

N° 29

# SAUTER FACTS

The magazine for SAUTER customers

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Creating Sustainable Environments.





Dear Readers,

**We know that a sustainable reduction in the energy consumption of buildings can lower CO<sub>2</sub> emissions significantly. Based on this conviction, SAUTER is investing in targeted research and development and counting on its ability to combine innovative ideas and technologies in order to create energy-efficient solutions.**

The latest climate research findings are not very reassuring. According to measurements taken by scientists at the Mauna Loa station in Hawaii, the CO<sub>2</sub> concentration in the air has reached its highest level for millions of years. SAUTER's mission to use its solutions to increase energy efficiency and sustain the environments of the future is therefore more important than ever.

Daily contact with our customers confirms again and again that our employees' high level of expertise and the quality of our products are providing new opportunities. The way we dovetail know-how and technology to create solutions brings our customers closer to their individual goals, the expectations of society and to the needs of our environment.

What connects the people at SAUTER with our customers is their enthusiasm for buildings and making them energy-efficient. As no two solutions are the same, and yet tried-and-tested procedures and key knowledge are required,

we connect closely with each other and with recognized experts. The magazine you're holding in your hand is also a way of sharing our wide-ranging experience and starting a dialogue with you about it.

One renowned industry expert who regularly makes us sit up and take notice with his analyses and prognoses is Mr Jerry Yudelson. We're therefore particularly eager to share with you his outlook on the ten megatrends for 2014. These you will find on pages 10 and 11. Allow me to mention beforehand that his vision of the future has made us very hopeful – for our industry, our company and a more sustainable world.

Aside from human expertise, we also continually invest in the research and development of technical innovations that allow CO<sub>2</sub> emissions to be reduced, thereby maximizing energy efficiency. Many of the trends mentioned by Mr Jerry Yudelson demand and, at the same time, foster a higher level of recognition for intelligent management systems. SAUTER

has been aware of this for years. Today we are proud to have one of the world's leading portfolios on this future market.

There are always opportunities to extend our advantage in terms of knowledge and technology. Much of the experience that SAUTER now draws on in creating sustainable customer solutions originated in the company itself. For example, the headquarters we opened in 2010 is our testing ground, and we are proud to have been able to reduce CO<sub>2</sub> emissions by 20% compared to the average in Switzerland.

I hope that you find plenty of creative ideas when reading SAUTER Facts. We are pleased to be able to share our experience and look forward to exchanging many thoughts with you.

Yours, Bertram Schmitz, CEO

# "Sustainability is not a fad at SAUTER, it's an everyday reality."



An interview with Marc Jaquet, President of the SAUTER Board of Directors

**Mr Jaquet, you've been President of the Board of Directors at SAUTER for around nine months. How has this time been for you? What has impressed you most since taking up this position at SAUTER?**

A lot of things have impressed me. Above all, of course, the people who work for us. They're highly motivated and really enthusiastic about their work. Their great commitment to developing and implementing ideas for shaping the future is infectious. And of course I'm impressed by all aspects of the enormous specific knowledge of buildings and their energy efficiency. The market-leading solutions for green building in the room and building automation, energy management and facility management sectors. Sustainability is not a fad at SAUTER, it's an everyday reality.

**What are the biggest opportunities for the company in Switzerland and abroad?**

Energy efficiency is a global megatrend. Innovative technology allows our building management solutions to provide the customer with reliable comfort, intelligent functionality and exceptional operating safety – combined with cost-efficient maintenance. SAUTER solutions help drastically reduce energy consumption, thus protecting the environment. In its history spanning more than 100 years, the SAUTER brand has been successfully positioned worldwide for its expertise in the building management and room automation sector. I'm convinced that we can generate growth, in particular in Europe, Switzerland and the Asian region. With their high expectations, our customers give us the opportunity to find and provide

them with solutions, and implement ideas technically – including those that are out of the ordinary. This is how it has been, for example, with the new project for the Roche pharmaceutical company in Basel.

**And the greatest challenges?**

These lie in expansion and innovation. We aim to expand our range of services in the Systems, Components, Service and Facility Management segments, and to continually improve our efficiency standards. We want to recognise, and even anticipate, our customers' requirements in the future too. We're offering our customers the best service at a competitive rate.

**Have you also had the opportunity to talk to some of the staff?**

Naturally. Since becoming active at





Owner and CEO of the JAUQUET Technology Group, world leader in speed measurement technology • President of the Board of Directors of Fr. Sauter AG • President of the Board of Directors of the SPAETER Group (Switzerland) • Employer President for Basel and Board Member of the Swiss Employers' Association

SAUTER, I've been able to have many interesting and very intensive exchanges with staff members. I'm impressed by the SAUTER spirit. Many employees also see their task at SAUTER as a personal mission: energy efficiency as a tangible contribution to actually improving our environment. This is a positive and strong driving factor.

**What can an individual employee do to move the company forward?**

Expertise, reliability and commitment make up the foundation. Both for the company and for the individual person. SAUTER is the result of collective aspiration. Not as an end in itself, but as a 'problem solver' for the challenges faced by our customers. Our customers are a central part of this collective. Not only as sales partners, but also as co-designers and 'co-developers' of

our product and service range. When you understand what the customer needs now and in the future, you're able to provide them with a solution much quicker.

**In your opinion, what is the significance of SAUTER's location in Switzerland?**

Our headquarters in Basel is extremely important. It is strongly influenced by our international surroundings. People from 22 countries work at our headquarters. It's an outstanding environment for know-how and development. Excellently qualified employees never tire in finding the best customer solutions. Quality, reliability, cost awareness and sustainability all play a very important role here. Incidentally, our new building is also an excellent example for integrated room and building automation.

We use renewable energy sources and our own system solutions, thus reducing the total CO<sub>2</sub> emissions by around half and making an energy saving of more than 50%. However, our subsidiaries and worldwide network of joint ventures and local representatives are also central and decisive to our success. It's there that encounters with our many customers take place. Important links to our customers are fostered there, and on these local markets we have to prove our expertise as a company on a daily basis. On these markets, the employees combine the products to make complete systems, doing quality work throughout every phase of the project (tender, planning, engineering, implementation and operation). Our customers' requirements drive us from day to day. We see our customers as key partners for our future. We often learn

*"Our customers are a central part of this collective. Not only as sales partners, but also as co-designers of our product and service range. When you understand what the customer needs now and in the future, you're able to provide them with a solution much quicker."*

about future requirements from them. It is they who confront and challenge us with their expectations for the future!

**Where are you going to take SAUTER? Where do you see the company in five years?**

SAUTER is in an excellent position. We are able to set standards on the markets. We have to ensure that, not just today but in future too, SAUTER can meet or exceed customers' requirements with an innovative range of products and services. We want the SAUTER spirit to capture those markets in which we are not yet active. And in those markets where we're already well-established, we want to continue satisfying our customers with our services and products. The SAUTER brand is also synonymous with quality. We don't just want to maintain this asset, we want to build on it. At SAUTER, green building doesn't only mean sustainable buildings. Acting on a great

sense of responsibility to the environment, SAUTER developed the ECO<sup>10</sup> catalogue of measures – a fitness plan for buildings, increasing energy efficiency and reducing greenhouse gas emissions. Using the options contained in the catalogue, we can now achieve savings of up to 50%. Additionally, we integrate renewable energy sources wherever possible.

**To what extent has your many years' experience as CEO of a company influenced your mandate as President of the Board of Directors at SAUTER?**

I've been active on the world market for over twenty years myself, and my company also operates in the technology sector. In my view, privately- or family-owned companies like SAUTER have major advantages on the market. The company plans for the long run and leaves a lot of room for sustainable development. Providing a long-term, stable service to customers, their properties and

installations seems especially important to me. These long-term relationships with our customers and partners are the best guarantee of a successful future!



# SAUTER Italia is celebrating its 25th birthday

For a quarter of a century, SAUTER Italia has provided its customers all over the country with the highest level of expertise. The company has established itself as a leading provider and can look back on many prestigious projects.

Since the start of the 1950s, SAUTER has been represented in Italy by its local sales partner, Vogtle Malanca. For example, products of the Basel company, which were already ahead of their time, were present at the 37th Milan Trade Fair in 1959. To better serve the demands of the Italian market and provide the growing customer base with local expertise, the Swiss parent company founded its own subsidiary after many years of successful collaboration with their partner.

## Starting off as an Italian solution provider

On 1 March 1989 the 34 employees of SAUTER Italia S.p.A. took up their posts. They looked after their first direct customers in Italy from the branch office in Milan. Thanks to its dedication and wide-ranging experience, SAUTER Italia quickly became the partner of choice for builders and building users alike.

The company just grew and grew. Today, 25 years on, SAUTER Italia has a staff of 75 at its head office and warehouse near Milan and its branches in Rome, Padua, Salerno and Bologna. More than 40 service partners and a countrywide network of representatives ensure that SAUTER solutions are always tailored to the requirements of our Italian customers.

## Prestigious projects in all divisions

SAUTER Italia has participated in many exciting, superlative projects over the years.

Examples include the first SAUTER building management system in Italy, which has been in operation at the Università Cattolica del Sacro Cuore (Catholic University of the Holy Heart) in Milan since 1992. This management system – remarkable even then – now covers twelve buildings and over 20,000 data points, making it one of SAUTER Italia's longest-term projects.

In 2003, SAUTER Italia also had its first success as a provider of facility management services. For the Gemelli Hospital in Rome, SAUTER provides 24-hour support for the heating, ventilation and air-conditioning technology, as well as the security systems.

## Success stories in several dimensions

Other memorable projects in previous years have been the building management solution for the extensive Niguarda Hospital in Milan with over 40,000 data points, or the energy-efficient system in Vimercate Energy Park – the first LEED Platinum-certified building in Italy (article on p. 30). Another highlight, in more ways than one, has been the installation of SAUTER novaPro Open in the Eurosky Tower in Rome. One of the highest residential buildings in Italy and opened in 2012, the Tower is distinguished by its excellent sustainability.

With the new headquarters of Nestlé Italiana, set to be finished in 2014, another flagship project is nearing completion. Energy-efficient technology from SAUTER



and the local expertise of SAUTER Italia and its committed staff members have also been key to the building being awarded the LEED Gold certification.

# SAUTER in Egypt – over 20 years of local expertise

SAUTER's beginnings in Egypt go back to the year 1991. Since then, the local sales organisation has established itself as a leading national provider of room and building automation and energy management solutions.

It all began in 1991 with a phone call to the SAUTER Head Office in Switzerland. Mohamed Mansour, Executive VP of the Egyptian system vendor Comatrol, asked SAUTER for a quote for a building management system as part of a tender specification in Cairo.

Although the project was ultimately awarded to a competitor, this first contact marked the start of a fruitful business relationship that has endured more than 20 years. This relationship has turned out to be greatly beneficial to both companies, helping SAUTER attain a significant position in this important growth market.

## **Over 85 staff members providing local expertise**

Mohamed Mansour, with Ramy Mansour, BSc. EE – Marketing Manager, and Comatrol staff of more than 85 have made SAUTER a leading force in the Egyptian market that enjoys an excellent reputation.

Over the years, solutions from practically every SAUTER product area have been applied in hundreds of buildings throughout Egypt. The tried-and-tested automation and management solutions from SAUTER can be found in hotels, airports, commercial complexes,

office buildings, production plants, pharmaceutical industry, banks, data and communication centres, event venues, government, educational buildings, and other types of buildings.

Today, Mohamed Mansour is Chairman of the Board of SAUTER Middle East, a SAUTER JV covering 15 countries in the Middle East, and General Manager of the SAUTER Regional Service Centre – SR-SCC. A Controls and BMS service provider that helped realise important BMS projects for SAUTER in several countries outside Egypt.

## **Hundreds of thousands of data points all over the country**

If a map of all these systems were created, it would show hundreds of thousands of data points in every part of the country. These are intelligently connected within the individual facilities by means of the SAUTER building management systems. Over the past 20 years and more, all the BMS system generations from SAUTER have been used in a wide range of environments.

SAUTER's clients and customers in Egypt include many internationally known companies, such as Hilton, Mövenpick, Marriott, Novartis, Microsoft, Alcatel, Barclays, Citibank, Carrefour, Pfizer, Meriden, etc.





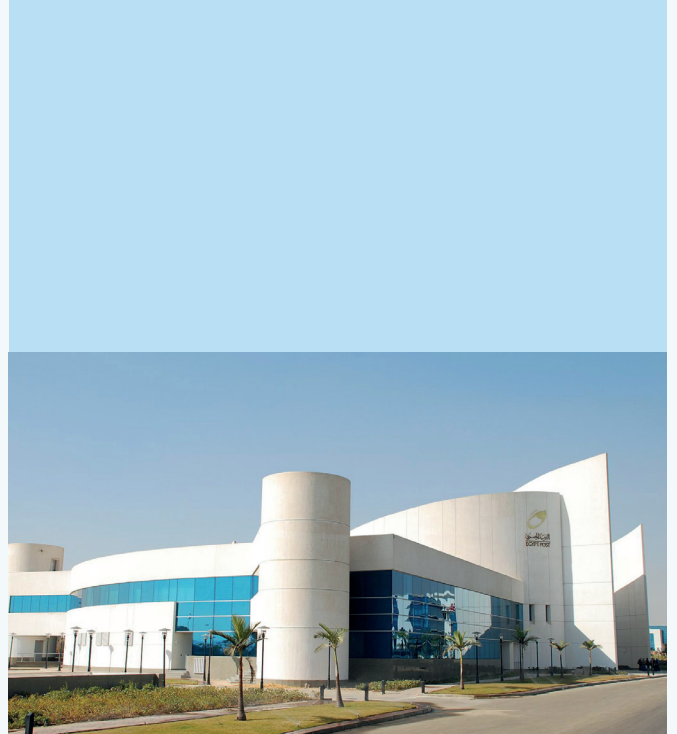
### A smart megaproject highlight

One of the biggest projects carried out to date by SAUTER in Egypt is Smart Village Egypt, the first large-scale office, technology and communication park in the country. SAUTER installed a comprehensive building management solution in more than 30 buildings of this big, modern complex, planned to be integrated in a mega central management system.

Smart Village Egypt is located in the west of Cairo on a site of around two square kilometres which also boasts expansive green areas, lakes and waterfalls. This ambitious megaproject was designed as a public-private partnership, owned by the Egyptian state and private investors.

A company was founded specifically for developing and operating Smart Village Egypt and is also driving its expansion, with the leading Egyptian consulting group, Engineering Consulting Group S.A. – ECG.

One result of the 20 years of good work in the land of the Nile is that the local, specialist and technical expertise of SAUTER will also remain in demand.



Mohamed Mansour



Ramy Mansour



# The future of green building is bright: top 10 megatrends 2014

Jerry Yudelson, PE, LEED Fellow and President of the Green Building Initiative shares his outlook on the top ten green building megatrends for 2014 with the readers of SAUTER Facts.

## By Jerry Yudelson

Green building will continue its rapid expansion globally in 2014, especially considering the fully recovered construction economies in most countries of Europe and North America, as well as the rapid uptake of green building in fast-growing countries in Asia-Pacific and the Middle East. We are seeing more government agencies, universities, property developers and corporate real estate managers building green each year, and there is nothing on the horizon that will stop this megatrend or its constituent elements. Here are my 'Top 10' green building megatrends for 2014.

**1.** Green building in North America, Europe, the Middle East and Asia-Pacific will continue its strong growth in 2014 as the business case becomes more accepted. This development will further build on the fact that, for instance, green building project registrations in new construction accounted for more than 20% of all new large construction projects in North America during 2013.

**2.** In 2014, there will be faster growth in energy-efficiency green building retrofits

than even in new construction. This trend will be strongest in corporate and commercial real estate, along with MUSH market (Municipal, University, School and Hospital) projects. My book, 'The World's Greenest Buildings: Promise vs. Performance in Sustainable Design', makes the case that absolute building performance, and resultant operating cost (vs. the currently more-common 'relative improvement' approach) is going to be an increasing focus for building owners.

**3.** Zero-net-energy buildings are becoming increasingly available. One reason: In the US, green building labels have become too commonplace to confer competitive advantage among owners. Developers of speculative commercial buildings have also begun to showcase zero-net-energy designs in order to differentiate. This trend has been developing slowly for about five years and now seems ready for take-off.

**4.** In the US, LEED may see enhanced competition from the Green Globes rating system. This trend is supported by the fact that the Federal government has now put the

two systems on an equal footing for government projects. In Europe, the UK's BREEAM rating system is aggressively marketing itself in other countries. And in Asia-Pacific, the most likely scenario is for country-specific rating systems to be dominant.

**5.** The focus of the green building industry will continue its switch from new building design and construction to greening the operations of existing buildings. This trend has been in place since 2010, and we expect it to accelerate in 2014.

**6.** Green buildings will increasingly be managed by IT, especially remotely with systems connected in the cloud. This trend is reflected by the large number of new product offerings in building automation, facility management, wireless controls and building services information management over the last three years. In fact, I am calling 2014 The Year of the Cloud for how quickly this trend will become fully established.

**7.** Green Building Performance Disclosure will continue as a major trend. In the US, this trend is highlighted by more than 30





### About Jerry Yudelson

Jerry Yudelson is president of the Green Building Initiative, a leading sustainability and green building organisation. A professional engineer and a LEED Fellow, he is widely acknowledged as a leading green building and sustainability expert. He is the author of 13 books on green building, water conservation and sustainable development.

major cities requiring commercial building owners to disclose actual green building performance to tenants and buyers and, in some places, to the public. This trend will spread rapidly as the easiest way to monitor actual carbon emissions from commercial and governmental buildings and to spur energy-efficiency retrofits. In the European Union, some form of disclosure has been mandatory since 2010, but full disclosure of actual performance (kwh/sq.m./year) is not yet widespread.

**8.** The debate about healthy building products, the value of Environmental Product Declarations, and the composition of various Red Lists of 'chemicals of concern', will become increasingly contentious. This trend has manifested in the US through such tools as the Health Product Declaration and the inclusion of credits for avoiding certain chemicals contained in LEEDv4. I predict that building product manufacturers will increasingly try to compete for market share based on disclosure of chemicals of concerns. I also foresee that industry-developed disclosure systems will compete with systems offered by third-party rating agencies.

**9.** Solar power use in buildings will continue to grow, primarily because of the prospect of increasing focus on implementing aggressive renewable power standards in both the US and the EU and the move toward zero-net-energy buildings.

**10.** Building owners' awareness of the coming crisis in fresh water supply will increase as global climate change affects rainfall and water supply systems worldwide. Leading building designers, owners and managers will be moved to further reduce fresh water consumption in buildings by using more water-conserving fixtures, rain-water recovery systems and innovative new onsite wastewater treatment technologies. My book, 'Dry Run: Preventing the Next Urban Water Crisis', shows how this is being done in green buildings throughout the developed world.

# Mobile building management – with SAUTER Vision Center 2.0

Native BACnet communication and improved mobility: With these properties, SAUTER Vision Center 2.0, the latest generation of the leading building management system from SAUTER, is highly impressive.

The complexity of modern buildings is continually increasing. This also applies to building automation, which has long been more than just a matter of controlling simple heating and ventilation systems. Today's building systems also integrate climate, lighting, shading and other facilities. Therefore, they require building management that functions like a central nervous system.

The SAUTER Vision Center software fulfils precisely this need for central, comprehensive control and gives the building manager access to all the information and functions of a complex building system. In the second version of Vision Center now available, SAUTER has focused particularly on the direct networking of all components of a system and on the increasing mobility of users who want to access the many data points of the installations. As the central access point, SAUTER Vision Center 2.0 concentrates many local sub-systems in one mobile portal with the highest level of user comfort – so mobile that this central point even fits into the pocket of the user's jacket.

## **BACnet in its DNA**

As one of the leading BACnet manufacturers, SAUTER has further enhanced the support of this important standard in Vision Center 2.0. A new feature is the native BACnet driver, whose functionality is a fixed component of the software. Building managers profit from this in many ways: Tight integration enables it to communicate directly

with all the BACnet devices in the system, regardless of their manufacturer. Thanks to this technical development, this powerful software is even faster and more efficient, as alarms and values can be read event-oriented, i.e. immediately.

SAUTER Vision Center 2.0 allows users to monitor and process up to 10,000 data points per system. The software is an ideal addition to the SAUTER EY-modulo family of systems and permits integral building automation on all levels.

## **More mobility for the user**

The new version of SAUTER Vision Center has been further enhanced for use on mobile devices, in order to meet the expectations of an increasingly mobile generation of users. To also make the software available on tablet PCs, the developers have employed the global HTML5 standard in the new version.

SAUTER Vision Center is a browser-based software product that is compatible with all conventional PC systems. The building automation systems can therefore be configured, operated and maintained from practically anywhere. By using HTML5, it has also been possible to increase further the speed of the user interface. The visualisation portal has a modern, user-friendly design. Every user can adjust views to their individual desires.



### Building management in the cloud

SAUTER Vision Center is also available as a cloud solution. With this form of licensing, the customer rents IT capacity instead of running the infrastructure for the building management solution themselves.

Because the customer does not need to perform their own installation and can access the service of the reliable and secure data centre, SAUTER Vision Center can be used straightaway. This provides cost benefits. A solution in the cloud is also extremely adaptable to customers' actual needs.

### Flexible and expandable

SAUTER Vision Center 2.0 enables precise visualisation and powerful, stable monitoring of the building automation, and its user-friendliness results in a significant reduction in the amount of work required to operate it. The software is particularly suitable for building complexes, industrial buildings and production and factory buildings, but also for hospitals, education facilities, railway stations and airports. The basic functions of SAUTER Vision Center such as creating alarm and data point lists, or graphics and reports, can be customised easily and also adjusted to customer-specific requirements using innovative additional components. For example, the energy management module for monitoring energy consumption provides the data needed for optimising energy costs.

### SAUTER Vision Center 2.0

- New: Native BACnet driver for direct access to BACnet systems and devices
- New: Improved browser-based operation on all common PCs and mobile devices
- User-friendly interface for fast, continuous access to relevant information
- Customisable user interface, developed in line with the latest usability know-how
- Transparent, easy-to-follow information for greater productivity
- Flexible functions for complex processes
- Consolidated data from the entire SAUTER building management portfolio for central access and comprehensive evaluations and archiving
- Cloud solution enabling software usage without tying up resources for infrastructure and maintenance

# SAUTER Vision Center



# SAUTER viaSens – the new sensor product range for an excellent room climate

SAUTER is launching a new product range in the room sensor sector. The first sensors in the SAUTER viaSens line measure the temperature, humidity and air quality (VOC) in rooms, enabling optimal controlling of the room climate. With their LED indicator, the sensors are particularly user-friendly.



With two new room climate sensors, SAUTER is launching the first of its new viaSens range of sensors. SAUTER viaSens681 measures the room temperature and the humidity, and SAUTER viaSens181 records the air quality. The two sensors measure the most important comfort factors in the room air and enable the room climate to be controlled energy-efficiently and according to needs.

## Precise measurement of temperature and humidity

The new SAUTER viaSens681 measures the temperature and relative humidity of the room air quickly and precisely. It enables the precise calculation of absolute humidity, enthalpy and dew point. The sensor is operational on delivery, and its precision is guaranteed after a brief warm-up period – there is no need for the user to perform any complicated calibration. The parameters of the viaSens681 are pre-set according to 'comfort standard' EN 15251.

With the optional SAUTER CASE Sensors software, users can use various intelligent options for the sensor: Via a USB connection, user-specific parameterisation can be performed with the software. Thus the viaSens681 can be easily operated solely as a temperature or humidity sensor. With SAUTER CASE Sensors, the customer can scale the analogue output signal for each variable and define

individual limit values for the LED indicator. The LED indicator with traffic light colours is a new feature and unique for room sensors. At a glance, it informs you about the temperature and humidity of the room air.

## Precise recording of the air quality

The second new sensor, the SAUTER viaSens181, is an air quality sensor. This very accurately measures the relative concentration of mixed gases in the room air based on VDMA standard 24772. Tobacco smoke, kitchen smells or human body odour and gases from materials, etc. – the sensor records many volatile organic compounds (VOC) and provides the room automation system with these values for optimal ventilation control. The viaSens181 is factory-calibrated and ready to use immediately.

The new air quality sensor has automatic drift compensation for ageing and seasonal influences. Like the temperature and humidity sensor, the SAUTER viaSens181 is also equipped with an LED indicator with traffic light colours that visualises the current air quality at all times. The device is ready to use after a brief warm-up period, without any additional start-up procedure. The entire range of functions for the viaSens181 can also be used in combination with the

VOC



SAUTER CASE Sensors software. For example, this can be used to adjust the limit values individually.

#### Wide-ranging areas of use

The new sensors are proving their quality in office buildings, hospitals and museums, as well as warehouses, swimming pools, churches, industrial kitchens, etc. They are equally suitable for new building projects and modernisations. The two sensors of the new viaSens range are distinguished by their elegant design in the style of the SAUTER ecoUnit room control units, and they also provide a wide range of implementation options due to their compatibility with almost all mounting frames. They are suitable for recessed mounting and – with an accessory – for surface mounting.

#### SAUTER viaSens product range

Power supply: 24 V AC/DC with protection against reversed polarity

Output signal: 0–10 V

Feed and output signal electrically isolated

Screw terminal for up to 1.5 mm<sup>2</sup>

#### SAUTER viaSens681

Temperature

Measuring range: 0–50°C

Accuracy: ±0.4°C

Relative humidity

Measuring range: 0–100%

Accuracy: ±2%

#### SAUTER viaSens181

Measuring range: 0–100% IAQ

Accuracy: ±2.5% IAQ

Automatic drift compensation

# The clean-room compact solution with just two devices

Where high reliability and flexibility matter most, the integrated clean-room compact solution from SAUTER is setting new standards: despite reduced overheads for hardware and operation, it enables maximum precision.

Clean rooms in the pharmaceutical industry, hospitals or laboratories are subject to strict regulatory specifications. Insufficient control resulting in non-compliance with the required room pressure or pressure stages can cause serious operating faults. This puts the product quality at risk or makes it more difficult to fulfil important guidelines in the GMP environment.

Adherence to the room pressure in clean rooms depends directly on precise control of the supply and return air. The conventional combination of volume flow and room-pressure regulation is the tried-and-tested method for this. Previous solutions have taken a lot of time to install or used expensive programmable controlling. SAUTER has now developed an integrated compact solution for clean rooms that eliminates both of these drawbacks.

## Previous solutions often oversized

In general, VAV controllers with a static method of measurement are made up of multiple components – usually a separate room-pressure controller and a room-pressure sensor have to be added. Extensive work is required for fitting, adjusting and commissioning such systems.

Alternatively, regulation can be performed via Direct Digital Control (DDC), although this entails even greater expense. At the same time, the complex settings that such a system allows are seldom actually needed.

When it comes to clean-room technology, customers also increasingly desire flexible solutions that involve the lowest possible investment,





operating and maintenance costs. For example, it should be possible to convert simple volume-flow control to room-pressure control as quickly as possible.

### **More flexibility with a space-saving combination**

With the new electronic sensor-controller-actuator combination (VAV Compact), SAUTER has reduced the complexity and costs of such systems while also providing much more flexibility in daily operation. This unique system consists of just two space-saving devices: a VAV compact controller with an integrated second control loop and a room-pressure transmitter connected directly to the VAV controller. With the new system, it is possible to quickly upgrade from volume-flow to room-pressure control at any time. The amount of labour required for fitting and installation is less than for conventional solutions. Furthermore, no additional VAV boxes are needed for bypass controlling, nor any Venturi boxes, which require high duct pressure – this saves time and costs. As no other controllers are connected in between, the cycle times are shorter and a high level of control precision is achieved.

### **Precise pressure control and perfect adjustment**

The two devices used have proven themselves in numerous clean rooms and laboratories. The high-precision SAUTER EGP100 room-pressure sensor with double-membrane technology records the positive or negative pressure in the clean room, e.g. when the door is opened, and transmits this to the SAUTER ASV115 VAV compact controller. Based on the room-pressure setpoint stored, the room-pressure control integrated in the VAV controller regulates the amount of air until the required room pressure is achieved.

The solution that SAUTER offers in one simple package requires multiple devices in other systems. Even compared to the SAUTER VAV controller, the alternatives require three components: a static pressure recorder, controller and actuator.

### **An attractive range of applications – autonomous operation**

The system can be used for positive or negative pressure, with the facility to switch directly between the two modes. With the integrated second control loop, even room-temperature control with two devices is possible. Due to the static method of measurement, the VAV compact controller can also be used for contaminated air. Compared to DDC control, the SAUTER compact solution has the advantage of working decentrally and therefore autonomously. Another benefit of the compact system is the high level of positioning precision for the damper actuator, which minimises the fluctuation of the room pressure. This enables not only precise regulation and stable control quality in sealed clean rooms, air-locks and ante-chambers, but also reliable adherence to the pressure stages for avoiding cross-contamination.

And last but not least, the integrated compact solution from SAUTER permits energy savings, as the air change in the night and absence modes can be reduced significantly.

### **Easy commissioning**

The SAUTER Case VAV software enables the system designer or operator themselves to perform the direct visualisation, configuration and recording of the relevant data points for the commissioning and service. A selection menu with diagrams contains control applications developed by SAUTER to be called upon in specific cases. Using its own life science development and test centre, SAUTER has subjected the control applications to thorough tests in a room-pressure test booth.



Innovation

# A gold medal on the 10th birthday of SAUTER FM

This year, SAUTER Facility Management is celebrating its 10th anniversary in Germany and has crowned this milestone with excellent evaluations in the German 'Facility Management Report 2013'. SAUTER Facts spoke with Werner Ottilinger, CEO of SAUTER Deutschland.



Interview with Werner Ottilinger, SAUTER Deutschland.

## **SAUTER Facts: What does providing Facility Management (FM) to the very highest standard mean for SAUTER?**

As a provider of facility services, we're continually confronted with the challenge of meeting the demands of the tenants as well as those of the property owners. As you can imagine, this is not always so easy, as these demands are sometimes diametrically opposed, especially in the case of properties that are not used by the owners themselves. The tenants of a property want an all-round service package that leaves no desires unfulfilled – from the availability of the technical equipment to the levels of comfort and

cleanliness of the property. Of course, the owner is focused on the budget and the returns from the property. We see ourselves as interface managers, harmonising the uniqueness of every individual tenant with the functional resources of a property. With over a hundred years of experience in building technology, we're now a sought-after business partner for property developers in the early building phase of a property, as this is when the course is set for the future running costs. It is not uncommon for the operating costs of properties to exceed the building costs after only ten to twelve years. However, it is easiest to influence costs during

the project development phase, and in this way we can develop precise, site-oriented solutions together.

## **SAUTER grew as a company with building automation and technical systems and components for increasing comfort. What was the motivation for establishing the company as an FM service provider as well?**

Actually, this was our customers' idea. Modern buildings are increasingly equipped with highly complex, sophisticated technology that is integrated using the building automation and building management. Many



*"We see ourselves as interface managers, harmonising the uniqueness of every individual tenant with the functional resources of a property."*

traditional FM companies are from the cleaning or security sectors and have neither the qualification nor the necessary experience required to operate such properties, not to mention the employees needed. At the time, many of our customers were unsatisfied with their FM service providers and approached us, requesting that we provide the complete spectrum of facility services alongside the classic building automation services. For us, this was both a challenge and an opportunity, as we were now able to use our many years of know-how in building automation in the complex operation of properties – over the entire business life cycle of the properties. This was the right challenge at the right time. Today, energy-efficient solutions are all-important in the daily operation of properties, and we're the ideal partner here.

#### **How has the FM market changed in the last decade?**

The complexity of properties is increasing drastically, and at the same time the demands from the green building sector have arisen, with the various certification systems of DGNB, LEED, BREEAM, etc. Highly complex technologies can only be managed with a high level of automation, and they also require a sophisticated HMI (Human Machine Interface) that enables the users of properties – whether tenants or visitors – to select their individual comfort settings.

Equally, the tasks of asset and property management and facility services providers increasingly overlap, with the result that they can now be barely separated from each other. We therefore made the decision at a

very early stage to offer property management to our customers as well, and we are ideally positioned for those customers who would prefer to have few interfaces.

However, the biggest challenge for the future will be intelligent operation, supported by networked, sophisticated technologies. More and more tenants want what is known as a 'flat rate' for the ancillary costs in order to have budget security for their maintenance. These costs include not only the pure operating and maintenance costs of day-to-day operation, such as repairs, cleaning, security, winter maintenance, etc., but also the actual energy consumption in kWh/a.



**Has this also resulted in opportunities for SAUTER FM to distinguish itself with special expertise and offers?**

Yes, definitely. On the one hand, SAUTER has developed a 10-point fitness programme for buildings – ECO<sup>10</sup> – and, on the other, the Energy Management Solution, or EMS, in order to master all the energy-relevant aspects of the building. The centrepiece here is our Green Building Monitor, which visualises everything to do with energy for the building.

We have also developed a product for optimising the energy saving of all buildings that have a thermo-active building system (TAB) – where the ability of ceilings and walls to store heat and cold can be used. Using the weather forecasts for the following day, the SAUTER 'weatherman' loads the storage structure of the building with heat or

cold overnight, thus creating ideal comfort conditions in the rooms. And what is more, this system saves between 20 and 30 per cent on energy.

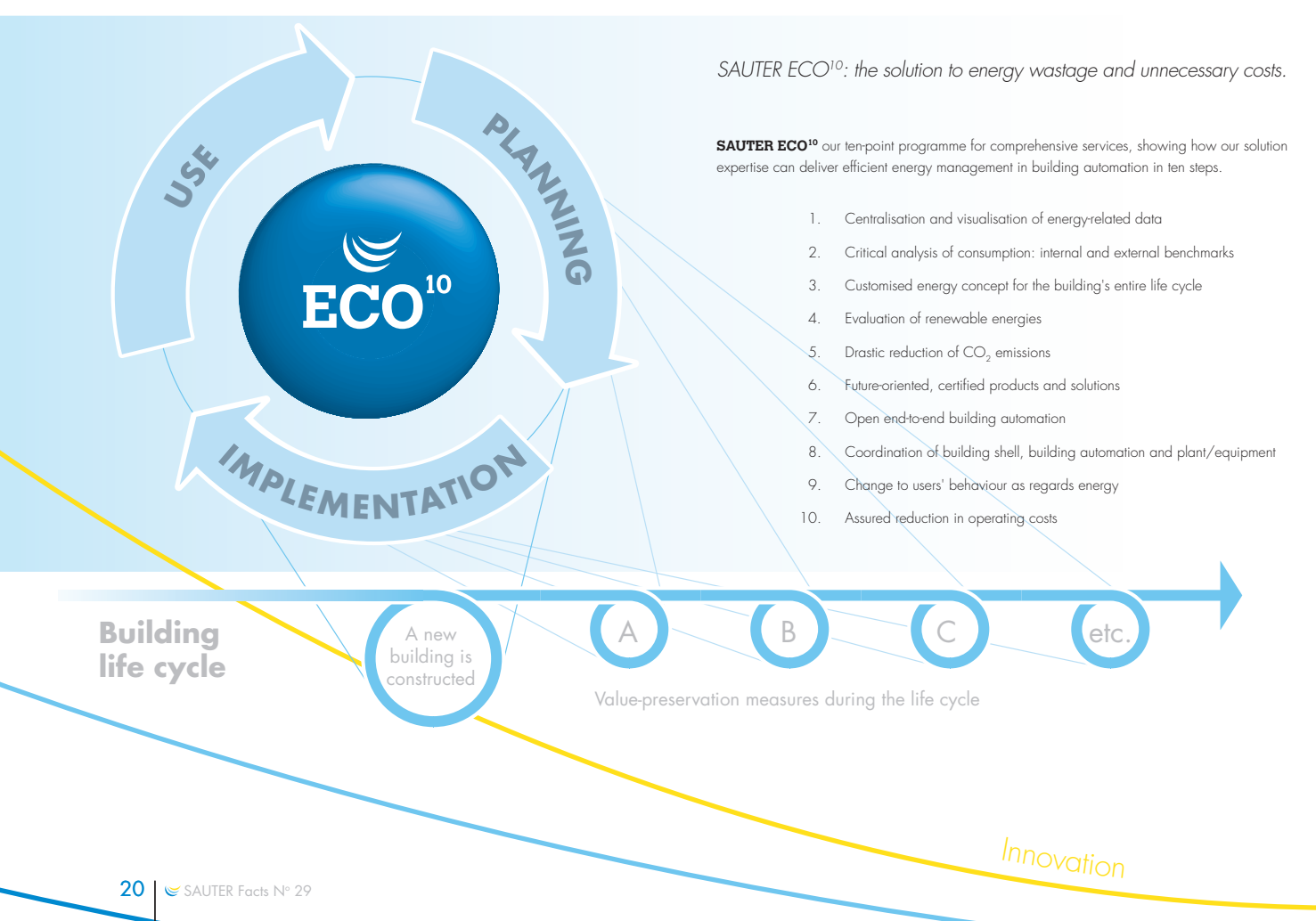
**What do you think of the 'Facility Management Report 2013', in which SAUTER FM got top honours (see box)?**

We are very proud that we achieved first place among companies with a turnover of less than 300 million euro. And second place out of all the companies mentioned is also very satisfying. At the same time, we were also able to complete our own customer and tenant satisfaction survey, which takes place every two years, and our grade of 1.8, based on the German school marking system, is yet another excellent result. Above all, our customers appreciate our reliability, communication and performance in day-to-day operation. Here

we would like to give our heartfelt thanks to the property managers surveyed, and in particular our customers and tenants, for their loyalty and trust in our performance.

**The study showed that customers in the 'energy management' and 'sustainability' sectors still see room for improvement on the part of the FM providers. How do you see this?**

With our ECO<sup>10</sup> building fitness programme, our EMS, the Green Building Monitor and last but not least the SAUTER 'weatherman', we see ourselves in an ideal position and excellently equipped for the tasks of the future. In the Highlight Towers in Munich, a property of Sachsen-Fonds, we were able to use our expertise and services to make sustainable savings in energy while simultaneously increasing the comfort level!



**Where do you see the key to further success for SAUTER FM?**

What is most important to our success is continuing the very high quality services that we provide, and understanding our customers' goals and strategies as well as the requirements of the users and tenants in the properties. A second integral building block for the future is the SAUTER FM Academy. Here, our employees consistently add to their qualifications so that they can meet the ever-growing challenges in the day-to-day business.

**We thank you for this interview and congratulate the entire SAUTER FM team on its tenth birthday.**

**Facility Management Report 2013: SAUTER FM at the very leading edge**

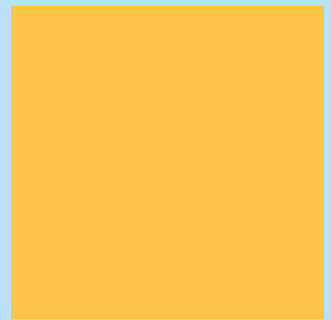
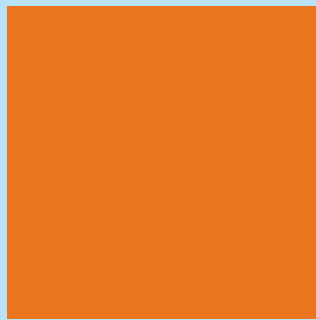
To ensure more transparency on the FM market, Bell Management Consultants published the first independent customer survey in Germany in September 2013. For the 'Facility Management Report 2013', 110 property managers and clients from the property sector evaluated the FM providers with regard to their performance and reputation.

SAUTER FM was awarded the gold medal for companies with a turnover of less than 300 million euros. And for Germany overall, we managed an amazing silver! Additional information: [www.bell-consultants.com/fm-report.html](http://www.bell-consultants.com/fm-report.html)

*"We're a sought-after business partner for property developers in the early building phase of a property, when the course is set for the future running costs."*

# Multi-site facility management for Sirius business parks

SAUTER Facility Management is expanding its comprehensive services for the business parks of Sirius Facilities GmbH. SAUTER now looks after 14 of these innovative commercial properties all over Germany.



Sirius is the leading provider of flexible work spaces for small and medium-sized companies in Germany. In the past six years, the group has taken more than 30 individual business parks and former industrial spaces, repositioned and revitalised them, and equipped them for use according to their customers' requirements.

Comprehensive renovation and modernisation work can transform large industrial spaces into lively business centres, providing multi-functional areas with offices, conference rooms and storage and production spaces. For Sirius it is important that their service and the commercial properties are tailored precisely to the needs of their tenants – and top-quality facility management plays a decisive role here.

## Focus on high-quality services

After an intensive phase of expansion, the 18 staff members at Sirius are now concentrating on actively and sustainably increasing the value of the property portfolio. Since 2012, SAUTER Deutschland FM and its facility management services have been supporting

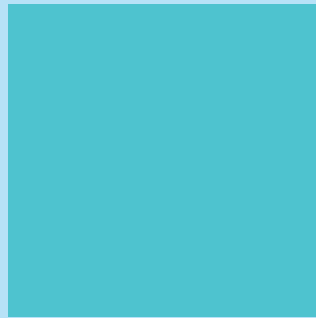
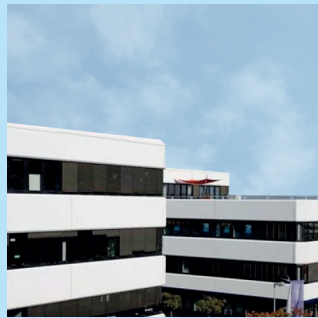
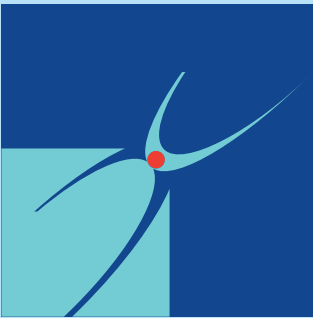
Sirius Facilities GmbH in the daily operation of the business parks. SAUTER now already looks after 14 locations throughout Germany – and 11 of these were added in April 2013.

SAUTER provides facility management services for these properties in the form of technical and infrastructural building management. The SAUTER FM team has responsibility for the technical building equipment and its availability, as well as carrying out all the maintenance and repair work, and goods/logistics and security services. All services are continuously documented in the online SAUTER customer portal.

## Energy efficiency always a priority

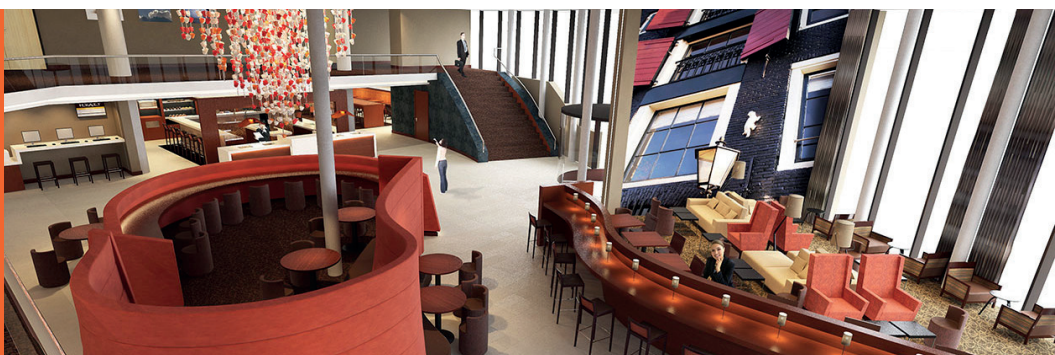
In particular, SAUTER is jointly responsible for the energy-efficient operation of these properties. An innovative collaboration model ensures that SAUTER is allocated the savings made in operating costs when these are documented accordingly – a real win-win situation. Commenting on this work together, Thomas Heidelberger, Commercial Director of Sirius Facilities GmbH, said: "The many





years of experience of SAUTER Facility Management in managing commercial properties and performing complex FM tasks was all-important to Sirius when we decided to expand our successful business relationship with SAUTER. We value the reliably high quality of the services, and the opportunity to develop innovative collaboration models together."





Amsterdam has set itself major goals. By 2040, the Dutch metropolis wishes to be one of the most sustainable cities in the world. The 'Amsterdam Smart City' platform was founded to this end, implementing various environmentally friendly projects, from the energy-efficient high-rise office building to the 'intelligent' apartment.

Opening in 2014, the Hyatt Place close to Amsterdam's Schiphol Airport is also cutting a dash here. This hotel is one of a new generation of accommodations combining clever design with modern comfort and high tech.

### Steam engines instead of windmills

As late as the 19th century, this was the location of the Haarlemmermeer, formerly one of the largest lakes in the Netherlands and a permanent flooding hazard for Amsterdam and the city of Haarlem. 160 years ago, this region was drained and protected against flooding using dykes. Even back then, the Dutch proved to be an innovative people – instead of traditional windmills they used steam engines to provide the energy required to pump the lake dry. These turned out to be considerably cheaper and more efficient.

### Comfortable and energy-efficient

Efficiency and cost optimisation are also key values for the Hyatt Place. A building of these dimensions – the hotel has 330 rooms – usually consumes enormous quantities of energy. The people responsible for the project were therefore looking for a solution that would be highly energy-efficient on the one hand, but on the other user-friendly and uncompromising in terms of comfort. Hence they decided on the novaPro Open building management system from SAUTER. Ronald Bijl, Account Manager at SAUTER Nederland: "Hyatt attaches great importance to comfort and energy efficiency. For this reason, we were asked to provide solutions for both the building automation and energy management."

The rooms are tailored to meet the comfort requirements of the modern nomad – people who travel a lot and usually on their own. The generous rooms have Wi-Fi access and a 42" TV. An e-room with PCs and printers, and a fitness centre that is open round the clock, are also available.

### Facts and figures

According to a survey of the Schad Institute of Social Sciences (S.W.I.), Hyatt hotels are at the top of the popularity ranking for Germany's four- and five-star hotels. Special attention was given to factors such as service, quality of experience and performance – where the room evaluation including room comfort also plays a role.

The Hyatt Place Hotel, Amsterdam Airport, is in Hoofddorp, just 5 km from Schiphol Airport and 1.5 km from Amsterdam. The complex consists of two buildings also containing conference rooms along with residential premises. The Hyatt Place has 330 comfortable rooms tailored especially to the needs of modern nomads. The construction costs amounted to 30 million euros.

SAUTER was responsible for the building automation and energy management. The following were used:

- SAUTER novaPro Open building management system
- SAUTER EY-modulo automation stations for the primary installation and room automation stations for the room automation
- BACnet/IP and DALI communication standards
- Unique room energy management system specially developed for Hyatt Place and Hyatt House

# An oasis for modern nomads

Travellers should not be held up. However, the Hyatt Place Hotel outside Amsterdam tempts one to linger. After a tiring flight, it offers its guests modern comfort and high tech in a single package. This is possible not least through energy-efficient building technology from SAUTER.

In choosing the building materials, a particular emphasis was put on sustainability. For example, the 525 doors in the Hyatt Place Hotel are made of bamboo. Using this material fits perfectly with the green, innovative concept of the Hyatt Place Hotel – bamboo grows back quickly, prevents soil erosion with its wide root system and, with its high CO<sub>2</sub> absorption, makes a positive contribution to cutting greenhouse gases.

### Integrated room automation

The SAUTER novaPro Open building management system makes a significant contribution to the energy efficiency of the Hyatt Place. For the rooms and public areas, such as the restaurant and conference rooms, SAUTER provides an integrated room automation system, based on the BACnet/IP and DALI communication standards, that takes over control of the room climate (heating, cooling, ventilation) and lighting.

The energy management system registers the consumption of the heat storage system precisely and supplies the information necessary to continuously optimise overall energy consumption. Thanks to the

open system architecture, SAUTER can also connect the future booking system of the hotel with the SAUTER EY-modulo room automation stations. "Only when a guest enters the room does the system switch to Comfort mode. This also helps save energy," explains Ronald Bijl.

### Mastering energy consumption

SAUTER impressed those in charge of the project not only with its many years of experience and wide-ranging expertise, but also with a product portfolio that best corresponded to the requirements of the Hyatt Place. With the easy-to-operate user interface of the SAUTER novaPro Open, the employees responsible at the Hyatt Place Hotel can get a current overview of the energy consumption with ease and perform specific measures to achieve an even better energy balance.





# Affordable individual solutions for premium commercial property

Even in the fashionable Zurich banking district, cost efficiency counts. When modern technology remains affordable and can still smoothly replace the tried-and-tested, even the most demanding tenants are impressed.

Just a few steps away from Zurich's renowned Bahnhofstrasse, one of the most expensive streets in the world, stands the prestigious 'Thalhof' commercial property. Here, in the middle of the banking district, the tenants are as demanding as they are distinct.

The 'Thalhof' is a property complex spread out over half a block. For a wide range of companies, it offers shop and office space in a premium location. Recently, when a significant change of tenants was imminent in one part of the building, the owners saw the opportunity to carry out comprehensive modernisation work.

## From SAUTER to SAUTER

As an EY2400 system from SAUTER had reliably carried out the building management for many years, the owners wanted to continue this successful collaboration with SAUTER. Their goal was to invest in modern technology that would meet the requirements of the next two decades. The solution also had to be sufficiently flexible to fulfil the specific needs of a varied and demanding range of tenants, and to enable demand-led room conditioning in the individual areas.

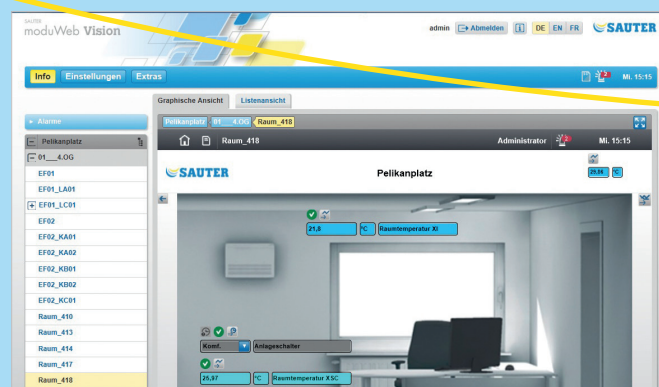
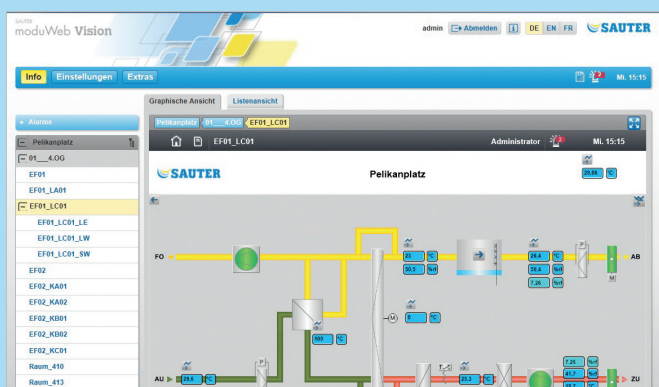
A particular challenge was to complete the renovation while the other tenants were still operating in the property. Therefore, along with the technical features and appropriately low investment costs that recommended SAUTER, the deciding factor was that SAUTER presented a concept for the system replacement that was convincing in every aspect. Among other things, this concept removed the need for external technical site management, and SAUTER assumed responsibility for all coordination tasks and their supervision.

## From cable to wireless

The building has heat generation with integrated control and a chiller for cooling. A system supplies conditioned air to the office floors. To activate the air-conditioning technology, the existing cabinets were upgraded with the latest components from the SAUTER EY-modulo 5 family of systems.

The individual rooms and open-plan areas are conditioned by means of radiators and chilled ceilings. The temperature, humidity and occupancy values are recorded and controlled by the SAUTER ecos500 room automation station, which is integrated via BACnet/IP. The





SAUTER ecoUnit311 room-operating units are connected zone-by-zone via remote I/O modules of the SAUTER ecolink type.

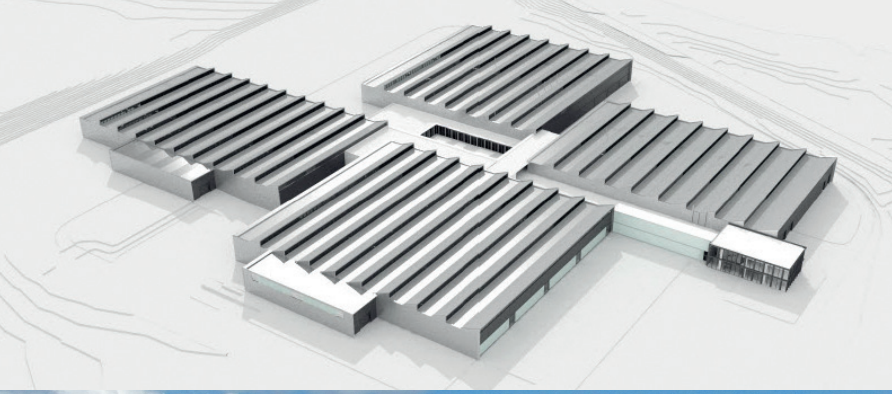
One particularity was that the individual rooms on one floor were converted into open-plan offices at the tenant's request. Because the interior walls were removed, many of the previous installation areas for sensors were no longer available. EnOcean wireless technology allows the room information to be recorded at new locations and transferred without cables to the room automation station. The result is a needs-driven, individual regulation process. To provide energy-efficient control in these areas, SAUTER ecoUnit wireless room-operating units are integrated using EnOcean wireless interfaces (SAUTER ecos 5 type).

#### Automatic notification and remote access

All the HVAC installations and intelligent unitary controls – 675 hardware data points in total – run together on the SAUTER moduWeb Vision BACnet web server. This web-based visualisation software enables the building management systems to be monitored and controlled remotely without connecting to a system. Any alarms that

occur are forwarded reliably via SMS and e-mail. Remote access to the system is via GSM modem, and the integrated firewall provides the highest security.

The modernisation was carried out over a period of five months while the building was still being operated. Today, the owners and tenants can rely on a flexible system at all levels that can be dovetailed to various requirement profiles. Using modern components from SAUTER EY-modulo 5 systems and established communication standards, such as BACnet/IP or EnOcean, ensures that operation is reliable and resource-efficient in the long term.



# Made in Germany – new production

A German family-owned company is bucking the trend of outsourcing production to other countries: HAVE Hydraulik SE in Munich has made a conscious decision in favour of Germany. Over the last few months, they built their new production building in Kaufbeuren, Bavaria. SAUTER advised and supported the company in matters of building and energy management.

HAVE Hydraulik is a leading manufacturer of technologically and qualitatively excellent hydraulic components and systems. When looking for a site for the new production building, the German company investigated the regions of Asia, Central Europe, Germany and Bavaria. Comprehensive analysis of the current situation and what was required showed that Bavaria, or the Munich metropolitan area, would provide the best conditions. Ultimately, the decision went in favour of the industrial area in the small town of Kaufbeuren on the north-east edge of the Bavarian Allgäu region. Among the factors that influenced the decision was the proximity to the main production facility of the family-owned company in Munich, and to the company's suppliers, as well as the prospect of being able to find the necessary qualified personnel in the Kaufbeuren region. The first products are already being manufactured and fitted.

## More than just a functional building

The new building complex of HAVE Hydraulik comprises a total of four manufacturing and fitting halls, as well as a separate office and social wing with a courtyard, roof-deck and cafeteria with an open view of the Alps. The four halls are arranged to resemble the sails of a windmill when seen from the air. As a result, the individual buildings combine to make up a whole – similarly to a campus. Additionally, these buildings enable short production paths and provide workplaces with a lot of daylight.

The question of energy efficiency for the new building was a central one for HAVE Hydraulik. The solution developed by SAUTER combines the latest DDC technology with a highly qualified energy management system. What the customer found most impressive about the overall concept from the responsible SAUTER branch in Munich, was that the solution provides the operator with a wide range of evaluation options that are easy to use.

SAUTER highlights





# plant for hydraulic components

## Investment protection and low maintenance costs

The SAUTER novaPro Open building management system was then installed in the new building in Kaufbeuren. The system is made up of around 1,800 data points distributed among the five building units. The SAUTER modu525 modular automation station, part of the EY-modulo 5 family of systems, was chosen for the regulation, controlling, monitoring and optimisation of the operating systems – for example, the heating, ventilation and cooling technology. The ecos500 room automation station handles the temperature control. This combination enables highly efficient system operation through demand-controlled energy consumption. The SAUTER building management solution therefore ensures low maintenance costs during the operating phase and contributes to the long-term value retention of the property.

## Facts and figures

The HAWE plant in Kaufbeuren, on a site of 125,000 m<sup>2</sup>, comprises four halls with a gross office space of 50,000 m<sup>2</sup>. When full production is attained in the middle of 2014, the plant will provide around 400 jobs, with the option of additional jobs. The volume of investment in the building and property amounts to around 100 million euros. The HAWE site in Kaufbeuren is intended for manufacturing and fitting components and systems for mobile hydraulics, e.g. in construction machinery, cranes, fire brigade ladders, drilling equipment and communal transport vehicles. HAWE has seven production sites in Germany and an international distribution network with fourteen subsidiary companies.



# Triple platinum for the Energy Park

The Energy Park in the north of Italy is the location of the first Italian building to be awarded the LEED CS Platinum certificate. There are now two further green buildings with this illustrious certification in the immediate vicinity – and more are bound to follow.

The contrast could hardly be greater. The Energy Park is not far from the oldest functioning Roman bridge in northern Italy, an ensemble of several large commercial buildings that are prime examples of contemporary architecture.

The Vimercate Energy Park is situated in the heart of a commercial technology hub 20 kilometres outside Milan. So far it comprises three different buildings. Alongside the new Italian headquarters of the Alcatel-Lucent technology concern and SAP, the master plan for the complex provides for a further three buildings. At the end of an overall development period of five to seven years, the site will provide state-of-the-art office and laboratory space on more than 110,000 m<sup>2</sup>.

## Platinum-certified palazzi

When the first building in the park opened after two years of reconstruction work, the media spoke of a 'super-ecological palazzo'. The superlative was an obvious choice, as the building was the first in Italy to be awarded the LEED Core & Shell v2.0 Platinum certificate.

Despite their external differences, the buildings in the Energy Park have many modern characteristics in common. They combine spaces with a wide range of uses for offices, shops and laboratories with impressive architecture. The vision of creating a modern 'campus'

here is evident to anyone who visits – large common green spaces create meeting places for the nearly 3,000 people who already work here today.

The new offices of Vimercate Energy Park are well on their way to joining the major league of green building. The two newer buildings have already been pre-certified with LEED Platinum status. The owners are especially proud of the fact that these awards were won without added costs in comparison with relatively conventional buildings.

## Saving energy with green building technology

The buildings were designed by the Milan architecture and engineering office Garretti Associati, which puts a particular emphasis on solutions that reduce energy consumption by using resources sparingly. Renewable energy is therefore used – ground water and heat pumps for air conditioning, and photovoltaic systems for generating electricity.

Dynamic simulations were also created for each building in order to quantify the energy efficiency for every season of the year. With the first building, it was possible to reduce energy consumption by 27.4 per cent compared to the reference value. A technical solution was developed for this purpose, using precise calculations of the energy consumption for the lighting and climate systems.





An important role for the energy efficiency and the ambience is played by the SAUTER novaPro Open building management system, simplifying the holistic management and continuous monitoring of all the systems in the different buildings. This enables the operators to influence specific areas of the system so that the total energy consumption can be continuously decreased.

#### High-tech and versatile

In the first building, the devices of the SAUTER EY-modulo 2 family of systems control the climate equipment systems, including the pumps for using groundwater for cooling and heating. Various SAUTER modu250 touch-panels allow the settings for the SAUTER novaFlex automation stations to be easily displayed and adjusted on site. 210 room automation stations (SAUTER ecos200) are used for the intelligent unitary control and are connected to the novaPro Open system via a novaNet interface.

The other two buildings are equipped with SAUTER EY-modulo 5 devices. SAUTER novaPro Open building management system uses BACnet/IP to connect eight modular SAUTER modu525 automation stations in one building and four in the other. The room climate is controlled by 37 and 13 SAUTER ecos500 room automation stations respectively. Furthermore, the novaPro Open monitoring system for the buildings of the Alcatel-Lucent headquarters is connected directly to the administration software of the multi-split room climate units and can be accessed from the management level with just a click of the mouse.

Together with the room automation stations, the remote SAUTER ecolink511 I/O modules regulate, control, monitor and optimise the operational installations. The modular structure enabled the wiring

costs to be reduced significantly. SAUTER EGQ 212/222-type CO<sub>2</sub> and temperature sensors measure the carbon dioxide concentration and room air temperature in all the rooms. They permit needs-driven controlling of the ventilation systems and effectively reduce energy consumption.

#### Energy efficiency and ambience

Even with high-tech on all levels, the planners were keen not to concentrate on optimising energy efficiency alone. In particular, they also wanted to design the workplaces to the very highest quality. Because this is also an important component of a green building according to LEED specifications: A comfortable environment should be provided that promotes the productivity and well-being of the building's users.

Therefore, Vimercate Energy Park is not just the result of a considered sustainability strategy. Above all, this future-oriented project is a successful combination of the need for an environmentally friendly design and technology, with all the partners planning and carrying it out working together successfully.

# Green broadcasting centre in Paris

The headquarters of Radio France in the French capital have already been heated and air-conditioned using geothermal energy for more than 50 years. Now the energy supply has been redesigned and brought up to date regarding energy efficiency using systems from SAUTER.

In Paris, it's known simply as the "Maison ronde" (round house). Situated directly on the right bank of the Seine in the 16th arrondissement of Paris, this impressive rotunda is the headquarters of public radio broadcasting in France. From here, Radio France provides its listeners with seven different radio stations, and the building is also home to the four orchestras of French national radio. Inaugurated in 1963 by President Charles de Gaulle, the Maison de Radio France consists of an outer building ring with a circumference of 500 m, in the centre of which is a smaller rotunda and a 68 m tower. The overall construction has a total usable area of 100,000 m<sup>2</sup>, with around 1,000 offices and 60 recording studios. The latter are located in the central building for noise-control reasons, while the tower is home to the archive rooms.

Designed by architect Henry Bernard, the astonishing ground plan of the building complex inspired the earlier logos of Radio France, and its ecological credentials are also impressive – ever since it was built over 50 years ago, the Maison de Radio France has been using geothermal energy for its air-conditioning. From a depth of around 600 m, warm ground water with a constant temperature of 27°C is extracted from the Paris basin, and a heat pump uses this to heat and cool the transmission centre almost independently. The decision to use geothermal energy was audacious and far-sighted for its time, and the deep drilling under the "Maison ronde" was the first of this depth in France.

## Modernisation on the 50th anniversary

As innovative as the building is in terms of its architecture and energy system, after 50 years of radio broadcasting, large-scale modernisation became imperative. On the one hand, there was an urgent need to renew the fire protection in the entire building and remove the asbestos. On the other, it was also necessary to perform a thorough restoration of the rooms to make them more comfortable.

The renovation work would also provide an opportunity to install a new 1,460 seat concert hall with a 100 register organ and turn the overground parking spaces into a green park. An underground car park with 700 parking spaces was built, and an intermediate storey accommodated the technical equipment, the power cable from Électricité de France, the power supply and heat production.

SAUTER was able to implement its SAUTER EY-modulo 5 energy-efficient system as part of the multi-stage modernisation plan. This communicative, modular solution – based on the BACnet/IP open communication protocol – can consolidate and regulate the data for the cooling system, heat pump, frequency converter and district heating station directly on the station. The SAUTER automation station also ensures the energy flows from the three new geothermal holes drilled under the Maison de Radio France are regulated and controlled. These new openings enable 16 degree ground water to rise to the surface from a depth of 45 m, and a heat pump uses it to fulfil the heating and cooling requirements, after which it is re-directed into the Seine. In winter, the temperature of the redirected water is 7°C, and in summer 28°C. With the restoration of the geothermal system, the existing cooling system on the central tower was no longer required, and it was possible to build a panorama floor on the top storey instead. The new installation fulfils the heating and cooling requirements of the building complex using a heat pump, thus replacing the original deep drilling, whose water output had more than halved over the years. Now the headquarters of Radio France use ground heat to produce the equivalent of the power consumption of a town of 20,000 inhabitants.

## Modular and open for other systems

Due to its modular design, the SAUTER EY-modulo 5 system can be adjusted to any size installation being controlled. It provides modules for easy commissioning and maintenance too, as the integrated

SAUTER highlights



web server also enables monitoring from any location. And with the native BACnet/IP protocol, the system is open for the integration of other systems and specialist plants. The BACnet protocol via IP is the basis of all field protocols and forms the backbone of the system architecture in the Radio France building. This system solution, combined with the SAUTER CASE Suite engineering tool, enables the development and implementation of algorithms to varying levels of complexity for the functions and interoperations required.

Adjusting the energy creation to the requirements, providing measurements, managing the data, distributing the information throughout the network in real time – these are functions that are performed by the SAUTER EY-modulo 5 easily and without difficulty using BACnet system integration. The BACnet protocol can ensure the desired comfort and energy efficiency in new and modernised buildings.

With the renovation of the geothermal energy creation and the HVAC equipment systems in the 22 storey tower of the Maison de Radio France – the latter is no longer used as an archive, but rather as office space – the first two phases of the modernisation have been completed successfully. By the end of 2016, the total refurbishment of the "Maison ronde" will be complete. Then the Maison de Radio France will fulfil the requirements of the Haute Qualité Environnementale (HQE), the French Green Building standard.

Portrait of the Maison de Radio France  
[maison.radiofrance.fr](http://maison.radiofrance.fr)

*Radio France logo with graphic based on the shape of Maison de Radio France.*



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