N° 34

SAUTER FACTS

The magazine for SAUTER customers

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The convenient SAUTER ecoUnit-Touch

Efficiency and creativity at "Werk 3" in Munich
Many different uses, one system family

Building automation for millions of euros
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SAUTER
Creating Sustainable Environments.

Dear Customers and Business Partners,
Dear Readers,

It gives me great pleasure to introduce the latest issue of our customer magazine. In this autumn edition, we are presenting new product developments from SAUTER and reporting on a selection of reference projects which demonstrate that, with our products and services, the possibilities are endless.

For our "Environment & Sustainability" section, we talked to a business partner who gave his thought-provoking views on sustainability in the real estate sector (p. 4).

We are introducing our newest room operating unit, the ecoUnit-Touch, which combines the advantages of SAUTER room automation with the user-friendliness of a smartphone – providing a modern method of operation directly on the device or via an app (p. 6). An important addition has also been made to SAUTER's portfolio of valve actuators. The vialoq AVM 215 has 500 N of actuating power and a nominal stroke between 8 mm and 20 mm. It fits 80% of conventional valves and is therefore suitable for use in virtually any installation (p. 9).

This issue also includes a number of customer references highlighting SAUTER versatility. In a new money management centre in the north of France, for example, where almost every process is automated, security has the highest priority (p. 12). The first smart green building in South Korea has been built as part of a joint venture between SAUTER and a local partner (p. 14). At the Hagenholz waste incineration plant in Zurich, waste heat is used to heat the administration building (p. 20). In the Johanniskirche church in Zittau, SAUTER has installed a comprehensive building automation solution creating excellent climate conditions inside the church while preserving its historic structure (p. 22). We have two examples of large health care centres in the Netherlands and Austria that rely on SAUTER know-how (p. 18 and 26 respectively). And this year has seen two prestigious projects in Munich equipped with building automation from SAUTER – you can find out more on pages 16 and 28.

I hope you enjoy reading this issue!

Yours, Werner Karlen, CEO

"Mere lip service is no longer sufficient"

In this interview with SAUTER Facts, Andreas Büttner, CEO of SachsenFonds Holding GmbH in Aschheim near Munich, discusses building automation from the perspective of the sustainable real estate industry.

Investment in real estate is popular and sustainable properties are increasingly in demand. So how much has the interest in such properties risen?
For years we have seen a growing demand for sustainable properties, among both our investors and tenants. Large contract partners in particular are placing greater emphasis on the sustainability of our buildings. This is because large investors and tenants are ever more concerned with showing shareholders and investors that they are committed to acting sustainably in every aspect. In contrast to a few years ago, we also perceive a genuine readiness to work on, and invest in, the improvement of environmental conditions for the benefit of our fellow human beings. Mere lip service without appropriate action is no longer sufficient.

Tenants and buyers are finding quality labels such as BREEAM, LEED and DGNB more and more important. What do these labels signify? How relevant are they, do you think?
As these are becoming more diverse and focused towards reality, the labels and their certificates are growing in informational value. Where they were previously used mainly as marketing instruments, they now record comprehensive details about the sustainability of a property. Furthermore, after the certification process, they give a property's owner or manager a valuable insight into its daily operation. From our point of view, the LEED label is by far the most important. LEED's creator recognised, at a very early stage, the significance of proven sustainability and implemented this very skilfully.

Who do you see as driving this development towards sustainable properties?
The drivers of this development are large market participants and smaller individuals who occupy interesting niches. However, the suppliers of intelligent technical solutions are also bringing forth a change in how real estate owners think.

How do you view the cost-benefit ratio of sustainable properties compared to conventional real estate?
This depends very much on the age and quality of the property. For example, an old building with a comparably low standard certainly requires much higher investment to achieve a certificate than, say, a modern building, or even a project development. On the other hand, every investment in sustainability, no matter how small, has a positive effect on the environment and should therefore always be given serious consideration.

What proportion of the SachsenFonds portfolio is made up of green buildings?
The proportion of buildings actually certified is currently around 15%, while the share of buildings in which we have made energy-related improvements for sustainable management is, of course, much higher.

Energy efficiency is a key issue regarding sustainable buildings. Which area do you consider as having the greatest potential here?
From our point of view, the greatest developments have been achieved in the field of BMS/building automation. We also see more and more specialised solutions and many creative niche products, for example, in waste heat usage or especially in residential construction.

How important, do you think, are modern technologies such as BIM (Building Information Modelling) and modern communications in the context of maintaining real estate?

Technologies like these provide an abundance of valuable data about a building's operating efficiency. But here, as in many other areas of our lives, it's not the quantity of information that counts, but the quality and – even more crucially – how it's processed further. Such technologies are only truly worthwhile if the building operator correctly analyses the mass of data available and uses this when upgrading the property. Which brings us back to people. Experienced people will still be needed to bring about real – and sustainable – improvements in building operation, in spite of the burgeoning flood of information in this area too.

How would you rate SAUTER's performance with regard to a sustainable building life cycle?

SAUTER products enjoy a very good reputation on the market. The continuous developments also allow real estate owners to keep improving their properties in line with the latest technology. And when owners and building operators work well together, the property can be sustainably managed over a long period of time, thereby bringing benefits to its users.

SAUTER ecoUnit-Touch – a room operating unit like a smartphone

The new SAUTER ecoUnit-Touch room operating unit features an elegant design and intuitive user navigation. The room climate can be controlled via a room panel or Bluetooth-connected smartphone app, giving the user maximum flexibility.

In this modern age of smartphones and tablets, people can operate gadgets at the touch of a finger. This convenient feature is also desirable when it comes to room controls. SAUTER ecoUnit-Touch combines a clear interface with the versatility of a smartphone app – fulfilling the demands of the tech-savvy user.

Customised room climates

Intelligent room automation solutions – such as SAUTER's EY-modulo 5 system range – optimise energy efficiency in large office and administration buildings and react swiftly when surrounding conditions change. In modern working environments individual preferences each demand a room climate, temperature, lighting and sunshading system that suits their specific needs.

A user interface resembling an app

With the SAUTER ecoUnit-Touch, adjusting local setpoints couldn't be simpler. The room operating unit has a scratch-resistant, sturdy touchscreen displaying up to six function tiles. Swiping left or right reveals further tiles. Six pages are available for grouping and assigning functions. The tiles provide direct access to room functions – changing individual temperature setpoints, controlling window blinds and switching multiple lighting groups on and off. The attractive, contemporary look of the operating unit, which comes in black or white, blends superbly with modern room designs.

Panel or smartphone operation

SAUTER chose easily understandable icons for the functions, making the smartphone app very user friendly. The user interface of the ecoUnit-Touch, however, doesn't just look like an app. It can also be accessed directly from mobile devices. Once the operating unit is installed in a room, it can be connected to a smartphone or tablet via Bluetooth. The app – available for iOS and Android – displays an operating panel with an identical layout. This enables the user to change room settings conveniently – from the work desk or the meeting table, for example.

Extendable in modules

Regardless of the type of room, or how it is used, the SAUTER ecoUnit-Touch is always up to the task. Its modular structure enables further functions to be added. Along with a built-in temperature sensor it also has six digital inputs. This means that conventional light switches and presence sensors can be integrated.

Forming part of an intelligent room automation solution, the SAUTER ecoUnit-Touch room operating unit always provides an individualised room climate. Furthermore, it is extremely economical to run, switching to stand-by whenever possible.


CONFERENCE ROOM
Temp
Blinds
Presenter
Ventilation
Window


CONFERENCE ROOM
Temp
Blinds
Presenter
Ventilation
Window
Wall
SAUTER
Innovation

SAUTER Retrofit? Indeed a good fit!

System refurbishments are quicker and more efficient with the latest-generation retrofit actuators from SAUTER. They fit all valve types, have automatic coupling for easy mounting and significantly reduce the energy intake of HVAC installations.

High-quality products and thorough maintenance guarantee years of reliable operation. Modernisation often entails just replacing the actuators, as the valves are usually still in good working order. It therefore makes perfect sense to use a solution where actuators are changed quickly – thus minimising downtime – and retain the existing valves.

Huge benefits

Retrofit products suitable for wide-ranging applications ensure that refurbishments are extremely quick and economical. Upgrades also significantly extend the life of HVAC installations and provide increased long-term energy efficiency.

Compatible with numerous makes of valve, SAUTER Retrofit actuators are ideal for all kinds of environments. With the need to stock only one actuator type, this enables very lean warehouse management.

Technicians use an adapter set to mount the powerful SAUTER drive unit on the valve – no special tools are required. This accessory is available for many makes of valve and fits the valve spindle perfectly. Supply bottlenecks are avoided, and with no excess components, you'll also save on resources.

Efficient mounting and operation

SAUTER Retrofit actuators were developed specifically for easier and faster modernisation. To fit the link to the actuator and then the actuator to the valve, an ingenious solution has been employed – patented automatic valve coupling and a practical electric plug-in module. Thus, installation takes next to no time.

SAUTER's powerful valve actuators have up to 1,000 newtons of rated thrust. They help reduce energy consumption in HVAC installations both when active and idle. And with around 80% of actuator time spent in stand-by mode, this means that more major cost savings can be made.

SAUTER Retrofit offers actuators suitable for globe and control valves from the following manufacturers:

- Belimo
- Caleffi
- Coster
- Danfoss
- Frese
- Honeywell
- IMI Hydronic
- ITT-Dräger
- Johnson Controls
- LDM
- SAUTER
- Siemens

SAUTER 500 N valve actuator now with 20 mm nominal stroke

SAUTER has introduced the vialoq AVM 215 actuator with 20 mm nominal stroke. This is an important addition to its trusted portfolio.

The vast majority of electric valve actuators with 500 N actuating power have a stroke of between 10 mm and 20 mm. Featuring a nominal stroke of 8 mm to 20 mm, the new SAUTER vialoq AVM 215 actuator is geared towards this range. This makes it an attractive alternative for SAUTER's OEM and Components customers. It is also perfect for retrofitting systems with numerous makes of valve.

Economical energy consumption

The vialoq AVM 215's synchronous motor is designed for a 24 V or 230 V power supply, depending on the model used. While the 230 V version is suitable for controllers with 2-point outputs or switched 3-point outputs, the 24 V unit also allows continuous regulation with a signal of 0–10 V. The running time is 7.5 s/mm. Torque-dependent cut-off means that the unit is particularly energy-efficient.

Tool-free installation

Because the SAUTER vialoq automatically connects to the valve spindle, it can be fitted in an instant. No tools are needed.

Maintenance-free auxiliary changeover contacts will now also be available for the SAUTER vialoq line. They have two adjustable contacts and a nominal switching capacity of 3 A at 250 V AC. They can therefore relay back the valve position to the controller or execute switching functions over the entire rotation range.

Efficient research with building automation and facility management from a single source

Technology Centre Augsburg provides ideal conditions for research and development. While SAUTER's integrated building automation solution creates the optimum climate for brilliant minds, the SAUTER facility management team ensures that operations run smoothly in this visionary innovation hub.

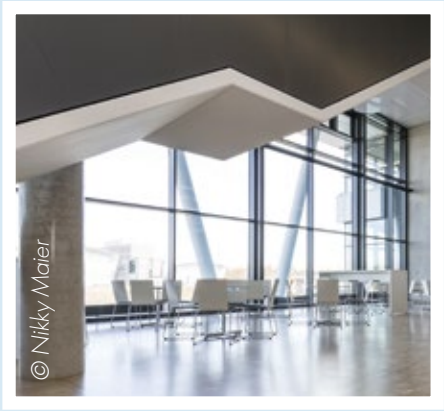
© Nikky Maier

Technology Centre Augsburg, located in the southern German city, forms the heart of the future-oriented project "Augsburg Innovationspark". Covering a sizeable area equal to approximately 100 football pitches, it will be one of the largest science parks in Europe. The campus grounds will house everything for working, living and lifestyle needs. Along with thousands of new workplaces, there are plans for plentiful green areas, parking spaces, restaurants and shopping facilities.

Smart building automation to support R&D

The technology centre has roughly 12,000 m² of space to offer businesses and scientific facilities in search of an optimum environment for research and development. With the aim of becoming a researcher's paradise, the building is also designed to allow easy networking and communication. Shorter distances speed up interaction between projects located here and flexible room partitioning provides opportunities for temporary collaboration.

SAUTER Vision Center is the management software solution used for visualisation and operation. It manages two central and five local mechanical equipment rooms with around 1,500 hardware data points. SAUTER modu525 automation stations regulate the HVAC installations. SAUTER ecos500 room controllers ensure good climate conditions in the many meeting rooms, conference halls and server rooms.



From automation to facility management

With the client highly satisfied with the building automation solution, this paved the way for SAUTER also receiving the facility management contract at the technology centre. During selection of the contractor, sustainability and economy of the operational and maintenance costs played a major role. Service-level agreements were drawn up with the client to meet the exact needs of the centre's diverse users.

SAUTER's facility management programme for Technology Centre Augsburg entails a variety of services that extend beyond technical building management and system follow-up controls – the professional team also assumes security responsibilities including patrol rounds, safeguarding two 20-tonne heavy-duty cranes and ensuring the smooth running of all events at the centre.

Short distances, fast response times

There are certain benefits to having building automation systems and facility management from the same source. An in-house technician from SAUTER is available all day to handle any technical concerns and promptly address any problems on site. Flexible responses to user requirements are therefore possible and FM processes are continuously improved.

Using touch-panel PCs at the main heating and ventilation operation point, the technician can manage the automated controls of each system in the centre. The technician coordinates the schedule for regular maintenance of all installations. As the point of contact for tenants, the SAUTER team is an important link between the research team, with their specific requirements, and the sophisticated automation technology.

The state-of-the-art HVAC installations – which allow the centre to run in the most efficient and environmentally friendly way possible – demand extensive expertise in technical building management from the SAUTER employees. This includes supplying heat to the entire centre using district heating and two heat exchangers, and cooling with ground water through suction and injection wells. Numerous re-circulated air chillers are installed for the IT and server rooms. Furthermore, SAUTER FM is responsible for managing the air-conditioning subsystems in halls and offices, each with over 100 variable VAV controllers and fire protection dampers.

Technology and know-how perfectly combined

Keeping operation of Technology Centre Augsburg at maximum dependability, economy and sustainability is a key part in the success strategy of the innovation projects located here. SAUTER's unique combination of technical expertise, experience and reliability in building automation and facility management make them the ideal partner in designing and maintaining the best environment needed for research and development.

A fortress for France's banknotes

For the Banque de France, maximum security and a functional workplace go hand in hand. In the north of France, a new hermetically-sealed building has been built. This is the "Centre Fiduciaire du Nord de France" and specialises in managing banknotes. Throughout the building, SAUTER building automation ensures optimum climate conditions while minimising energy consumption. Productivity is therefore high and occupants work in comfortable surroundings.

The new premises of the Banque de France in Sainghin-en-Mélantois, near Lille, has robots which handle, sort and check banknotes. As you would expect, considerable demands are placed on security. The architects of the "Centre Fiduciaire du Nord de France" therefore designed an enormous building with stringent security measures. The outer façade is without windows. Instead, daylight enters through a courtyard at the building's centre, ensuring lighting is evenly distributed.

The site is the first fully automatic money management centre in the Eurosystem. It has a floor space of approximately 6,000 m^2, making it roughly the same size as a football pitch. Despite its spaciousness, most rooms in this €40 million-euro building are controlled completely by artificial intelligence. Robots take delivery of incoming banknotes, bring them to sorting machines and storage areas and then finally place them onto security vans – the process is fully automated from start to finish.

Smart remote control

The Banque de France required a building automation system that was simple to operate. Not only did it need to provide optimum temperature, air and lighting conditions for employees, energy consumption also had to be kept as efficient as possible. With SAUTER offering its EY-modulo 5 range – an entirely BACnet/IP-capable system – and its extensive know-how in the field, the SAUTER solution was given the green light by planners.

Due to restricted access to the rooms, the Banque de France also sought a facility for remote monitoring and control of the whole installation – a central system for technical management on location, situated outside of the secure areas. The answer was SAUTER Vision Center. This is a web-based building management system which shows, at a glance, all the HVAC installations in a building. This means that on-site service technicians, no matter where they are, can use their smartphones, tablets or PCs to keep room conditions under control.

Rooms individually regulated for comfortable working

To provide an environment to suit each of the building's users, SAUTER room automation stations – ecos500 and ecos504 – were installed. These control the temperature and lighting in a room. ecoUnit 1

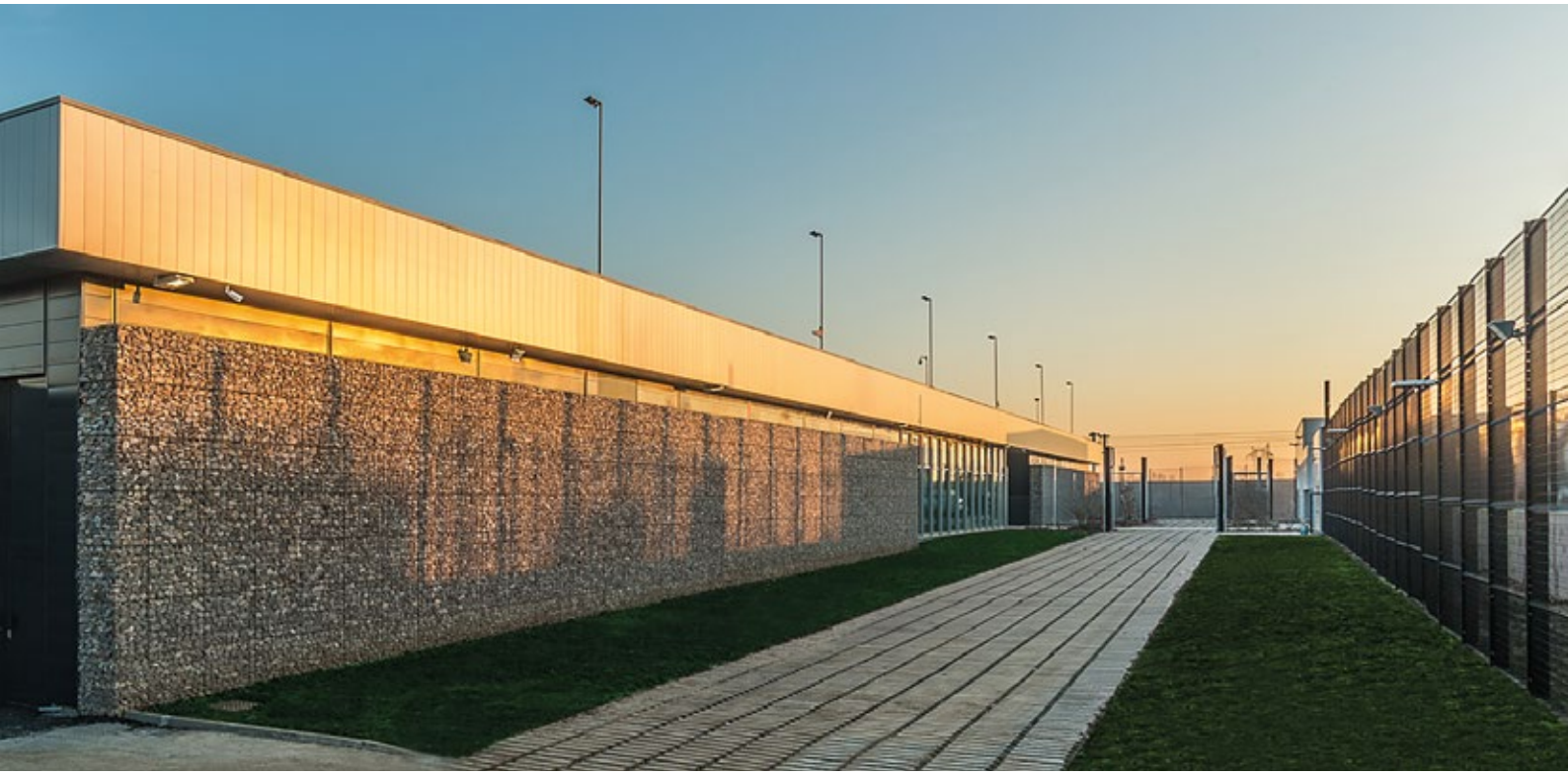
room operating units, featuring EnOcean wireless technology, are also fitted. They display an overview of current room conditions and allow the heating or cooling to be easily adjusted. Both artificial light and daylight is used to create a pleasant climate in every work area.

Automation for high energy efficiency

Low energy consumption is a requirement for becoming HQE-certified and helps minimise operating costs. This is hugely important to the Banque de France and so it has opted for a comprehensive solution which monitors and controls resource consumption. An energy module is installed, allowing the on-site facility manager to check freely the energy consumption of each system. The EMM directly integrated in SAUTER Vision Center relays consumption values in real time and records them. The user-friendly energy dashboard – showing the various key performance indicators – enables corrections to be made as required.

High performance and energy efficiency in perfect harmony

The intelligent, all-round solution from SAUTER not only creates ideal climate conditions for employees in this high-security building, it also maintains low energy demand. So low in fact, that the bank expects, in the very near future, to gain HQE and AFILOG certification from CERTIVEA. This building therefore demonstrates, quite clearly, how security, comfort and energy efficiency can all be fulfilled without compromise.



South Korea's first smart green building

LSIS is a leading provider of solutions for intelligent power networks based in South Korea. LSIS now has a new research campus near Seoul providing the company with the perfect opportunity to explore its own technologies even further. The SAUTER building automation stations also played a major role in this development.

When the five-time winner of the "Top 100 Global Innovator" award decides to build a new research campus, the standard is expected to be extremely high. Thus, when LSIS opened its new R&D campus in March 2015, this represented an important milestone for the South Korean company.

LSIS provides complete solutions for power supply, intelligent power networks (or "smart grids") and photovoltaics. The new research building not only illustrates the management's commitment to giving its employees a stimulating work environment. It also underscores the advantages of LSIS's own smart green building concept, where individual buildings form part of a wider, intelligent network. The challenge behind this idea – made possible by an energy management solution – was to incorporate the intelligent green building innovations into one extremely efficient overall system.

Innovation bred by communication, fun and creativity

The new LSIS research institute has nine floors above ground and three basement levels. It has a total area of more than 28,000 m^2 and workplaces for 660 staff. The layout of the rooms was planned specifically with communication, fun and creativity in mind – enabling employees to swap ideas and gain inspiration in diversely designed work areas.

LS SAUTER played a vital role in making this ambitious project a reality. LS SAUTER is a joint venture between LSIS and SAUTER and the sales partner for all SAUTER solutions in South Korea. The local team faced exciting challenges, particularly when tasked with interconnecting numerous smart grid and intelligent building technologies for the first time. However, the experience has been a treasure trove for everyone involved, providing substantial input for the R&D groups looking into the future of energy systems in buildings.

Many elements use the building's smart grid to interact with each other. These include a one-megawatt-class electrical energy storage (EES) system, photovoltaic installations, automatically controlled window blinds, LED lamps and intelligent sockets and consumption meters (smart meters). The integrated energy management system (BEMS) is responsible for managing and controlling the entire energy

requirement of these systems on campus. With EMS in place, LSIS promises to reduce annual energy consumption by 10% – or about 12 tonnes of oil equivalent (TOE).

Efficient generation, distribution and consumption

Refined and implemented jointly by LSIS and SAUTER, the smart green building concept employs innovative technology to maximise energy efficiency at all levels. For energy production, the building uses fuel cells – generating electricity and heat – alongside building-integrated photovoltaics (BIPV) and geothermal energy. The energy harvested by these methods flows through "smart cabinet panels" manufactured by LSIS. These central, intelligent switching points control energy demand and monitor important aspects such as electricity quality, electrical safety and operability of building installations.

Information and data regarding each subsystem – as diverse as building automation, lift systems, video surveillance cameras and heat pumps – flows through the SAUTER modular automation stations (modu525) to the BEMS. Important real-time data is added by SAUTER pressure, temperature and humidity transmitters.

A highly sophisticated BEMS

Customised to the specific environment by LS SAUTER, this BEMS demonstrates energy efficiency at various locations across the building. It allows operators to make any necessary adjustments from a PC, smartphone or tablet. The building automation system uses the power lines for network communication. All subsystems in the building are connected over this shared BACnet/IP network.

Energy consumption is also a key area. Electricity is saved with automatically dimming LED lamps and time/daylight-controlled window blinds that are connected over a LON. In addition, with frequency converters and adjustable AC actuators installed, pumps and fans consume up to 40% less energy.

Charging stations for electrical cars and bicycles are also available at the campus to encourage employees' sustainable mobility. Furthermore, a large energy storage system enables the EMS to retain surplus power. Thus, for example, when the sun is no longer shining or the tariff increases, power is released from the batteries.

A blueprint for future projects

From energy provision to distribution and use, LSIS's new R&D campus is geared entirely towards saving energy. A mix of sustainable, low-carbon energy sources and efficient systems reduce greenhouse gas emissions at many points in the building. The largest task was combining the numerous innovative technologies while satisfying energy demand and environmental considerations. However LS SAUTER and LSIS rose to the challenge, showing impressively that the idea of a smart green building can become a reality.

A good climate for creative surroundings

In Munich, where the largest dumpling kitchen in Europe once stood, now stands "Werk 3". This modern building with industrial charm offers space for offices, artists, shops and entertainment. "Werk 3" employs trusted building automation solutions from SAUTER to satisfy the various climate and security demands of its tenants and users.

A new district, known as the Werksviertel, is taking shape on a former commercial and industrial site in the east of Munich. Here, raw industrial constructions meet modern building technology. As the centrepiece of this vibrant residential, work and entertainment district, "Werk 3" opened its doors in May 2016. The impressive new building features rooms over four metres high, wide window fronts and generous spaces. Whilst its open design is undoubtedly jaw-dropping, this presents huge obstacles when it comes to air conditioning.

Precise engineering catering to different demands

The offices, studios, bars and clubs in "Werk 3" are spread over a total of 22,000 m^2 – in five adjacent building units, each with 6 floors. The tenants all have their own particular requirements. While the office employees need a pleasant and motivational room climate, the restaurants and dance clubs on the ground floor and in the basement require powerful smoke extraction systems that can be relied upon.

The planners wanted a comprehensive, easy-to-operate solution allowing the heating, ventilation, cooling and fire protection to be monitored and controlled from a central point. SAUTER employed its CASE engineering software to show exactly how the proposed solution would function, convincing the building's owner that SAUTER was the ideal partner for devising the intelligent automation solution needed. With SAUTER CASE on board, planning of the entire system went smoothly and management of the project ran like clockwork. The software's integrated knowledge library, for example, enabled successful solutions from the past to be called upon again and assisted the project team from planning, implementation and parameterisation, through to the final utilisation phase.

An all-round solution with first-class security

EY-modulo 5 – the SAUTER range installed in "Werk 3" – is a comprehensive system regulation package and controls the heat, ventilation, air conditioning and smoke extraction with the utmost efficiency. Powerful SAUTER room automation stations – in this case, the ecos500 – were also fitted to provide energy-optimised room control including demand-based lighting and window blinds.

In the evening, the trendy restaurants, bars and clubs on the ground floor and basement levels attract many guests. Whether enjoying pizza, apéritifs or having a dance, in the event of a fire visitors will remain safe. This is because the building's fire protection and smoke extraction dampers – seamlessly integrated using a bus system – are controlled and monitored by the SAUTER solution. Whereas the fire protection dampers close automatically to prevent fire and smoke from spreading to adjacent zones, smoke extraction dampers open as necessary, keeping escape routes passable and as smoke-free as possible.

A future-proof system

SAUTER's automation solution is dovetailed to the needs of the management, tenants and users of "Werk 3" while ensuring systems also run reliably and efficiently. Components from the established SAUTER EY-modulo 5 range are used. This has the added benefit that, as the planned Werksviertel expansion continues, the building automation can also keep pace.

New uses for old commercial space

The Munich Werksviertel is being built on around 40 hectares of land. The new district – located on a former commercial and industrial site – offers space not only for living and working, but also for leisure and culture. The planners expect to create 1,200 new apartments. Over the long-term, up to 7,000 jobs should be generated from this development. A hotel, a concert hall and a technology centre are also in the pipeline.

Health-care and nursing facilities in the Netherlands benefiting from innovative building management

For hospital patients and nursing home residents, the word "dependence" takes on a significant meaning. They depend not only on the expert knowledge of the doctors and nurses, but also reliable operation of the technical equipment. Building automation also plays a major part in ensuring the health and safety of patients and staff.

Treant Zorggroep constantly seeks to improve its facilities. It has many complex technical installations, including air conditioning units in operating theatres, negative- and positive-pressure controls in labs, as well as temperature and humidity control systems. Building automation is the key to the technical facilities used for Treant Zorggroep's health-care services. As several of its installations were outdated, in 2015 Treant Zorggroep decided to replace the building automation in two of its hospitals and one nursing home. A new, modern system will enable facilities to operate trouble-free for at least another 10 years.

Treant Zorggroep

Treant Zorggroep has three hospitals and 20 nursing and retirement homes serving 300,000 residents in the north of the Netherlands. The company provides medical treatments, nursing and geriatric care, and rehabilitation therapies, employing 6,500 members of staff and 250 specialist doctors.

A new type of tender

Treant Zorggroep chose a strategy of best value procurement (BVP) when inviting tenders for this project (see the information box for details). This is a new type of tender for building automation, with the quality of the end product the deciding factor. The price takes second place. Treant Zorggroep therefore gave quality a weighting of 75% when requesting tenders. Given the critical work environment involved, this is a decision that was wholly justified.

Round-the-clock operation

High-quality and extremely reliable installations are essential for running health-care facilities and nursing homes. If systems malfunction permanently – or even temporarily – patient care is jeopardised. Upgrading a system while in operation requires careful consideration. An exact plan is necessary, paying attention to the needs of patients and employees. The conversion process must fit in with the main duties of the health-care facility and nursing home departments. Firstly, the daily routines of each department being upgraded have to be determined. Measures are then jointly agreed upon for ensuring uninterrupted patient care.

Disturbance to patients and staff due to the work is kept strictly to a minimum. After completion, a short survey is used to assess how people were affected by the work.

The technicians are brought on board to analyse the results of the work schedules, with remarks considered in subsequent work schedules. Consultation between Treant Zorggroep and SAUTER is an ongoing process.

Conversion of the technical system automation has now reached the advanced stages at several locations. The automation stations are connected to the new SAUTER management system via Treant Zorggroep's network infrastructure.

Technology serving its users

SAUTER Vision Center (SVC) is the interface between the technology and user. This innovative platform provides an all-round solution for Treant Zorggroep. The building management system is completely web based and integrated in the company network. Access is secure. The system can therefore be operated from anywhere – including with a tablet or smartphone.

SAUTER Vision Center has a central user interface for integrated systems from various providers. SVC brings all of Treant Zorggroep's installations – old and new – into one uniform system. This increases efficiency and allows users at different locations to share information.

Best value procurement

When requesting tenders for the project, Treant Zorggroep decided on best value procurement. This procedure was developed by Professor Dean Kashiwagi from the USA, and the Netherlands is one of the first countries to adopt this innovative approach.

With BVP, the contractor works as a project partner and uses its expertise to guide the client in decision making. The contract is only finally awarded once the client is satisfied that the contractor has the right qualities for the project. In this phase, the plan for performing the work is developed in detail. The information given must satisfy the client and be verifiable.

Implementation phase

During performance of the work, the contractor reports regularly on the results of the project. The client is informed about progress using, for example, key performance indicators (KPIs). The project status can be seen at a glance on an easily understandable dashboard. This allows the client to be kept informed, regardless of their technical competency.

SAUTER Nederland's assessment of BVP

"We didn't know much about BVP but were really impressed by the basic concept. The BVP project with Treant Zorggroep gave us the opportunity to take full responsibility of the conversion work. As the contractor, this meant that we could make effective use of the resources and employees available and offer the client the best possible outcome. The BVP method resulted in us making changes, including how we manage projects. The technique is important with BVP, but more crucial is how it is applied and communicated. Optimum results are achieved by taking the client's perspective when working and providing our expertise. In contrast to conventional projects, preparations are made completely on-site. The involvement of employees therefore directly benefits each section of the project. We're sure that this type of tender is the shape of things to come." *Wietse Hut*

The smart way to recycle energy

The city of Zurich earmarked the Hagenholz waste incineration plant site for the construction of a certified logistics building boasting low energy consumption values. Energy efficiency plays an important role within the entire waste disposal facility and also had a hand in determining the most suitable building automation solution.

Heat and electricity is produced from refuse around the clock at the Hagenholz waste incineration plant. The administration staff now also work in a new logistics building on the same site. In line with its energy and environmental targets, the city of Zurich is deeply committed to higher energy efficiency and therefore designed the building to meet the stringent Minergie P-Eco standard.

The client required a building management solution clearly separating the control and regulation of all systems. Operations also had to be automated and monitored at a higher level. SAUTER was commissioned with planning and implementing the HVACS installations and ensuring that as much energy as possible is recycled.

Automation at heart

The spacious logistics building houses a parking area for waste collection vehicles, cloakrooms, a computer centre, office spaces, meeting rooms and conference halls. All service systems for heating, cooling and ventilating the building are fully automated. A BACnet-KNX gateway guarantees that data is exchanged reliably between the HVAC components, individual room controls and electrical engineering in the entire system.

The easy-to-use SAUTER novaPro Open system allows HVAC and room parameters to be displayed, monitored and adjusted at management level. Meteorological data is also integrated. All systems

throughout the site operate efficiently, thanks to the SAUTER EY-modulo 5 automation stations and the predecessor system, SAUTER EY3600. Through a particularly innovative feature, waste heat from the computer centre located on-site is used as an energy source.

Feeling comfortable all round

Good ventilation throughout the office is essential for staff welfare and comfort. EnOcean wireless technology integrates CO_2 and room temperature sensors into the SAUTER system. On detecting an increased number of people in a room, the system immediately provides that area with fresh air. Using data from the temperature sensors and setpoint adjusters, heated and chilled ceilings regulate the room to just the right temperature. Meanwhile, dew point monitors prevent condensation from forming on the chilled sail.

Compact SAUTER 6-way ball valves regulate the flow rate in the ceilings. Presence detectors fitted throughout the building ensures perfect lighting for staff at their desks or in meeting rooms. This means that lighting and sunshading are always adjusted to suit the current conditions.

Keeping individual preferences in mind

Staff can use the SAUTER room operating units to adjust the room climate as required. If, however, they need to dim the lights or open the blinds further, for example, the system parameters can be temporarily overridden.

All systems in the Hagenholz logistics building are monitored and controlled in an integral manner, meaning that the Minergie P-Eco new build is operated with energy efficiency at heart. The SAUTER intelligent automation solution is economical and features clever energy recycling. This helps to conserve valuable resources and enables the city of Zurich to achieve its sustainability goals.

© Stadt Zürich, ERZ Entsorgung + Recycling Zürich

Minergie standard

Minergie is a Swiss building standard and quality seal for new and refurbished buildings of all categories. In this standard, the construction quality of the building is graded by its energy consumption. The energy demand for each square metre of heated living space is used as the measure for this assessment. At the same time, it is important that people using the building feel comfortable. The Minergie P standard identifies and classifies buildings that aim to be even more energy-efficient (known as nearly zero-energy buildings). Eco stands for a sound and ecological design.
www.minergie.ch

Wireless and remote operation protecting historic site

After a thorough restoration of its interior, the Johanniskirche church in the German city of Zittau will now be somewhat cosier. An automation solution from SAUTER not only ensures comfortable temperatures inside, but also protects the historical walls and precious artworks of this 700-year-old building.

Whether for church services, weddings or concerts, the Johanniskirche can seat over a thousand visitors. However, as attendance varies for different occasions, this poses a major challenge for the heating.

The parish of St. Johannis in Zittau wanted churchgoers to feel warm – all year round and in any part of the building. A solution was called for that controlled temperatures in different areas of the church and yet was suitable for this extremely old building. Above all, the sensitive building structure and priceless works of art had to be protected from sudden temperature changes. The comprehensive and efficient concept put forward by SAUTER won the planners' approval immediately.

User-friendly and precise heat delivery

While being restored to its former glory, the floor was also fitted with fan coils and a hot water underfloor heating system. The Johanniskirche has a vast nave and high ceiling with multiple adjoining rooms. Several heating circuits were laid. The temperature in the nave can therefore be controlled independently of the other rooms. Further fan coils were installed in the altar and entrance areas, along with static radiators in the gallery.

A modular automation system, with components from SAUTER's EY-modulo 5 range, monitors, controls and regulates the heating installations precisely and efficiently. Whatever the event, the heating circuits work in perfect harmony and if any adjustments are needed, a nearby touch panel is at hand.

The ingenious system also has another trick up its sleeve: fully automatic remote operation. Before an event is set to start, time programmes defined in moduWeb Vision – SAUTER's web-based building management system – switch on the heating at just the right time to warm up the church where needed. This means that, if a small church service is taking place, only the front pew rows are heated. A total of ten individual control scenarios are in fact available for heating the church interior.

Slow heating for cosy atmosphere and protection of church

The SAUTER solution has a special feature to preserve the historical building and valuable artworks. It ensures that the temperature in the church never rises or falls by more than 1.5 kelvin per hour. Heating the floors, air and pews slowly guarantees a comfortable ambience for concerts and other events. And when an event ends, the heating isn't just switched off; the automation system lowers it slowly.

If malfunctions occur, maintenance firms are emailed automatically, allowing them to respond swiftly. These alerts are important not only for the safety of the walls and art works. They also enable the interior temperatures and relative humidity to be monitored in the long term and archived. Operators therefore have accurate records should they need to look back at past data.

© Heike Eisenhut-Schumann, Bau-Planung-Risch

Integrated solution for treasured historical monument

The SAUTER system is also used for energy management, thereby heating the church efficiently. By reading and analysing levels from the M-Bus-integrated meters, energy consumption is documented. If consumption rises unexpectedly, operators can take immediate action. The recorded data also enables the parish to charge event organisers for the exact amount of electricity and heating they have used.

SAUTER's intelligent solution keeps a watchful eye on temperatures in the St. Johannis church. Not only does it maintain a comfortable climate around the clock, it also maximises energy efficiency. Modern solutions such as EnOcean wireless components and web technology protect the valuable structure of the church. At the same time, accurate recording of conditions inside ensures that the heritage site and its art treasures are preserved – allowing them to be enjoyed by generations to come.

Historically significant

The St. Johannis church in Zittau dates back to the year 1291. It has been extended over the years and, after being destroyed in the 18th century, was completely rebuilt. Today, the classical interior is still true to its original design and abounds with historical treasures – a late romantic pipe organ, a rounded apsis niche with a statue of Christ offering blessings (a reproduction of the original by Thorvaldsen from the Church of Our Lady in Copenhagen) and a wooden pulpit with inlaid images.
www.johannis-kirche-zittau.de

© René Pech

An excellent display of teamwork in the football stadium

For fans of the local football club in the Slovakian town of Trnava, an award-winning, newly-built stadium is a great cause for celebration. The stadium itself however has even more to offer. From the shopping mall to the under-pitch heating, an integrated automation solution from SAUTER ensures intelligent collaboration of all HVAC systems in this multifunctional building

The Štadión Antona Malatinského in Trnava has a long history of hosting football matches. Games had been played there for almost a century when the decision was taken to build a new stadium. Between 2013 and 2015, and at a cost of 80 million euros, a multifunctional football stadium – seating capacity 19,000 – was built on the existing site at the centre of the historical old town. The complex contains restaurants, offices, a multiplex cinema and a shopping centre that attracts more than 16,000 visitors a day.

The City Arena is the most modern football stadium in Slovakia and meets the high standards set out by UEFA and FIFA. In recognition of its modern design, the Slovak Chamber of Civil Engineers named it "Building of the Year", while the national association of construction companies recognised its high quality design and construction work.

The stadium has an impressive appearance and employs state-of-the-art technology to allow the building to be used efficiently for a variety of purposes – all under one roof. With its attractive tender and

expertise in providing systems for sports facilities, SAUTER successfully secured the contract for planning and implementing the building automation in this challenging environment.

Every corner connected

A finely tuned system of components from the SAUTER EY-modulo 5 range ensures that heating, ventilation and cooling are used only when needed, can be monitored easily and optimised in terms of energy efficiency. This means that the operators of the City Arena can be certain that the installations interact as effectively as possible.

The HVAC installations are integrated in a BACnet/IP network with approximately 10,000 data points. The modular automation stations (SAUTER modu525) and compact stations (SAUTER modu521) fitted in the City Arena regulate, in particular, the use of multiple energy sources for demand-led heating and cooling. The new building is heated by 13 heat pumps and by district heating from the municipal plant, which is connected via two heat exchangers. In the summer months, heat pumps and cooling compressors ensure comfortable and refreshing temperatures in the building.

Always deploying the best tactics

The system draws on energy sources to suit the time of year, the weather and the tenants' individual needs, increasing operating efficiency where possible. Planners also included meters in SAUTER's complete solution to monitor heating, cooling, water temperatures and electricity usage. This data allows resources to be consumed economically.

The building owner required a multifunctional stadium which satisfied the demands of the various clientele and football fans. The integrated building automation system from SAUTER is the main player and ensures perfect conditions for unforgettable experiences – assisted round the clock by a building services team to ensure energy-efficient operation.

Three Austrian health centres benefiting from smart building management system

© NÖ Landeskliniken-Holding, citronenrot


© NÖ Landeskliniken-Holding, citronenrot

A few miles outside Vienna, the hospitals in the towns of Baden and Mödling are being upgraded with new, modern buildings. Proven technology from SAUTER will ensure that all areas of the hospitals – from the spacious atrium to the sterilised operating theatre – are run safely and hygienically.

With 27 hospitals and beds for around 8,000 patients, the Lower Austrian Landeskliniken-Holding is the largest hospital operator in Austria. The outdated infrastructure at the clinics in Mödling and Baden was the impetus for replacing the buildings at both locations.

Hospitals with operating theatres and sensitive technical devices have strict requirements regarding room climate and hygiene. The central building management system in the new buildings in Mödling and Baden therefore has the important task of maintaining the room conditions necessary. One of the reasons why the contract was awarded to SAUTER was that, being a specialist in building automation, it has considerable experience in fitting out hospitals and integrating systems from other manufacturers.

Consistent solution for each location

A newly built nursing and care home situated nearby, which also belongs to the group, was equipped with the SAUTER automation solution too. The three sites have a number of technical systems providing energy-efficient heating, cooling and ventilation. The hospitals have special medical facilities such as distribution systems for supplying gases to all patient rooms. Each and every installation is integrated seamlessly in the intelligent automation solution from SAUTER and can be monitored and controlled as necessary.

SAUTER's simple-to-operate building management system (novaPro Open) is installed at management level, allowing the on-site technicians to look after all systems from a central point. The customer especially wanted to standardise the maintenance procedures by using the same structure of field, automation and visualisation levels at the three locations. SAUTER integrated around 13,000 KNX data points in each hospital, enabling monitoring, visualisation and control to be as comprehensive as possible.

© NÖ Landeskliniken-Holding, citronenrot

Open-plan architecture and safe treatment areas

The six three-storey pavilions at the Baden and Mödling clinics have an open and well-lit design. Particularly challenging, for example, was the discrete installation of numerous room sensors in the glass foyer in Baden. In addition, long-range nozzles provide a pleasant and constant supply of fresh air to all reaches of the foyer which is 16 metres high in places.

Hygiene is of utmost importance for surgeons performing operations or the treatment of patients in quarantine. Full integration of numerous SAUTER automation stations (modu525) ensures reliable intelligent unitary control – even in sensitive areas. During quarantine, a negative pressure is guaranteed in the room used for isolation. The SAUTER solution therefore prevents dangerous germs from escaping when the door of the room is opened.

Sustainable running of the hospitals

A pleasant and safe environment for both the patients and employees was the main priority when the hospitals were planned. However, optimum use of the resources available was also desired. Energy and heat are therefore supplied by dedicated heat pumps, an energy recuperation system and a connection to the district heating and cooling network. The buildings are cooled naturally, which is a particularly environmentally-friendly, energy-efficient and cost-effective alternative to conventional refrigeration requiring electricity. And finally, the intelligent building management system – SAUTER novaPro Open – with its standardised tools also greatly assists the technicians, providing support for their day-to-day duties at each of the three sites.

"Cheers" to tradition and modernism in Munich

In December 2016, management of the Paulaner brewery will be moving to a new and yet old location. The modern building extension in the centre of Munich elegantly embraces the historic "Zacherlbräu" brewery. It is also highly energy-efficient.

The history of the Paulaner brewery on Munich's Nockherberg is long and rich in tradition. In 1627, the Paulaner monks settled in the monastery "Neudeck ob der Au" and began brewing shortly thereafter. Following the secularisation period, Franz Xaver Zacherl acquired the brewery, expanding it gradually until it reached its current size. In 1816, the building was constructed in which the new Paulaner head office will be located. SAUTER was given a challenging task – minimising the energy consumption of the new building with its old core.

Interconnected inside and out

Paulaner's new headquarters has offices for around 250 staff as well as areas for events and conference rooms. A banquet hall and restaurant are located in the basement. Observing the building work reveals a sophisticated concept. The architects have preserved the listed façade, the gateway and the cellar of the original "Zacherlbräu". A new, modern building with flat roof encloses and flows into these historic elements.

In this multi-part fusion building, the heating, ventilation and cooling needs to be monitored and controlled centrally. Paulaner had a networked, all-round solution in mind. The SAUTER system – completely BACnet/IP-capable – not only impressed the building's developers but also the specialised equipment company supplying the building automation solution.

Low energy consumption through automation

Resource efficiency in the new building is maximised by components from the SAUTER EY-modulo 5 range. The SAUTER Vision Center software solution records all data for the whole building and energy management system, enabling users to access it anytime and anywhere. SAUTER modular automation stations (modu525) and SAUTER room automation stations (ecos504 and ecos500) control the heated and chilled ceilings intelligently and maintain energy consumption to a minimum. The SAUTER system achieves this by using current meteorological data and analysing weather and temperature forecasts. It then adjusts operation in line with the heating and cooling demands projected.

Temperature conditions are comfortable in both the historic and newly-built sections of the building. This is down to an innovative heating and cooling system. A spring water heat pump in the basement and an air heat pump on the roof generate the heat needed for the building. SAUTER Vision Center ensures coordination between both pumps, thus providing maximum effectivity.

Back to the beginnings

Paulaner has its roots in the Au district and the move in December 2016 will essentially be a return to its birthplace. In the year 1634, the monks of the Paulaner Order first started brewing beer. In contrast to the friars at that time, today's workers enjoy a comfortable work climate all year round. This is due to the smart, energy-efficient building and room automation solution from SAUTER.

Paulaner beer flowing for nearly 400 years

After being founded, the brewery remained at the foot of the Nockherberg for almost four centuries – a name now synonymous with quality, tradition and the art of brewing. In recent years, however, Paulaner has reached the limits of its capacities in this venerable location – in every regard. So in 2011, the brewery decided to move to the western part of Munich, where the space and logistics were available for a larger brewery. Since September 2015, brewing has resumed here – upholding, of course, the same tradition and quality as at the Nockherberg.

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