building sensors to detect break-ins. Motion detectors, which are actually intended for light, heating and ventilation, report possible break-ins when the building is closed. The building signals the intruder that he has been detected. The police are informed about a chain of reports. The KNX-based burglar alarm system is not a standard-compliant alarm system, but it has already proven itself in practice.

The Pestalozzi School is a primary school within walking distance of the Cultural Square. It is generally known that the CO2 content of the air breathed affects the concentration of teachers and students. The harmful effect of the gas lies primarily in the displacement of oxygen. Since CO2 is heavier than air, it is particularly harmful near the ground. Sitting students are therefore more affected than standing teachers.
A concentration of 1.5 percent increases the human respiratory volume by at least 40 percent. Already at five percent of a concentration of CO2, humans react with dizziness and headaches. In the Pestalozzi school in Ahaus, the CO2 content in the classrooms is measured and, if necessary, a retrofitted ventilation system is switched into the window frame. Modern technology supports students and teachers.

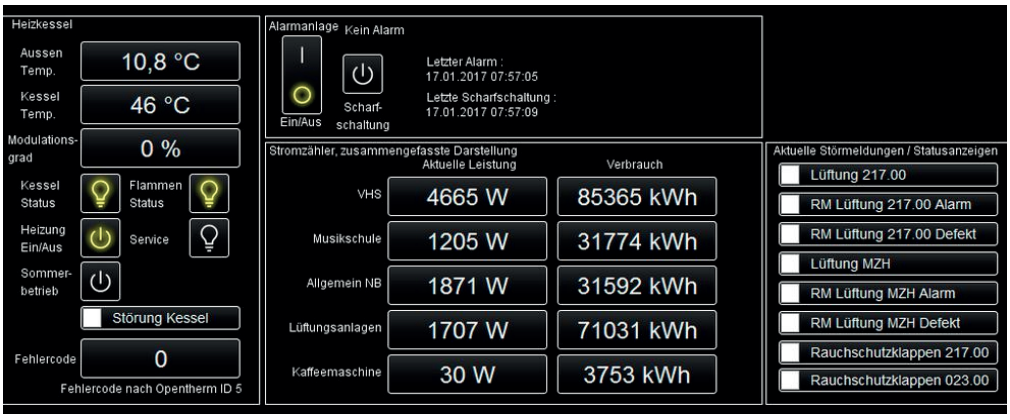
CULTURAL SQUARE CITY OF AHAUS
AHAUS, GERMANY

RELY ON AUTOMATION IN ANY RENOVATION PROJECT

When new buildings are planned and constructed, building automation is easy to implement. It is more difficult when it comes to existing buildings. Ahaus is consistently pursuing the path of using automation for every renovation and introducing the "Ahauser Building Standard", KNX and EIB**PORT**. Everywhere basically the same hardware and the same software is used with the goal that the observation and operation looks the same everywhere and can therefore be operated easily and without additional training.

This reduces the effort for the caretakers and practically excludes operating errors even by strangers. The overview screen provides all relevant information at a glance. Since the main switches and setpoint specifications are shown here, it is very easy to drive such a building complex economically and thus protect city bags and the environment. The energy report, as presented by Stefan Hilgemann, shows impressive figures.

The most exemplary successes can be seen in climate-adjusted heating energy consumption. This fell from 10.4 million kilowatt hours to 8.8 million kilowatt hours between 2005 and 31 December 2016. This corresponds to total savings of 21.1 million kilowatt hours of fossil fuels and EUR 1.2 million since 2005. The actual savings will be even higher, as new heated areas are constantly being expanded. In Ahaus, the cost spiral was counteracted by intelligent control.



Project Management	Stefan Hilgemann, Technical Building Equipment / Energy Management
Customer	City of Ahaus
KNX Devices	EIB**PORT**, **FACILITY**MASTER, CONTROL **R,** DUO**DMX** GATEWAY

LIBRAMONT EXHIBITION CONGRESS
LIBRAMONT, BELGIUM

PLACE OF EXCHANGE AND ENCOUNTER

The unique exhibition centre in the midst of nature attracts over 200,000 visitors every year as part of the Land-, Forestry and Food Fair on over 300,000 square meters. The main focus of this fair is renewable energies, recycling and replanting. This makes the exhibition unique in Europe - and almost a duty to set an example in terms of energy saving and efficiency. The contrast in this building between exhibition days and unoccupied days is a key requirement for automated building control, which is overlooked and remotely maintained thanks to the EIB**PORT** visualisation.

FACILITY MANAGEMENT UNDER KNX

1. Climate: automation of heating (hvac) and ventilation
2. Window: Management of blinds according to sun position (weather station)
3. Lighting: Comprehensive automated lighting
4. Consumers: Optimal management of consumers
5. Visualization: Supervision with the EIBPORT
6. Control: Remote control with computer, smartphone or tablet
7. Rooms: administration of projection rooms (lighting, frames and sound), administration of conference rooms
8. Door control: Door opening management in the exhibition halls

Project management	ImTech Belgium
Customer	Libramont
KNX devices	EIB**PORT** visualisation

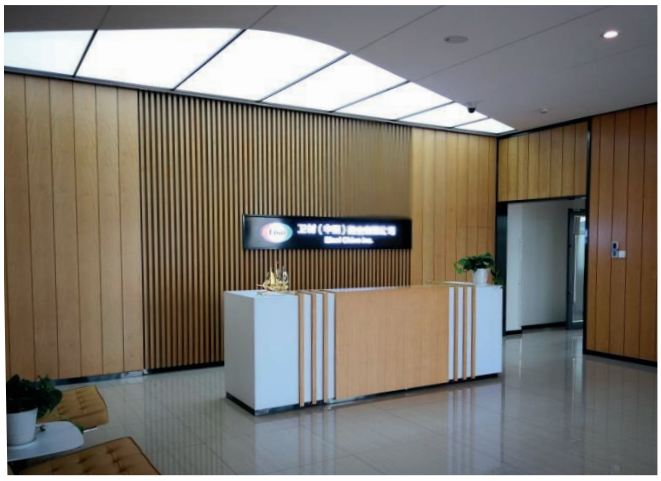
LA PISCINE
VIRTON, BELGIUM

KEEPING COOL IN THE POOL

The visualisation of the EIB**PORT**, adjusted for the administration of the swimming pools, does not only enable the user to control the lighting, but also the water treatment including the pools and the heating, ventilation and air-conditioning technology (HVAC). In addition, an alarm message specially designed for swimming pools and a self-developed software were integrated, which delivers printouts for certain events via an integrated matrix printer.

Project management	Henneaux
Customer	Stadt Virton
KNX devices	EIB**PORT** visualisation

EISAI CHINA INC.
SUZHOU, CHINA



CONTROL CENTRE WITHOUT LIMITS

The EISAI office relies on the products of **BAB** TECHNOLOGIE for holistic office management. Over 200 EnOcean devices are integrated into the system using the EIB**PORT**. In addition to blinds, lighting and HVAC, the **APP**MODULE also allows you to remote control the SONOS sound system and all projectors within the KNX environment. Lastly, all LED luminaires linked to the **DUO**DMX GATEWAY can be fully dimmed as required.

Project management	Wanland Automation Equipment (Shanghai) Co.,Ltd
Customer	Eisai Group
KNX devices	EIB**PORT**, **APP**MODULE, **DUO**DMX GATEWAY

LE CENTRE MONNAIE
BRUSSELS, BELGIUM

CREATIVE LIGHTING CONTROL

900 luminaires have been installed at the business complex to create a shimmering starry sky on one side of the building. The other side of it is decorated by a moving wave of light. Every lamp socket has its own light source and is individually controllable.
Their coordination is carried out by the **FACILITY**MASTER, which combines EIB**PORT**, DATA**LOGGER, APP**MODULE, KNX**CONVERTER** and AUDIO**SERVER** in one device.

Project Management	Engie Electrabel
Customer	Le Centre Monnaie
KNX Devices	**FACILITY**MASTER

everywhere at home

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