SAUTER
FACTS

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SAUTER
Creating Sustainable Environments.
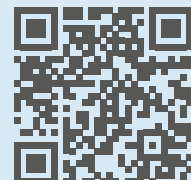
Dear Customers and Business Partners,
Dear Readers

Welcome to the latest issue of SAUTER FACTS. Without divulging too much, you can expect a magazine full of impressive innovations, new partners being introduced and interesting reference articles.

The development of the new SAUTER building automation system — modulo 6 — is representative of the market's digitalisation. Connecting buildings using cloud and IoT technologies is turning system and network security into a challenge. On pages 10–13 you can read about the measures that we are taking to meet this challenge and the role played by "blockchain technology" in this regard.

It's no secret that a comfortable room climate (lighting, air quality and temperature) affects both people's well-being and their performance. With this in mind, we have created "SAUTER ecoHeat". This self-learning heating control adjusts the room climate perfectly while also reducing energy consumption by up to 25%. Find out more on pages 16/17. In our article about the Nivy Tower, we showcase a striking new building project. The Nivy Tower is currently the highest building in Bratislava (Slovakia). All details can be found on pages 32/33.

A further example of SAUTER's innovative drive is the new IoT-capable "Smart Actuator". Combining a regulator and actuator in a single device, it controls heating/cooling circuits autonomously. It delivers operating data via IoT to the SAUTER Cloud for system inspections, thereby simplifying the maintenance process (pages 8/9).

SAUTER keeps on growing and so it gives me great pleasure to welcome two new subsidiaries in Great Britain and Ireland to the SAUTER Group. With its majority shareholding in "Wren Environmental Limited", SAUTER has gained an important strategic partner. In Greater London and the south-east of the UK, Wren is one of the largest companies in technical facility management. We are also pleased to welcome "Sirus" to the SAUTER Group — Ireland's market leader in building automation.

In this issue we take you on a trip to one of the world's most popular leisure parks: the Europa-Park in Rust, Germany. The Europa-Park offers visitors entertainment and a whole range of overnight stay options — 18 different themes in all, comprising 100-plus rides over an area of 950'000 square metres. A particular highlight is "Hotel Krønasår", built

in the style of a natural history museum with a Nordic ambience. Here a provider was sought for planning and installing the building automation while also taking care of energy management. In the "SAUTER highlights" section starting on page 22, we tell you how SAUTER secured this contract and which of our products feature in the project.

We also aim to continue presenting you interesting articles on building automation. Please could we ask you to take 5 minutes to answer the questions in our brief survey. This way, you'll help us shape the topics in the next issues of SAUTER FACTS to match your own particular interests.

I wish you a stimulating read!

Yours, Werner Karlen, CEO

„SAUTER modulo 6 will make it possible to combine old and new technologies."

David Cultrona (UBS) talking to Christian Villar (SAUTER)

David Cultrona, UBS Group Corporate Services, Switzerland

Mr. David Cultona is the representative of the general contractors for the West Region at UBS Business Solutions AG. He is the referent for the energy and technology part of building automation in the West Region. For more than sixteen years he has been working with the bank.

His main activities are the management of construction projects and the interface between the bank's employees and external service providers.

Innovation

UBS is Switzerland's premier bank. It celebrated its 150th anniversary in 2012 and employs more than 60,000 staff throughout the world. Its network in Switzerland comprises some 280 branches. Part of the bank's property portfolio (branches/administrative buildings) is equipped with SAUTER control systems. We asked Mr. David Cultrona, Facility & Provider Manager at UBS in Renens (Switzerland), about his requirements pertaining to building automation systems.

In recent years, you have made significant changes to your various branches in Switzerland. What were the reasons behind this?

In the early 2010s, UBS completely restructured its entire branch network in Switzerland to meet its customers' changing needs. As a result, all our premises have received an identical, modern and contemporary design, making the bank easier to identify. A more pro-active and user-friendly welcoming philosophy accompanied these architectural changes. SAUTER systems were already running in a number of branches. SAUTER could thus fill the role of our supplier since it met the technical criteria required and what we expected financially.

In fact, SAUTER's various room management solutions are perfectly adapted to the modular structure demanded by our new brighter and more open workplace concept.

UBS

UBS is a major Swiss bank with headquarters in Zurich. It is one of the world's largest asset managers.

UBS is represented in 50 countries and in all of the important financial centres. The number of employees in the Group worldwide is more than 67 000 – around 31% in North and Latin America, 32% in Switzerland, 19% in the rest of Europe, the Middle East and Africa, and the remaining 18% in the Asia-Pacific region.

What makes modulo 6 future-oriented?

Communication standards have evolved a great deal over the last fifteen years. This new product will make it possible to combine old and new technologies and will support the digital transformation that we are currently experiencing.

What would a tailor-made solution for UBS look like?

We could see a multitude of practical and economical features that would also be operability-based. If we were able to improve convenience through factors such as room occupancy and resource planning, this could provide significant added value in terms of energy savings and user satisfaction. This would also optimise operating costs.

Integration in the IoT (Internet of Things) makes systems increasingly complex and security is becoming ever more important. How do you think you'll be able to solve this problem with modulo 6?

It's clear that a large quantity of information will have to pass between the IoT and automation systems. I therefore think it is necessary to encrypt the data where possible or physically process it in separate networks. Thanks to modulo 6, both are possible. The system can communicate with two physically separate networks simultaneously. This creates an internal network for automation stations with unencrypted communication which is independent of the remaining network. It also has access through the main network to the data with encrypted communication.

How will modulo 6 affect existing systems? Will modulo 6 make them obsolete?

No, I don't think so. SAUTER has always had continuity of its systems in mind by allowing backwards compatibility of both hardware and software. But here it's a question of making modulo 6 coexist with different product ranges that are already communicating – especially in BACnet/IP. This new system thus extends the life of the various technical installations such as heat production, ventilation, management of blinds and so on.

What are the current requirements for a building automation system from the operator's point of view?

Our various buildings need continuity between the different automation generations. But we demand even more from a BMS. Today, autonomous smart systems for private home automation are already available. Our users thus expect an equivalent level of convenience in their workplaces which are all open plan. They require a system that is powerful in terms of functionality. At the same time, however, it must be simple for the end user and feature convenient installation management for our facility management staff.

How does digitalisation change the work and activities of facility management (FM)?

Operating a property portfolio such as ours is complex. We have different systems in place for room management. This data could be used to run our multi-technical infrastructures and be shared with our FM service provider.

What are the resulting technical requirements?

Due to the significant investment involved, continuous digitalisation and multi-sector BIM modelling remain difficult to implement in existing buildings. For new UBS projects, we always address such matters and dovetail them with the requirements set out in the specifications.

Investment sustainability is another current buzzword: what requirements do you associate with it?

Every owner, of course, wants his or her investments to retain their value for as long as possible. At the same time, however, people want to have the latest innovations at the best price. This can be achieved, in particular, through flexible replacement over time and different product ranges or automation system generations working in parallel.

Many thanks, Mr. Cultrona, for such an enlightening interview. We wish UBS every success, and to yourself as you manage its properties and continue to secure their value.
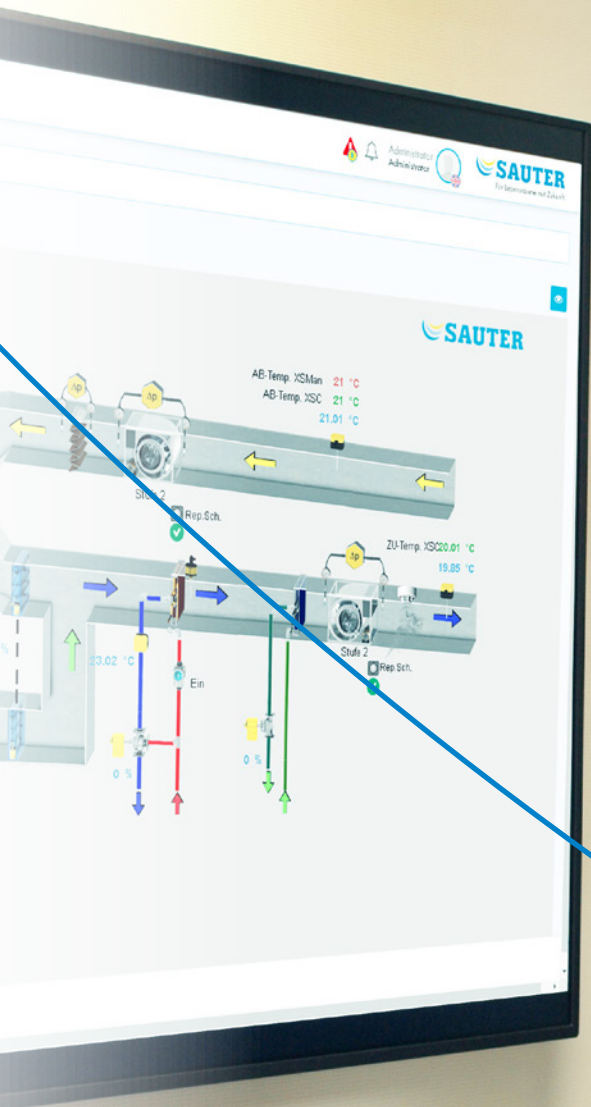
SAUTER Smart Actuator – Flexibility combined with predictive maintenance

The digital transformation is affecting field devices in building technology. This also applies to valves and actuators for regulating and controlling water as a medium for heat and cold energy. In line with its digitalisation strategy, SAUTER has added the new generation of IoT-capable Smart Actuators to its trusty range of actuators.

Attuned to any application

Top priority during development was flexibility for the user. The Smart Actuator enables the heating, ventilation and air-conditioning regulation to be performed, autonomously. SAUTER provides cloud-based configuration data for controlling various components – heating and cooling circuits, ventilation system heating and cooling registers, and heated and chilled ceilings in the many rooms. When setting up individual plants, installation technicians thus have a vast array of tools at their fingertips. Commissioning then follows through simple configuration in the MobileApp. Operating data is visualised graphically via the SAUTER Cloud, allowing operation to be optimised online with this sophisticated app.

Valve and damper actuators are key components in energy distribution. They are deployed in heating and ventilation systems as well as room automation. Time and again, traditional systems present challenges during installation. These include checking complex wiring in the commissioning process and a fire load that increases with every metre of cable that is laid. The individual regulation functions in the automation stations also take time to program. Not to mention the lack of real time operating information regarding the actuators which hinders the early detection of faults.

Full connectivity ahead!

In the simplest case the wireless network (WLAN) is used, with the SAUTER Smart Actuator conveniently integrated directly into the cloud. Small plant operators in particular benefit from smartphone monitoring and control of their systems through the SAUTER Cloud. Further communication interfaces offer users connection options for all applications. This flexible Smart Actuator features RS-485 and WiFi interfaces, allowing integration in BMS networks. If a BMS (building management system) network already exists, integration is possible through BACnet/IP, MS/TP or even Modbus. Two universal I/Os enable more sensors or actuators to be connected. The optional I/O box can extend the range of applications: the Smart Actuator then regulates the energy flow in individual room control – or heating or cooling generation – with automatic hydronic balancing, for example.

Predictive instead of reactive maintenance

SAUTER Cloud Services range from commissioning to plant monitoring (inspection) to optimisation (adjustments) and predictive maintenance. Central to these services is continuous inspection that takes in, for instance, valve leakage, pressure surges and wear. This is possible through additional sensors on the Smart Actuator that record information on its state which is then transferred to the SAUTER Cloud. Here the data is analysed by comparing it to reference values. The actuator's current state can thus be retrieved at any time, allowing maintenance work to be scheduled in a timely manner.

Furthermore, the system takes this data as a basis for recommendations regarding user actions. It therefore indicates not only when specific regulating functions must be checked but also the valves themselves. This means that components can be replaced before faults occur or the entire system comes to a standstill.

The solution for a multitude of challenges

The IoT-capable SAUTER Smart Actuator is an intelligent solution for distributing energy in smart buildings. With its connector system and pre-installed wiring, commissioning is also quick and error-free – installation time can be cut by a third of the usual time needed while mechanical, coloured coding eliminates wiring faults!

When compared to a standard installation with controllers and valve actuators, the size and cost of the control cabinet fields are also reduced. And because it requires less wiring, the fire load of the Smart Actuator is lower as well.

All in all, the user benefits from shorter project times and decreased costs overall when setting up and commissioning the plant. With data continuously analysed in the cloud, time-consuming manual inspections during maintenance are no longer required. This means that unscheduled, cost-intensive plant standstills become a thing of the past, too.
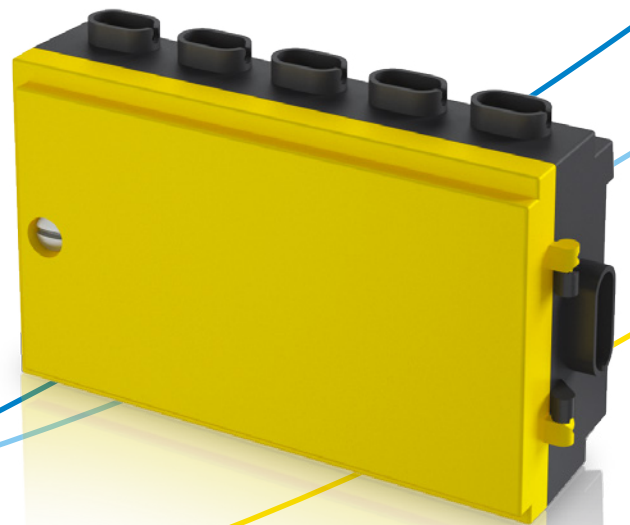
Innovation

Further information about this article:
www.sauter-controls.com/smartactuators/en

SAUTER blockchain for building automation

With the rise of bitcoin, the digital Internet currency, blockchain technology has suddenly become more than just hype. Internet giants are planning their own digital crypto currencies and threatening the traditional world of key currencies and banks. Alongside these megatrends, SAUTER is taking a different approach and is aiming for a more "peaceful" use of blockchain technology - to protect the data and processes used in building automation.

A blockchain is a decentralised database that maintains a steadily growing list of records. With Bitcoin, this database is extended with every transaction, thus building a chain that is constantly having new elements or blocks added (hence the term blockchain). When a block is complete, a new one is created containing the digital fingerprint of the previous block. If someone deletes only a single element in this data block chain, the fingerprint of the affected block changes and thus the whole blockchain would break up into the individual links of the chain.

A special feature of Bitcoin is that each transaction is checked again before it is written to the Blockchain. Every computer in the Bitcoin network can see that subscriber A wants to transfer bitcoins to subscriber B. The computers in the network then check whether the transaction complies with the rules and whether A also has enough bitcoins. When, and only when, all participating computers agree that the transaction is valid, it is then entered in the blockchain with the chain permanently securing it against forgery.

However, the validation and viability testing process is extremely CPU-intensive. The IPO of a number of large bitcoin companies made it possible to determine their power consumption and extrapolate this for the entire bitcoin network. The conclusion was that the bitcoin cryptocurrency now requires around 46 terawatt hours of electricity per year for its computer operations. This energy demand causes about 22 megatonnes of carbon dioxide to be emitted yearly. This equates approximately to the CO_2 footprint of Hamburg or the whole of Sri Lanka.

SAUTER deploys blockchain technology in its own unique way – linking its automation stations in a building network and creating a blockchain ring. The computing resources used and the extra communication data that results are extremely modest. There is no such excessive power consumption, just an increase in data security!

Cybersecurity in the age of IoT (Internet of Things)

SAUTER has described the security levels attained by modulo 6 for networks and system components in the modulo 6 Guideline for Cybersecurity. This specification allows the current security level to be determined for plants that may require special protection and, if required, to increase these through targeted measures.

Blockchain ring formed by automation stations

modulo 6 has had a high level of protection built in from the beginning. The automation station offers a completely separate network interface from the building network. This creates a type of firewall between the internet and building network. Encryption, authentication and access protection are guaranteed by proven security technologies (TLS 1.3, IEC802.1X, etc.) and the network interfaces are already well protected against DOS attacks at automation level. Therefore, processes can be observed, limited, isolated or even stopped if needed. modulo 6 is also equipped for the BACnet/SC (BACnet Secure Connect; find out more on page 14/15) security standard planned for 2020. This means that we have more than adequately covered IEC basic requirements 1, 2 and 4–7. Only for requirement 3, i. e. ensuring system integrity, did we think that existing measures were still unsatisfactory. System

"With the development of its new building automation system, modulo 6, SAUTER has opened the doors to cloud and IoT technology. As buildings are connected to the IoT and the cloud, system and network security is becoming a major challenge. To overcome this, SAUTER has based the cybersecurity concept for modulo 6 on the new international standard for industrial automation, IEC 62443. The IEC standard defines seven fundamental requirements and four security levels for cybersecurity (see Tables)."

Dr Felix Gassmann, Head of "Technology"

The seven fundamental requirements as per IEC 62443

1.	Identification and authentication
2.	Usage control
3.	System integrity
4.	Confidentiality of data
5.	Restricted data flow
6.	Prompt response to events
7.	Availability of resources

Security Levels as per IEC 62443

Security Level 1:

Random misuse

Security Level 2:

Deliberate attempts with basic resources

Security Level 3:

Intentional attempts, but with more advanced knowledge and more extensive resources (e.g. hackers specialised in building automation with extensive financial resources, or a contract)

Security Level 4:

Targeted attacks, but with specific knowledge and substantial resources (government-mandated secret services, for example, Mossad attack with Stuxnet on Iranian uranium centrifuges)

Healthy Devices

AS-4 Failure, Warning

AS-4 Alarm & Self Healing

AS-4 Alarm & Isolate
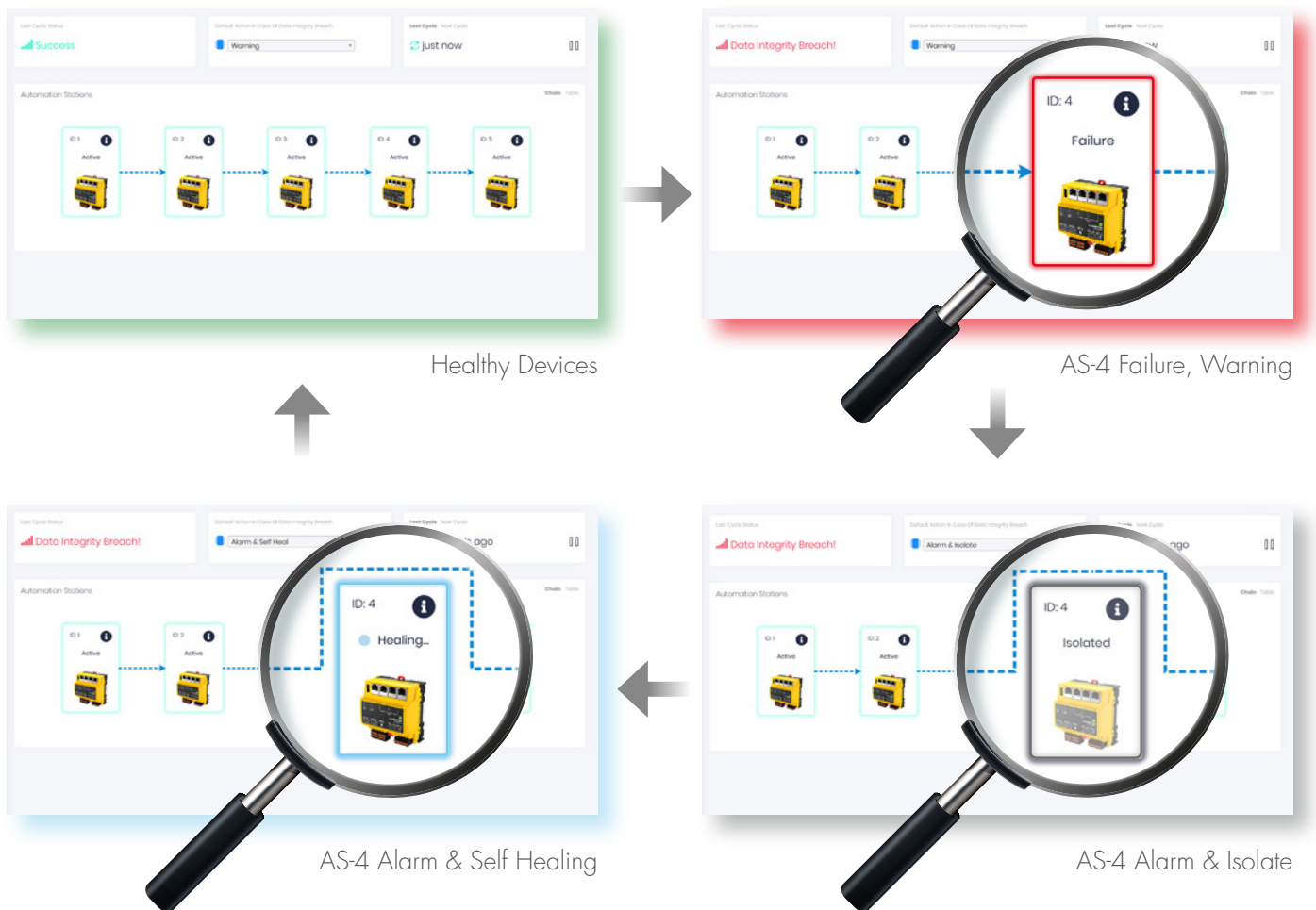
integrity could also be described as the "intactness of data" or "protection against unauthorised modification of data". Examples of this might include changing audited measurement and process data or interference in automation programs. Such data modifications could even be caused by the company's own service staff – unknowingly and completely by accident.

When we think about the bitcoin and blockchain principle, we initially visualise the security of data transactions or payments. Beneath this dynamic transaction level, however, is a static, distributed blockchain-secured database – a kind of "ledger set in stone of all existing transactions". SAUTER is now translating this principle into the world of networked building automation and developing its own Blockchain process. The idea is simple: The static data of the automation stations in the network form a kind of Blockchain ring. Each automation station generates its digital fingerprint. This is based on its own data and on a fingerprint of the previous station in the blockchain ring. The block data typically consists of programs, firmware and process and

network parameters. Simply put, each station uses its own data to form a block in the blockchain. If the integrity of the data in a station is infringed (deleting or changing a single bit is all that it takes), the blockchain collapses immediately.

In the event of a breach of the blockchain's integrity, the SAUTER's systems responses are:

a) Trigger an alarm
b) Trigger alarm and isolate affected station
    (and assume emergency signal state, for example)
c) Trigger alarm, isolate affected station and initiate
    automatic self-repair

Action c) requires the creation of a digital twin for every station during commissioning. These twins (a copy of all static data) are saved in an encrypted database. They can then be stored on a dedicated automation station, local computer or in a data centre/the cloud.

SAUTER blockchain ring

HC = Hash Code

Cloud signed

HC-0 | Genesis Block

Twin AS 1
Twin AS 2
Twin AS 3
Twin AS 4
Twin AS 5

Match!

HC-5 | HC-5

AS signed

HC-0 | HC-1   HC-1 | HC-2   HC-2 | HC-3   HC-3 | HC-4   HC-4 | HC-5

AS 1   AS 2   AS 3   AS 4   AS 5
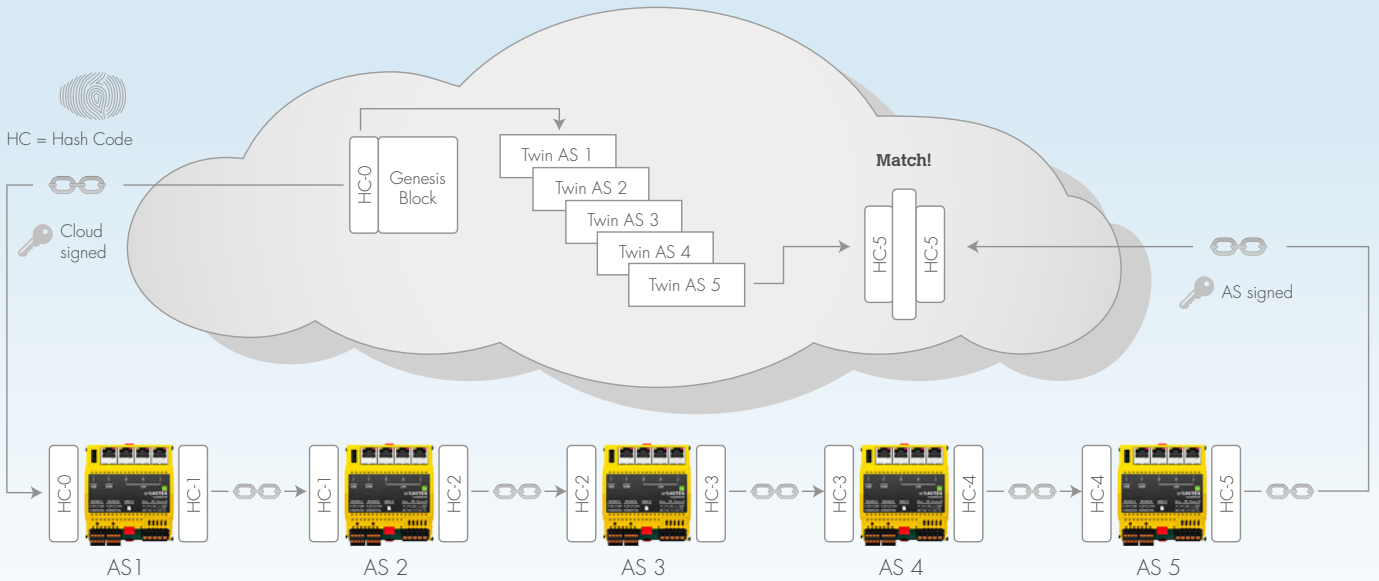
An advanced procedure for the SAUTER blockchain allows us to distribute the twins randomly among the existing stations. This completely does away with the need for an additional database computer.

The self-repair process is particularly useful, especially during routine servicing. If an automation station is replaced, the data validated during commissioning is guaranteed to be transferred uncompromised.

The procedure has now been submitted as a patent and passed an international patent search. SAUTER has thus achieved a unique security level for the important system integrity requirement stipulated by IEC 62443.

Further information about this article:
en.wikipedia.org/wiki/Blockchain

Innovation

Increased security in building networks

Since the publication in 1995 of BACnet, the international building automation protocol, more than 25 million BACnet devices have been in put into operation around the world. Until recently, BACnet/IP networks were run completely separately from other IT networks in the building infrastructure. Under growing pressure for synergies, specific demands emerged from IT experts – BACnet should, in future, follow the rules of co-managed IP network infrastructures. In particular, the following aspects of BACnet came in for criticism:

- BACnet does not have any integrated data security and encryption mechanisms.
- BACnet requires fixed IP addresses, particularly for the specialised broadcast managers (BBMD: BACnet Broadcast Management Device).
- Excessive use of IT-managed IP addresses can lead to high rental costs for the infrastructure.
- IT managers detest the data transfers (broadcasts) generated by the BBMDs which can spread across the entire network.
- The use of BACnet routers is perceived as additional unmanageable routing – an unacceptable situation for most IT managers.

All these obstacles can be overcome using technical and organisational measures. They require, however, significantly increased work during commissioning and maintenance. The BACnet Working Group responsible (SSPC-135 IT-WG) has addressed these topics intensively over the past five years and gradually corrected the issues raised. The result is a new BACnet data link known as BACnet/SC (Secure Connect), with its communication mechanisms based wholly on accepted IT best practice. Fixed IP addresses are no longer essential and BBMDs have been eliminated from the concept. Above all, a new data link layer is used, operating with encrypted WebSocket connections. To put it in simpler terms, BACnet/SC makes it possible to establish secure communication links between BACnet devices both via the cloud and within systems. With TLS 1.3 (Transport Layer Security), BACnet/SC employs the latest security technology and is easily integrated into existing modern IT infrastructures. The crucial point for the building

Dr Felix Gassmann

technology industry is that BACnet/SC retains all the functionalities of BACnet/IP. It is also backward-compatible with all existing BACnet implementations and devices. This does, however, involve significant outlay for manufacturers in developing BACnet/SC-capable equipment. Furthermore, handling encrypted communication means processors have to work harder and the devices must have the computing power to manage it.

On 19 November 2019, BACnet/SC was released in addendum bj for ASHRAE standard 135-2016.

BACnet Secure Connect
Virtual data link

IP-centred view
- The entire BACnet is an "application" including the BACnet/SC BACnet data link
- WebSockets are the "application level"
- TLS & TCP make up the "transport level"
- IP or IPv6 are the "internet level"
- On the "link level", every data connection technology that supports IP or IPv6 is possible: Ethernet WLAN, 4G/5G

Application	BACnet application
	BACnet application level
	BACnet network level
	BACnet/SC
Application level	WebSocket / HTTP
Transport level	TLS V1.3
	TCP
Internet level	IP / IPv6
Link level	Every data link for IP or IPv6
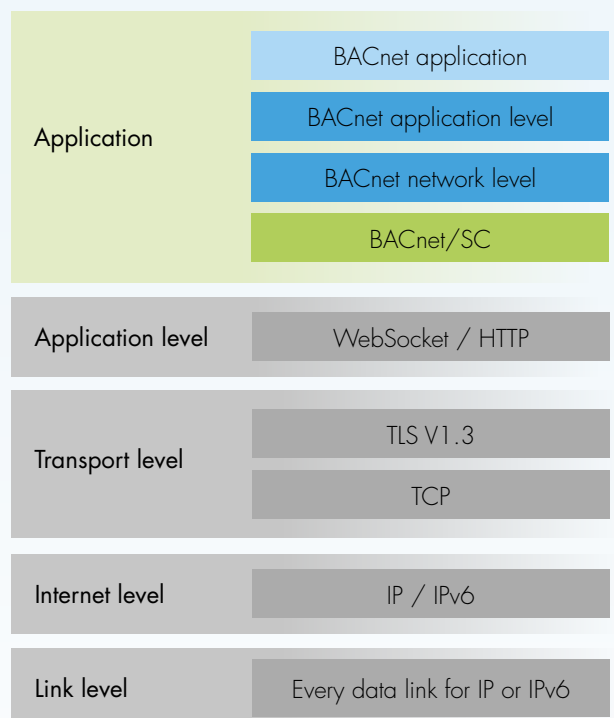
Further information about this article:
www.tinyurl.com/uwz2sgo

ecoHeat Control – the right temperature at the right time

It's a matter of individual subjectivity whether someone finds an office or classroom too hot or too cold. Studies, however, have shown that the right temperature affects not only the feeling of well-being but also cognitive performance. This is where ecoHeat Control comes into play, the intelligent control from SAUTER. In schools or office buildings, for example, it adjusts precisely the amount of heat generated to current requirements. What is more, energy consumption can be reduced by 15 to 25 per cent with this innovative, self-learning system.

Today, state-of-the-art, energy-saving control is essential in building technology. It allows, for instance, the heating in offices and school buildings to be turned down at night and the weekend. This stops the unnecessary waste of energy. Heating is time-controlled and switches to set-back mode when the building is not in use. It returns to normal mode in the morning, ensuring comfortable room temperatures again. This practice is tried and tested and yet employees and pupils still sometimes arrive on Monday mornings and find that their rooms are too cold.

Or too hot even – because the central heating and room thermostats are battling each other: the central heating is turned down to let the rooms cool, but the room thermostats respond by increasing flow through the radiators. This means that the target temperature in set-back mode is never achieved. The rooms therefore remain too warm at night and over the weekend.

The best climate for every room

ecoHeat from SAUTER provides a solution for retrofitting existing heating systems. The centrepiece of ecoHeat involves linking two key aspects: measuring the temperatures in reference rooms and optimising heating control.

Wireless temperature sensors are installed in selected rooms. The automation station in the heating control system – for example SAUTER modulo 6 – processes the temperature measurements from the reference rooms. SAUTER ecoHeat takes these values, and information from the occupancy plan, and calculates the optimum supply temperature. It then adjusts the circulation pumps of the heating circuits, without a heating curve needing to be set during commissioning. Before work or school finishes, ecoHeat determines optimum switch-off time automatically and the heating is set to the reduced mode desired.

SAUTER ecoHeat Control – a self-learning system

An invaluable benefit of ecoHeat is that it adjusts to prevailing conditions by itself. An automatic start-stop mode calculates the correct switch-on time for the heating, allowing the precise room temperature to be reached in time for the next school or working day.

The example shows ecoHeat reducing the supply temperature in set-back mode. It does this by closing the control valve and shutting down the circulation pump. The room temperature drops to the set-point required, then reaches the desired comfort temperature again before school or work resumes.

Another plus about ecoHeat is that it is not limited to use with SAUTER modules. It is also suitable for retrofitting heating controls in buildings with components from other providers. To sum up this control system from SAUTER offers potential savings on two levels – both ecological and financial. And when combined with SAUTER modulo 6, there are even further rewards to be gained.
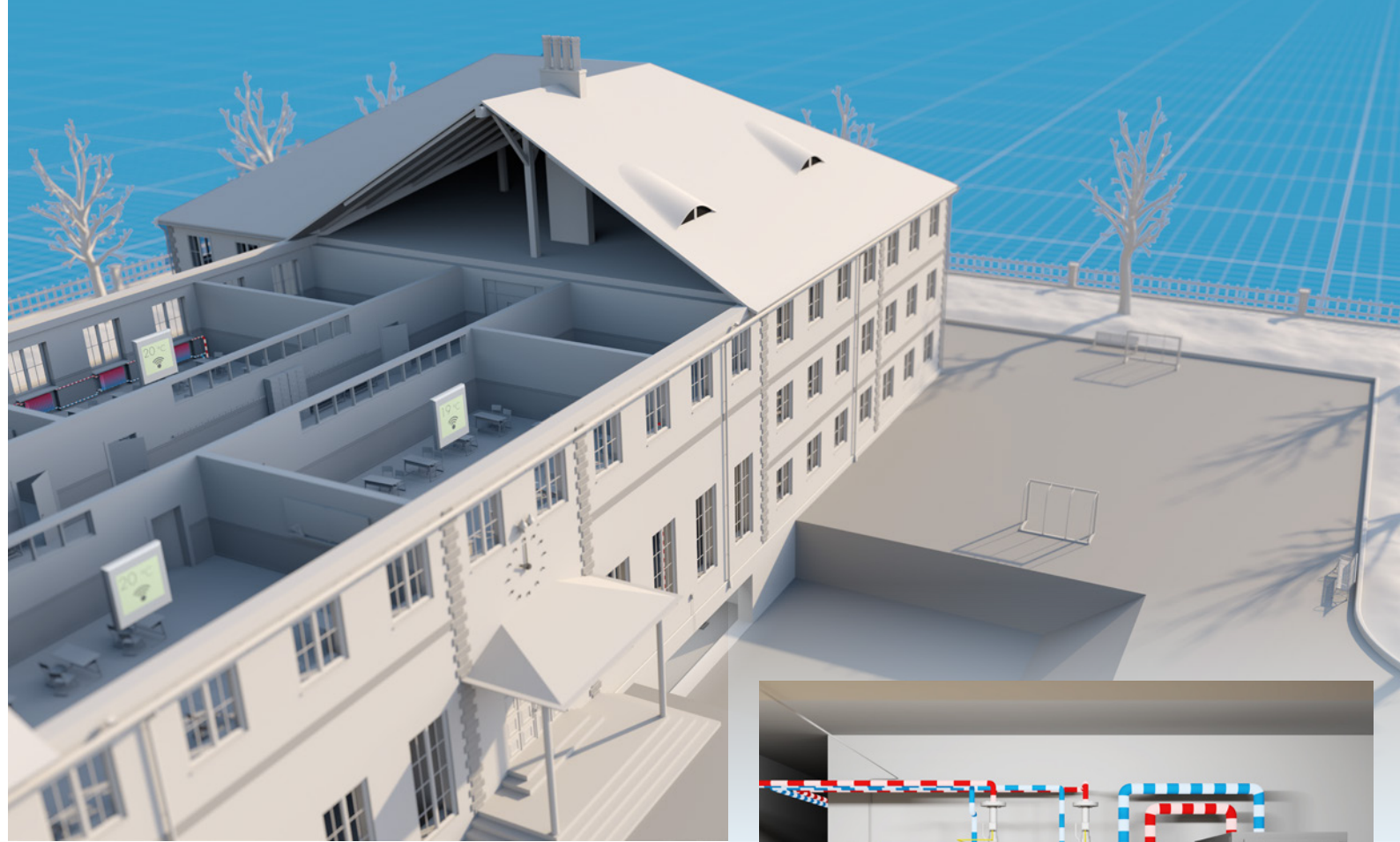
One advantage after another

As an IoT- and cloud-capable automation station, modulo 6 from SAUTER can handle multiple processes in parallel and perform different applications on one device simultaneously. The options range from controlling individual rooms to automating buildings over dispersed locations. This is all possible due to large memory capacities and high processing speeds.
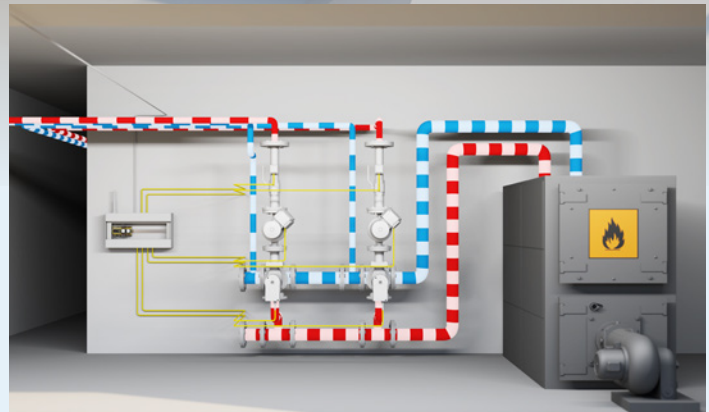
SAUTER ecoHeat

Innovation

Further information
about this article:
www.sauter-controls.com/ecoHeat/en

SAUTER UK extends capabilities with acquisition of Wren Environmental

SAUTER UK has completed the acquisition and merger of Wren Environmental Limited (Wren), an established player in the provision of building services and technical facility management (TFM). Wren´s experience of reactive and planned maintenance alongside its specialist expertise in compliance and public health requirements are complimentary to SAUTER´s proven building management system (BMS) business.

Paul Hurrell
Founder of Wren

"We all know that there is an increasing demand for buildings, both new and refurbished, to become more efficient but also more comfortable for those using them on a daily basis. By combining the knowledge and skills of our two organisations, we are able to offer our customers a complete and professional solution for all their building services and TFM requirements;" commented Mark Clinch, Managing Director of SAUTER UK. "This starts with guidance and advice at the design stage. It then encompasses full project management through the installation and commissioning of the entire system and it culminates in a support programme of maintenance and upgrades in the years that follow."

Paul Hurrell, founder of Wren and who continues to lead this side of the business on a daily basis, said; "Wren´s success has been built on a commitment to customer service and over the years we have developed our offering in line with their changing facility management needs. This willingness to embrace new technologies and solutions is further enhanced by the synergy between our two businesses and I am excited about the opportunities that lie ahead."

Wren was founded in 1991 and since then has developed a comprehensive range of building management and maintenance services. Alongside mainstream planned and reactive maintenance support for mechanical, electrical and air-conditioning systems, the company also offers support for alarm systems, hot water, lighting and sanitation systems. The team of almost 50 engineers, is based at the company´s headquarters in Leatherhead, Surrey, where the company´s 24/7 customer help desk is also located. With a portfolio of national and international companies, Wren recorded an annual turnover in excess of £5.5 million (approx. € 6 million) in its first year as part of the SAUTER Group.

Innovation

WREN
environmental

A member of the ☰SAUTER Group

Expanding to the Emerald Isle

In 2018, SAUTER acquired a majority shareholding of the Irish company Sirus – a provider for Heating, Ventilation and Air Conditioning (HVAC) and building management systems (BMS) as well as energy efficiency solutions and services. Precision and excellence in delivery combined with loyalty and longevity in approach are the common characteristics both SAUTER and Sirus share. This will ensure a strong relationship for the future.

Ireland, the third largest island of Europe, is a small open economy highly dependent on international trade and strongly influenced by global markets. Hence, it is important for Irish companies to build overseas relationships and take advantage of Ireland's membership in the European Union. Following the economic and financial crash in 2008 and the ensuing difficult years of recession and austerity, the Irish economy is finally growing again with economic activity expected to remain sturdy. This growth is largely driven by investment in a sector of particular interest for Sirus and SAUTER – construction.

Introducing Sirus
Sirus originally started out as two separate entities. The company Temperature in Cork was run by Frank Caul and operated as an HVAC company. In the meantime, Compute Systems had just been started as a new BMS company in Dublin by James Byrne. Following the introduction of new requirements and taking into consideration that the market for BMS was experiencing a take-off, the two companies merged to form Sirus.

Sirus provides a variety of solutions for different industries ranging from the pharmaceutical and healthcare fields to data centres, retail, commercial and education. One of its main playing fields for more than 30 years is the supply, installation and commissioning of HVAC systems. Through the HVAC side of the business, Sirus offers energy-efficient equipment including Turbocor® Chillers and CO_2 Heat Pumps built by Engie Refrigeration. The use of this equipment will allow the realisation of major district heating projects, aim of which is to make use of the waste heat from buildings like data centres to heat homes, schools and hospitals. This is a growing market and perfectly aligns with the company's vision of reducing its carbon footprint by offering eco-friendly equipment and controls.

A further solution within the Sirus portfolio are BMS comprising system design, an ISO approved commitment to quality and full lifecycle support for installations. In the wake of a shift in priorities towards energy efficiency, Sirus further expanded its portfolio to include energy management services ranging from energy audits and analyses to alternative energy source design and entire energy management systems.

Sirus' greatest asset
The Sirus team is an experienced and ambitious workforce. Having started off with a combined staff of ten people, Sirus now employs over 90 staff members specialised in delivering critical environments to the life science, data centre and the commercial industries. They are supported by a dedicated management structure which appreciates the efforts of its staff, as articulated recently by managing director, Michael White: "We are very aware that our people and their expertise are our greatest asset". To underline this, Sirus is certified with the OHSAS 18001 which identifies, controls and decreases risks that could potentially compromise the health and safety of workers. This measure hence proves to the employees of Sirus that their well-being is given top priority.

Combining the know-how of the workforce with its unique blend of mechanical, electrical, refrigeration, thermodynamic and automation

sirus

A member of the ◡SAUTER Group

skillsets as well as quality products provides the recipe for success. This enables Sirus to uphold its promise of delivering and maintaining compliant, comfortable workspaces and providing the controls to conserve energy in buildings in partnership with customers, suppliers and other service providers.

Certified expertise

With regulations for buildings becoming increasingly stringent, international accreditations play a vital role for winning bids. Sirus is proud to be recognised and accredited with a number of such. One of these is the integrated ISO 9001 standard for quality management by means of which a company can consistently prove its products and services meet customer as well as regulatory requirements. In times of increasing outside pressure and concerns regarding the environment, the systematic framework of ISO 14001 provides companies with guidance for managing immediate and long-term environmental impacts of their products, services and processes. Building on these standards over the years has helped to pave the way for Sirus in the life science sector. Furthermore, they encourage continuous improvement in the business and strategically align with the commitment to being a top employer and the best in class in the area of building environmental control and energy management.

Golden times

The life science sector, including fields such as biotechnology and bio-engineering, has allowed Sirus to experience some of its greatest successes over the last years. The first large BMS for a pharmaceutical company was implemented for Genzyme in the year 2002. This successful project led to many more in the pharmaceutical sector including customers like Pfizer, MSD, Amgen, Mylan and Alexion. In the year 2011, Sirus left the island to realise its first projects abroad namely in Norway and Moscow. With approximately 6'000 I/O data points, the 2017 order from Bristol-Myers Squibb, a pharmaceutical company with a premise in Dublin, is the biggest project completed to date. In this specific case,

Sirus designed and installed a fully integrated, stand-alone building automation system (BAS) that connects with new and existing equipment.

Building management and HVAC system maintenance form a significant part of Sirus' on-going business and success. Therefore, the company is proud to have had the opportunity to undertake a number of energy optimisation projects, the most recent being for Facebook in Dublin. All of these efforts contribute towards reducing the environmental impact and are very much in line with the company's ethos. Over the past years, Sirus has become the most experienced provider of BMS to the life science sector in Ireland and by now enjoys the majority share of the market. This made it a perfect addition to SAUTER's international network of subsidiaries and joint ventures.

Further information
about this article:
www.sirusinternational.com

A Night in the Museum

The Europa-Park in Rust keeps on growing. In spring 2019, the leisure park opened "Krønasår – The Museum-Hotel", its sixth hotel to date. SAUTER technology and solutions are ensuring that the climate is always spot on.

Learning is fun – and what better place than in a hotel styled as a natural history museum with a North European ambience and adjoining leisure park? Entering the hotel, visitors are immediately welcomed by the gigantic skeleton of a sea snake, while a collection of display cases – filled with countless historical findings – invite guests both young and old to journey together through the past.

Since opening in 1975, the Europa-Park has hosted people from all over the world. It has become the most popular leisure park in the German-speaking region, with only Disneyland Paris boasting higher visitor numbers in Europe. US magazine "Amusement Today" even voted it the best leisure park in the world for the fifth time running. Spanning 95 hectares with 18 thematic areas and over 100 rides and many shows, visitors of all ages will find everything they could wish for here.

Krønasår – The Museum-Hotel: a Nordic experience on the Upper Rhine

With increasing visitor numbers and the growing popularity of short trips, there has also been greater demand for overnight stay options. Based on the concept of a leisure park with different themes, Hotel Krønasår was designed in the style of a natural history museum with a northern ambience. In 276 themed rooms, the children's beds evoke old suitcases and make even sleeping a special experience for the park's smallest visitors. With an additional 28 suites, 304 rooms in total can accommodate up to 1'300 guests. Efficient building automation from SAUTER provides a comfortable climate at every instance – perfect conditions for a voyage of discovery through the museum hotel.

The hotel's two restaurants also offer guests a choice of two different worlds. While "Bubba Svens" serves traditional fish dishes and has an old boathouse style, guests at the Chef's Table in the fine-dining "Tre Krønen" get an exclusive look behind the scenes of a restaurant kitchen. The hotel adjoins the "Rulantica" water world (currently under construction) and a connecting bridge will later enable direct access between the hotel and water park.

Room automation brought to you by SAUTER

With hotel occupancy averaging 95 per cent in the Europa-Park and a new hotel with 300-plus rooms and several restaurants, the management wanted a reliable solution for regulating, controlling, monitoring and optimising the technical systems. Naturally without foregoing the comforts that guests have come to expect.

SAUTER's powerful modulo 5 building management system (BMS) has played a defining role here. The integrated ecos5 room automation stations with ecoLink modules regulate temperatures and reliably ensure optimum room climates.

For the operator, the native BACnet system must also allow easy integration of equipment from non-SAUTER providers. The package encompasses fire protection technology and operation of the conference rooms, restaurants, bars and meeting rooms using EIB/KNX and Crestron. A Management and Operating Unit (MOU) with SAUTER Vision Center (SVC) – including approx. 10'000 data points and connection to the hotel booking system – was also incorporated. Finally, an integrated weather station delivers real time meteorological data.

SAUTER highlights

Complete reliability – from energy consumption to collaboration

The SAUTER Vision Center integrated management level enables easy, central operation and clearly visualises all data relating to building and energy management. Staff can see the complete picture and can intervene quickly to keep system performance on track.

With its many years of experience in building automation and the customer able to meet all their individual requirements from a single source, SAUTER completed this project to everyone's satisfaction. Not that the current hotel project is the first co-operation between the leisure park and SAUTER – the Europa-Park has been relying on the solutions and know-how of the SAUTER Group since 2008.

Facts & figures: the sixth hotel in the Europa-Park

According to the German Tourism Association, Germany notched up its ninth record year in a row, with visitor arrivals and overnight stays averaging growth of 4%. The Europa-Park in Rust didn't fare badly either, also enjoying a record year in 2018 with 5.6 million visitors – a main factor being its prime location on the French border, not far from Switzerland.

Hotel Krønasår not only boosts the total number of beds available to approx. 5'800 but also creates around 250 new jobs. It features 304 rooms and suites over 7 floors in 7 connected building sections. Along with 725 parking spaces – two of which are for electric vehicles – the hotel also provides spaces for e-bikes. The total investment was around € 70 million, with building taking just 25 months.

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SAUTER was responsible for planning and installing the building automation along with energy management.

The hotel uses:
- 19 modulo 5 building management systems divided between 14 mechanical equipment rooms
- ecos504 modular room automation stations for 304 rooms and suites in total
- 280 integrated fire dampers
- Operation of conference rooms, restaurants, bars and meeting rooms via BACnet
- Thies weather station

© Europa-Park

Further information about this article:
www.europapark.de/en

The future within specified cost and time scales

Robots take care of transporting goods and yet 1'500 new jobs are also expected. This is Amazon in Spain with its new Castellbisbal logistics centre in greater Barcelona. If you're looking for the future, you'll find it here – including the building automation. The solutions from SAUTER ensure excellent energy efficiency and optimal productivity.

Where do we begin if we want to discover the future? Not on the 17'000-square-meter robot field. Not with the investment-secure SAUTER solutions. No, we start with plan-based commissioning. "We were able to get the project up and running within the specified cost and time scales," says Miquel Vita from project developer and partner VIA Y CONSTRUCCIONES, adding: "This was due to close consultation with SAUTER's specialists and their extensive experience."

SAUTER was proactive as early as the planning phase in ensuring the project ran smoothly. A pre-audit identified the work that would seal the success of the project.

What makes the premises so special? The core business is goods distribution and this requires masses of space. The new logistics centre was built on 30'000 square metres, with the robot field forming its centrepiece. Transport devices developed by Amazon move the goods here – ceaselessly around the clock. They position articles in a way that makes employees' work significantly easier.

The investment is reaping rewards for Castellbisbal. Orders are increasing and Amazon has earmarked 500 more jobs in the locality in greater Barcelona.

Top-most standards

The building automation is just as key as the robot technology. Climate, lighting, fire protection – all systems must interact reliably and efficiently. SAUTER fulfils Amazon's strict technical standards, with SAUTER Vision Center enabling logistics to operate 24/7.

The building management system (BMS) uses open protocols only such as BACnet/IP. Further systems – for lighting (DALI) and fire protection, for example – are integrated directly or with gateways. In Castellbisbal, SAUTER employs modulo 5 technology and ecos504 room automation stations. They process information from 6'000 data points in total.

SAUTER Vision Center is a web-based solution in the HTML5 standard. This means that it is compatible with almost all internet browsers. It has a modular and freely scalable design. Integration is possible with a whole host of protocols. This also makes for increased sustainability of the building, with extensions and changes of use accommodated with ease.

Outstanding energy efficiency

The SAUTER Energy Management module also provides the new logistics centre with excellent energy efficiency. A single operating

panel allows energy consumption data to be managed, water and power supply to be monitored and control algorithms to be adapted.

The intelligent automation system from SAUTER not only makes operation of the Amazon logistics centre more reliable and future-proof. It also benefits employees by adjusting both the lighting and – in the Spanish heat – the ventilation and cooling. This improves working conditions and boosts productivity.

"We were also particularly keen to be able to implement changes at short notice, quickly and reliably," explains project developer Miquel Vita. "Because, despite the intensive planning, these types of change are normal in such complex projects." The entire building automation had to be engineered, installed, commissioned and approved within two months.

Growth trajectory

The e-commerce market is booming worldwide. In 2023, revenue from physical goods in the B2C sector will amount to roughly EUR 2.35 trillion. This equates to around double the figure for 2017, or yearly growth of almost 11 per cent*. An important contributor to success here is logistics because the customer demands reliable, fast delivery.

One of the key drivers in the industry is Amazon. No other internet company in the world has higher revenues. And it's still growing, aided by the new Castellbisbal logistics centre outside Barcelona.

Source: Statista, online, https://de.statista.com/outlook/243/100/ecommerce/weltweit, 13/09/2019

From share prices to language courses

The "Neue Börse" building in Zurich has been completely refurbished and gained a whole new purpose – with the SAUTER automation solution ensuring an efficient, comfortable climate inside.

Share prices, bond prices and currency rates: Huge quantities of numbers passed day in, day out through the "Neue Börse" building in Zurich. From 1991 to late June 2017, it was the headquarters of the SIX Swiss Exchange and then all operations moved to the "Hard Turm Park" in Zurich West.

The "Neue Börse" was built by the Suter + Suter architecture and planning office. The impressive solid concrete construction evokes terms like stability and permanence. Visitors and passers-by notice the generous, portal-like entrance area immediately. Its curved glass front opens the corner to the River Sihl and, symbolically, the world. Building automation for enhanced comfort

The SAUTER building automation system (EY2400) was selected at the time of construction. By optimising the HVAC installation settings in particular, it controlled and regulated the building technology for the well-being of users. The automation was later refurbished and migrated to EY3600. Further improvements were made, such as introducing the novaPro Open management system. This ensured that, with its open structure, the installation would meet the increasing requirements.

The new client: EF Education First
The building has a new raison d'être. Gone are the shares and bonds, replaced by languages and education. After lengthy uncertainty, EF Education First assumed, in November 2015, the complete lease-hold of the building complex. According to EF itself, it is the biggest private education institution in the world. The success of this language school stems from the combination of language training and cultural exchange, academic performance and educational travel – aiming to open up vast new horizons to its course participants.

The new location in Zurich is not a school for the public. This is where administrative tasks are carried out.

The building had to undergo a massive overhaul to provide the 1'000 or so employees with optimum working conditions. New ceilings were installed in the building's storeys, for example. Remarkably, not only office spaces were created during the conversion but also apartments. These feature smart operation and control.

Fit for the future with new building automation
The SAUTER consulting team followed the new client closely along the way, meaning that only the adjustments needed to the building automation were made. This included replacing the field devices for the enhanced HVAC installation on the primary level. The existing field modules (BACnet standard-based) continue to ensure energy-efficient operation of the systems, namely in the modulo 5 environment with modu590. Building operators will value the functionalities of the SAUTER Vision Center management solution, the efficient, user-friendly energy management tools in particular. The clear display of important trends and alerts will allow system operation to be optimised and thus save valuable energy and costs. What is more, continuous monitoring is possible through availability of HVAC plant schematics and room images.

Stage set early for energy optimisation
During the planning phase, the building was split into 15 different energy zones. Decisions were made early on, ensuring maximum user comfort and minimum energy consumption. Indeed, all the offices in these areas have intelligent unitary control communicating through BACnet/IP. The zones' controllers are installed in a storey distributor, connected to which are 120 room boxes via ready-to-operate system distributors. It is from here that the chilled ceilings, VAVs and radiators are controlled.

Multilingual and open

In a building for language courses, what could be more fitting than multilingual automation? Along with the BACnet/IP backbone, a whole host of equipment communicates with each other: 4,500 DALI participants, 300 SMI motors for the blinds, countless KNX devices for integrating the weather stations and control buttons in the apartments.

A little imagination is all that is needed to picture the following dialogue between devices:

Management level:	*"Sonne scheint, leichter Wind, Solltemperatur im Raum 21°C."*
Blinds:	*"OK, shutter down, position daylight."*
Chilled ceiling:	*"Message parfaitement reçu, ouverture des vannes pour réglage 21°C."*

Using these standards means that open communication is ensured between installations and that this communication is presented as a unit in the visualisation.

Room operation made to order

The automation controls the important stuff and users can adjust the room climate at will with just a few simple commands. This is where the ecoUnit365 touch room operating units come in, providing optimum room climates, lighting and sunshading through intuitive, local operation. Users also receive round-the-clock information on room conditions and energy efficiency data.

The "Neue Börse" building now has state-of-the-art automation and the means to optimise operation and provide it with maximum sustainability for the future.

Further information about this article:
https://www.ef.com/
wwen/about-us/

Central Depository of the National Library in Prague

Building management for the National Preservation Collection.

"Literature is the immortality of speech" (August Wilhelm von Schlegel) – the operator of the National Library of the Czech Republic must ensure the right conditions in its buildings. In order to achieve this objective, the Central Depository of the National Library in Prague has been refurbished with reliable and efficient technology made by SAUTER – a solution for monitoring the specific environment required for preserving rare national literature. Its experience in implementing reliable automation systems in buildings such as museums gives operators the assurance that SAUTER is the right decision for their projects.

The collection of the National Library currently includes over 6.5 million volumes – a collection which grows by approximately 80'000 titles every year. It does not just outrank every other library in the country, but its vast collection also places it among the most valuable libraries in Europe as well as worldwide. Its historical collections are mostly of Czech and European origin and revolve around the Bohemica as well as the social and natural sciences. Among the most valuable documents is the Vysehrad Codex from the year 1085. The book, also known as the Coronation Gospels, is considered to be the most important and valuable manuscript in Bohemia.

The original building, constructed back in the year 1556, is located in the Clementinum in the Old Town of Prague. Although the setting of a historic building would usually be considered ideal for storing precious artefacts, it does not meet the requirements of a modern library for preserving such important volumes. Combined with the logistics of storing an ever-growing collection, the decision was made to build the Central Depository in the south-eastern municipal district Hostivar. With construction finished by the end of 2012, millions of books were transported across the city in the following year. At times, lining all the books up next to each other would have added up to a length of 35 kilometres. A collection of this importance and value hence requires the right environment with a reliable and efficient building management system (BMS) for preserving history – a solution which SAUTER was able to provide.

Providing the right climate
When it comes to storing precious, historical artefacts, the right environment plays an essential role in their preservation. Apart from considering factors such as exposure to light rays, in particular sunlight and fluorescent light and not placing shelves against outer
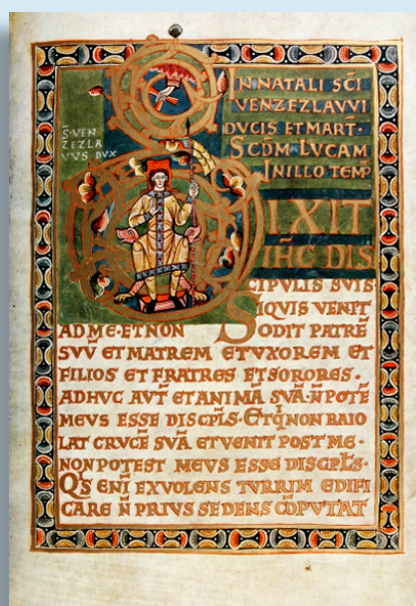
Codex Vyssegradensis
The Codex Vyssegradensis (Czech Kodex vyšehradský, Codex from Vyšehrad, also known as the Coronation Gospels of King Vratislaus II.) is an illustrated pericope book. It was made in 1085 for the coronation of the first Bohemian king. The Codex consists of 108 parchment leaves of 41.m × 34 cm and is the most important illuminated manuscript of the 11th century in the Czech Republic. It is part of the country's national cultural heritage and is located in the National and University Library in Prague, signature Ms. XIV, A 13.

Source: Wikipedia

walls or near windows, the actual room climate may have the largest influence on the volumes. Consequently, the Central Depository needed a reliable system to reduce fluctuations in temperature and humidity, since these are especially damaging and can accelerate their degradation and decay.

Already during the initial construction phase of the Central Depository, some rooms were equipped with strict climate control, in particular those designated for safeguarding the national preservation collection. Following the refurbishment of the Central Depository from October 2018 to March 2019, the new BMS was then based on SAUTER's proven and reliable solution for building management – the modulo 5 technology. The first phase involved the installation of 10 BACnet automation stations modu525, with the final number later adding up to 29. Among its main and most important functionalities is controlling the cooling and heating systems as well as the air-condition units with special functions for temperature and humidity control.

High-end technology made by SAUTER

In addition to ensuring the right environment for the historical artefacts, the specific character of the building also required the right amount of attention. With a proven track record of successfully implemented projects covering comparable requirements and similar technology management, SAUTER convinced the building operator that its technology would be the right choice to ensure efficient energy management while simultaneously guaranteeing a highly reliable operation. Implementing its solution in accordance with the most common and important quality management norm, namely ISO 9001, only underlines the expertise of SAUTER.

The implemented solution is based on SAUTER modulo 5 – a modular and configurable system for integrated building management. The components of the modulo 5 product family are perfectly suited for combining room automation with energy supply. The interaction among the automation stations modu525 hence achieves the technological efficiency required for meeting the specific requirements of this project. Furthermore, SAUTER implements the open communication protocol BACnet as a standard in its modulo 5 systems. The protocol, especially suited for building automation, allowed combining different components of the Central Depository without having to establish complicated interfaces.

For the specific challenges of this project, SAUTER used the modular automation stations modu525 to regulate, control, monitor and optimise the heating, ventilation and air-conditioning systems. These collect thousands of data points, which are then visualized and managed by the BACnet-certified building management software SAUTER Vision Center. With its intuitive design and high user-friendliness, it can easily be used without prior knowledge and gives the operator a quick and easy oversight. This is especially important in situations, in which fluctuations in temperature and humidity need to be prevented – for example in the Central Depository of the National Library of the Czech Republic.

Further information
about this article:
www.klementinum.com/en

Centre Hospitalier de Belle-Île-en-Mer

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Hospitals are typically large building complexes with a multifaceted infrastructure. With their physical environment having a significant impact on patients' recovery times and outcomes, creating the right setting is of utmost importance. For 2 years, until June 2019, the Vannes-Auray CHBA built a new 166-bed hospital on the island Belle-Ile-en-Mer. SAUTER was commissioned to equip the site with its technologies and solutions, thereby creating an energy pole that not only allows supplying the new building, but also incorporating existing ones such as the kitchen building.

Belle-Ile-en-Mer is the largest of Brittany's islands and located 15 km off the coast of the Gulf of Morbihan. It is precisely the fact, that the hospital was built on an island, which presented the largest challenge of the project, especially since it was to be connected to a central location on the mainland. Renowned for its temperate climate, 41% of the energy necessary for warm water production is generated by means of a solar system.

The colder, the safer
A hospital visit is mostly a chilly experience – not only because of the place it represents, but because of the temperature that needs to be held consistently at a low level with a temperature of 21°C in the rooms. Providing an adequate and reliable building management system (BMS) for critical infrastructure can present a big challenge, especially with hospitals being complex environments in which different aspects from patients to staff to equipment and services are interfaced.

There are many challenges which need to be overcome in the management of hospitals. Top priority is maintaining the safety of patients and staff and continuously improving it. A building's technical management system must also help to minimize disruption to the therapeutic environment. Among the many difficulties of managing a hospital building is also the fact that different rooms have different ideal temperatures and humidity in order to curb bacteria and virus growth and prevent them from becoming airborne.

Hence, hospitals require reliable systems that ensure rooms have the right preconditions and that alarm operators immediately when deviations occur. Operating theatres are typically among the coolest rooms. The "American Society of Heating, Refrigeration and Air Conditioning" (ASHRAE) recommends a temperature of around 18–20 °C with a relative humidity of 70% to keep the risk of infection at a minimum. With these two factors having a significant impact on the survival of airborne pathogens and hence patient safety, oversight and control become very important – core competences of SAUTER.

Building on an existing relationship
The customer can already look back on a functioning relationship having tested SAUTER products and technical solutions in Vannes and Auray, France. Apart from the reliability of its products and the excellent price-performance ratio, it was especially the open system architecture and the possibility of integrating multiple products from different manufacturers that convinced the customer to once again rely on a SAUTER solution. In this case, third-party components included

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heating, ventilation and air-conditioning systems from different manufacturers (Toshiba, Daikin, Aldès), a solar system from Heliopac, vacuum equipment by MILS as well as systems for medical fluids (TLV), measuring instruments and inverters (Socomec, Schneider).

Advantages of a SAUTER solution

The customer was already well aware that relying on SAUTER provides a combination of high-quality products with comfortable operation and high user-friendliness. An important aspect of this project was also the possibility of interconnecting several locations, especially considering that this hospital would be on an island. With SAUTER solutions enabling remote control and use, this challenge could easily be overcome.

For regulating, controlling, monitoring and optimising of the operational systems, SAUTER equipped the building with its modular automation stations modu525. Based completely on the manufacturer-independent BACnet and IP communication according to EN ISO 16484-5, the integration of all the various components was easily achieved. Meanwhile, the Energy Monitoring Module (EMM) integrates energy meters to create a comprehensive energy consumption display that can be automatically calculated and visualised in diagrams – a feature of high interest for a customer whose energy generation depends in part on a solar system.

These automation stations collect thousands of data points, which are visualised in the SAUTER Vision Center. This web-based building management solution is especially suited for central building management with visualisation of decentralised installations. Its modular concept makes it highly customisable thereby allowing it to be completely adapted to the specific needs of a hospital. The individually configurable dashboard makes sure to provide an ideal oversight of the comprehensive information. Apart from visualisation, the easy-to-use SAUTER Vision Center includes everything necessary for an energy efficient and cost-optimized building operation: from reporting to sending out alarms all the way to remote monitoring and a flexible room configuration. The building management solution of SAUTER provides all the means to ensure smooth operation in critical infrastructure. By making the information available anywhere and anytime, even the setting on an island can easily be overcome.

Further information
about this article (in French):
www.ch-bretagne-atlantique.fr

Bratislava reaches for the sky

The completion of Nivy Tower will make it the highest building in Bratislava, adding a spectacular highlight to the city's skyline. The fastest lifts of Slovakia carry visitors 29 floors up to the rooftop terrace – providing a scenic view over the city.

Nivy Tower is located in the heart of the new city district Nové Nivy in Bratislava. Combined with a cycle-friendly environment and with direct access to the public transport system, Nivy Tower and Stanica Nivy Mall will bring a new vibe to the growing neighbourhood all while adhering to newest trends concerning workplace and economic standards.

The focus of HB Reavis

"Today, the workplace is no longer seen as being just about the desk" – a fact our customer, the real estate developer HB Reavis, is very aware of. People are more concerned with the physical workplace in terms of how comfortable they feel overall. High satisfaction and increased productivity hence are the result of a balance between factors creating the right environment and thereby influencing the human experience. Over time this has resulted in a shift of perspective concerning the design of new workplaces, with the needs and well-being of employees moving to the centre of attention. This new focus requires solutions that reliably create the right working conditions – including clean air and better lighting.

SAUTER's role

A precise and reliable building automation can establish the right environment to help employees thrive. By implementing SAUTER technology, reliable quality of air, temperature and lighting is provided in common spaces and can even be adjusted in individual workspaces.

Furthermore, with green buildings becoming the new norm of the future, using SAUTER helps owners certify their buildings according to the newest and most rigorous standards.

Fulfilling newest standards

HB Reavis, constructing Nivy Tower as part of the Nové Nivy district, is the first developer to register a project according to the new standards of the BREEAM Communities International. The new version does not focus on one building alone, but on the entire development. By means of the BREEAM Communities assessment method, developers can measure, improve and certify the sustainability of large-scale projects, such as the Nové Nivy district, broadening the focus on the wider environmental impact of the project on the surrounding environment. The new business district will be the first of its kind to be registered under the new BREEAM Communities International standard, proving HB Reavis' commitment to user well-being and sustainability. Nivy Tower will also be certified according to the WELL building standard, which focuses on a building's impact on health and well-being concerning

the influences of air, water or light. In addition, HB Reavis is currently in the process of developing the Environmental Code of Practise (ECoP) to underline that Nivy Tower was built according to the highest environmental standards. With SAUTER components working very efficiently, their use in buildings helps to comply with all these standards.

Providing a complete solution

Today's building management includes much more than controlling heating and ventilation systems. Increasing complexity and regulations mean building owners need flexible, easy-to-use systems. For Nivy Tower, SAUTER provided a comprehensive control of air handling units, heating and cooling, lights, the water treatment plant as well as controls for individual rooms. The last point was particularly relevant to some tenants, who wanted room automation stations that could be integrated into their specific information systems via IoT communication. SAUTER also provides the means for checking the water treatment plant and electricity-providing components, monitoring the garage below ground for potential gas leakage and maintaining a stable fire extinguishing system. In the case of the sprinkler system, this translates to monitoring and controlling the water level to ensure its correct functioning. By integrating third party systems for collecting data from metres for heating, cooling, water and electricity as well as establishing communication with KNX controllers, SAUTER equipped the customer with a complete solution for the building.

Relying on the right technology

This vast array of components and the overall complexity required an elaborated building management system which provides a quick and easy overview of the decentralised installations. SAUTER Vision Center is the state-of-the-art building management solution which, thanks to its modular concept and customisable dashboard, meets

HB Reavis

HB Reavis is a corporate group which develops real estate projects in Germany, the Czech Republic, United Kingdom, Poland, Slovakia, Turkey and Hungary. Originally founded in Bratislava in 1993, the group headquarters is now in Luxembourg. HB Reavis develops projects and also maintains and manages buildings in its property portfolio.
www.hbreavis.com/en

BREEAM®

BREEAM Communities International

The BREEAM (Building Research Establishment Environmental Assessment Methodology) system originally from the United Kingdom evaluates ecological and socio-cultural aspects of the sustainability of buildings.
www.breeam.com/discover/technical-standards/

WELL Building Standard

WELL Building Standard is an evaluation system for user comfort which has implications for decisions, health and well-being.
www.wellcertified.com

the customer's every requirement. When these requirements change, SAUTER Vision Center changes accordingly. On the component side, the modular automation stations modu525 and modu524 were installed to regulate, control, monitor and optimise the operational systems. The BACnet communication standard ensures an easy integration with other components. This is also true for the room automation stations ecos504, which integrate the regulation of the room temperature, lighting and sun shading to create a comfortable climate with minimum energy consumption. Moreover, their KNX interface provides the means to connect KNX operating devices, sensors and actuators.

Persistence pays off

Winning HB Reavis over required a major effort from SAUTER, which eventually paid off in the end. SAUTER offered the necessary solution at a high technological level, e. g. enabling the integration of third-party components. The whole process took one year and ranged from negotiations to presentations and contacts on many levels. This also included visiting buildings similar to the one planned and contacting other customers to find out about their satisfaction levels regarding SAUTER. A presentation in front of the investor's implementation team finally tipped the scales in favour of SAUTER.

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SAUTER highlights

Further information about this article:
www.nivytower.stanicanivy.sk/en/

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