

ENERGY AND BUILDING

SOLUTIONS

2021

A Magazine About Security, Comfort and Efficiency in Commercial Buildings

Skyscraper With a Smart Interior

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BOSCH

Invented for life

Major Project:
Energy Efficiency
in a Hospital

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Dear readers,

The coronavirus pandemic has significantly accelerated the pace of digitalization. The last twelve months have shown the key role digitalization plays in our everyday lives and in our working environments – by enabling new ways of working together, streamlining processes, and allowing us to experience a whole new level of convenience, along with providing better protection and security.

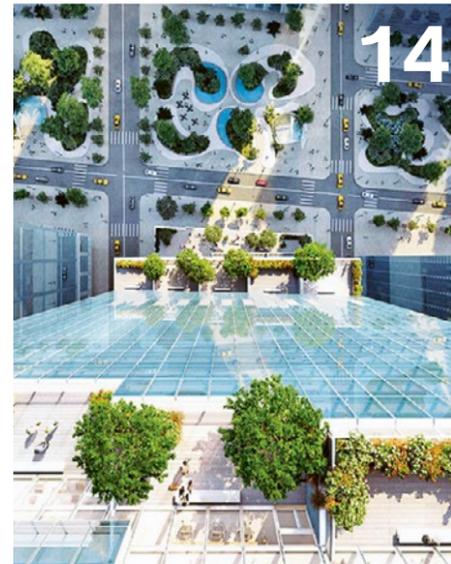
This development shows no sign of slowing down: the increasing interaction between artificial intelligence and the Internet of Things is allowing us to generate even more added value for you by providing innovative AIoT solutions, improving energy efficiency, enhancing convenience, and intensifying security. At the same time, the smart interconnection of technical building equipment helps give efficiency an additional boost, allowing new, intelligent services to emerge.

We can help you to identify and exploit the potential that the advances in digitalization offer. True to our value proposition, 'performance built on partnership'.

We are presenting a number of shining examples of how this is being done in this edition of *Solutions Magazine*. There are stories – both brief ones and bigger ones – for you to enjoy about how digitalization is making new things possible.

I wish you an enjoyable read!

THOMAS QUANTE
Executive Vice President
Bosch Energy and Building Solutions



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ABOUT THE COVER

Bosch subsidiary Climatic helped to make 'The Spiral', a 65-story luxury office building, New York's new 'skyline changer'

Investing in a Sustainable Future

It really is a mammoth undertaking: in order to realize a huge increase in its energy efficiency, the Robert Bosch Hospital is working together with Bosch to make its energy center and its building automation fit for the future. That said, there's plenty of challenges – from KRITIS to remodeling in confined spaces – that the experts will need to overcome.

Physicians would call what Bosch and its subsidiary, GFR Gesellschaft für Regelungstechnik und Energieeinsparung mbH are about to perform at Stuttgart's Robert Bosch Hospital (RBK) a complicated procedure. The measures to modernize the steam, heating, cooling, and ventilation systems are expected to be completed by mid-2021, and the renovation of the building control system should be finished in 2022 – all of which will be carried out while hospital operations continue as normal; after all, patient

care must be guaranteed around the clock. The goal is to increase energy efficiency significantly, to save costs, and make operation of the hospital even more sustainable.

A hospital that cares for around 44,000 patients a year is, of course, going to harbor quite a few 'energy guzzlers'. These include cooling processes – such as ones used for server cooling or ventilation systems, along with the hospital kitchen, large items of medical equipment, and the production of steam for the sterile

services department. "Add to this the steadily rising costs of energy," as Raphael Vogel, the project developer in charge at Bosch, says. This, in turn, increases the costs involved in running the entire hospital. The systems in use at Robert Bosch Hospital run well, but some of them are already anything from 15 to 25 years old – which shows that there is an undeniable potential for optimization. Marius Kaiser, lead project manager at Bosch, explains, "In terms of energy efficiency, the innovative solutions we can offer today are able ☺

to exploit technologies that simply didn't exist back then."

EVERYTHING NEEDS TO KEEP RUNNING ALL THE TIME

In addition to energy efficiency, the modernization is pursuing another objective: Robert Bosch Hospital, due to its high utilization rate, has been classified as an "operator of critical infrastructure" (KRITIS). This means that the hospital needs to be able to cater to highly specific and specialized technological requirements – and Bosch's new solution will help it do exactly that. "In the event of an outage, the providers must be able to guarantee that patient processes remain unaffected," explains Frank Schmidt, head of project management for Energy Services at Bosch. That also includes all systems used to supply steam, cold, air, and heat at the clinic.

The current KRITIS regulation for hospitals has only been in effect since 2019, so it is still new for all parties involved and is placing immense cost pressure on the hospital. However, Bosch and GFR have gained experience with KRITIS in other areas in the past, for example at Stadtwerke München, Munich's municipal utilities. This was something that the experts could profit from during the planning stage. "The tips that Bosch gave us were worth their weight in gold," says Steven Mashburn, acting technical director at the RBK.

A POWERFUL COMBINATION

Before making a start on the modernization work, however, the Bosch experts had to carry out inventory and potential analyses. What do we

have? What do we need? Where can we make optimizations? Where are there potential cost savings? Work on defining potential cost savings was followed by a detailed analysis and now, since November 2020, the actual conversion. "Planning was quite a challenge," Raphael Vogel recalls. "After all, this is an existing building, and we aren't just putting up a new structure on a greenfield site. This means that we have to put the existing infrastructure to good use." Nonetheless, numerous workshops and close cooperation with the foundation hospital allowed them to come up with a plan that everyone is happy with.



Frank Kohler, business director at the RBK



tegrating new automation systems. "We can't just dismantle everything here – which is why we're migrating our solution, something we think of as a new brain, into the existing systems," says Jörg Morkes in explaining the ongoing modernization work. The oldest switch cabinets, cabling, and sensors will, however, still be replaced. The building automation network is used to connect all the new automation systems to each other, which communicate using a special communication protocol.

"We have created an optimal basis for every aspect of building automation that the future might bring."

JÖRG MORKES, BUILDING AUTOMATION PROJECT MANAGER AT GFR

KRITIS

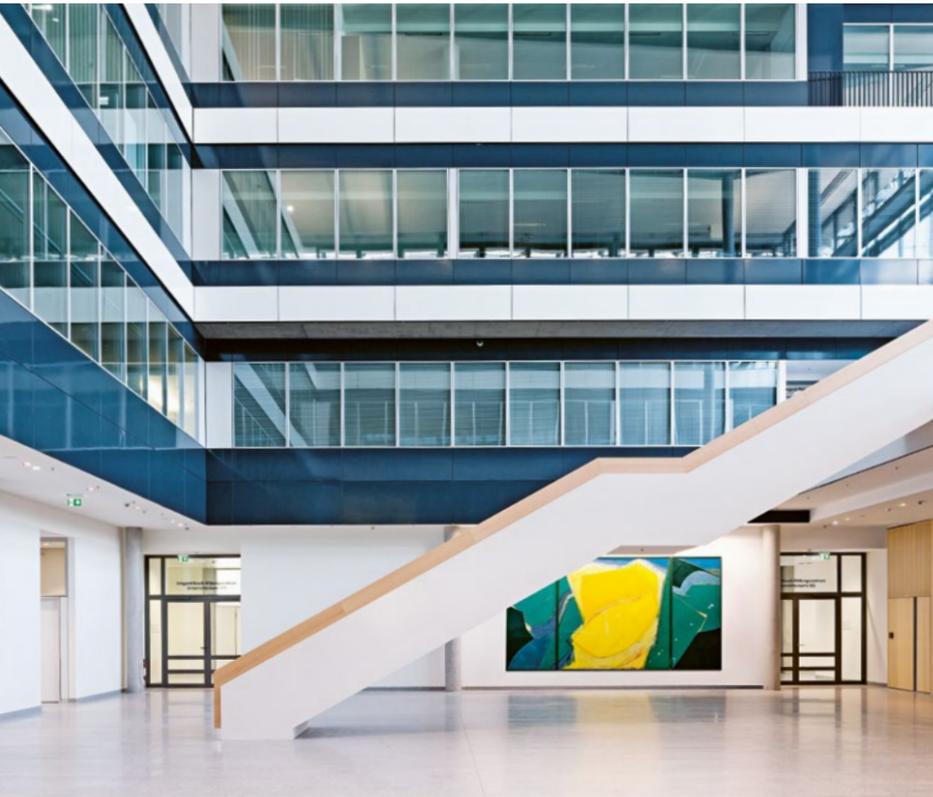
KRITIS refers to critical infrastructure. According to the definition used by the German Federal Office for Information Security (BSI), KRITIS organizations or institutions are those with a major importance for the state and the community. Outages or disruptions within institutions like these would, among other things, result in supply shortages or significant disruptions to public safety. To prevent this from happening, institutions such as Robert Bosch Hospital must use high-tech installations to guarantee uninterrupted patient care. The BSI defines which institutions have to meet which requirements in its KRITIS ordinance.

In order to achieve the defined goals and fully exploit the potential, a new solution was needed – in the case of this hospital, its solution builds up on a potent combination of factors: "We have created a holistic energy concept here that combines the best of smart building automation and sustainable energy management systems," as Jörg Morkes, project manager for building automation at GFR, says.

OLD BODY, NEW BRAIN

Automation systems in the energy center, for example, which houses the hospital's entire supply technology – including the heating, air conditioning, ventilation, and plumbing systems – are being brought up to scratch by in-

The actual heating systems will ultimately be comprised of three hot water boilers, two steam boilers, and a combined heat and power plant (CHP), which will allow massive savings to be achieved in energy costs. As the name indicates, CHPs are small power plants that function on the basis of the environmentally friendly principle of combining heat and power generation to allow decentralized production of electricity and heat. A motor in the CHP powers a generator that produces electricity. This generates waste heat that is converted into heat output for use elsewhere. For this to work, however, all of these systems need to have been installed: "Implementing the conversions while operations continue will be a logistical



tour de force,” says Frank Schmidt. “There must be two steam boilers ready for operation at all times, and two hot water boilers must be kept running.” This means they will have to carefully dismantle, move, and transport old equipment away according to plan – and all this in very cramped conditions. “It’s like Tetris,” is how the project manager describes it.

SHOWING CREATIVITY AND SKILL

“An absorption refrigerator represents an invaluable upgrade to the heating system. For me, it’s a real highlight,” as Frank Schmidt shares. The absorption refrigerator is connected to the heating system, and converts excess heat from the CHP for use in cooling processes. In another step, the systems used for cooling distribution and ventilation will also be optimized. It is hoped that the new Bosch solutions will provide savings

of up to €1.3 million per year in energy costs. The CHP alone will account for two-thirds of this total.

In addition, a new control system strategy will make additional energy savings possible. One example of this is the cooling distribution system. As lead project manager Marius Kaiser explains, “There are two on-site cooling centers that are connected to each other. Today, the two centers run self-sufficiently. In the future, we will combine both centers into one control concept, which will allow us to operate whichever refrigerators are the most efficient for the current load case. The many individual solutions previously used made this impossible.”

The modernization measures also include a completely new web-based management and operating system. Because it boasts a huge range of individually configurable settings and interfaces, it can be used to carry

out any number of adjustments – and thereby cater to customer requirements. As Jörg Morkes explains, “Our integrated, intuitive system makes managing and visualizing operating figures much more convenient.” This also helps facility management with troubleshooting, and makes the monitoring of energy consumption more straightforward.

BUT THERE’S MORE!

The end of the implementation phase won’t, however, mark the end of the partnership between Bosch and the hospital. Over the course of the seven-year operating phase following the conversion, the energy savings will be guaranteed, maintenance and servicing work will be carried out, and further savings potential will be sought together with the hospital.

“Our systems are sustainable and will remain available for at least 20 years to come.”

JÖRG MORKES, BUILDING AUTOMATION PROJECT MANAGER AT GFR

Robert Bosch Hospital knows that it can place its trust in Bosch and GFR. After all, hospital managers have been working with Bosch on the upgrading their energy management system since 2015. “We are happy to have obtained our solutions from a single supplier. If any challenges arise, we can count on our partners from Bosch,” as Frank Kohler, business director at the RBK, says. “To date, everything has happened fast and without any complications.” ●



DRONES

A Challenge on a Whole New Level

DRONES ARE ALL THE RAGE: these high-tech aerial vehicles have now become available and affordable for everybody – while also becoming easier to operate and more and more powerful. The number of operational drones has trebled in Germany in the last three years alone. However, this boom has also increased the potential for accidents and misuse, such as vandalism, sabotage and espionage. Bosch, as a security partner and system integrator, uses its many years of experience to offer customized protection against attacks from the

air as well. Bosch started conducting analyses in mid-2016, and has since been consistently growing this new field of activity. The most striking characteristic of the range of drone detection products and services that Bosch offers is the competence with which the company can combine the perfect ready-to-use system from a wide variety of available components. This means it is not limited to just one system. Bosch knows how to best combine specific technologies and integrate them into a holistic security management system.

6,646

This is the number of fire alarms that we install on an average day in Germany. A customer acquires an additional safety device every 13 seconds. These figures provide the proof that we make no compromises when it comes to protecting people and property. The earlier a fire is detected, the easier it is to extinguish it. And this is how we give our customers a level of safety that they can trust. This trust is based on more than 100 years’ experience in the technology used for fire protection for buildings, and on the expertise gained in the field of reliable and regulation-compliant fire-protection measures over this period.



DIGITAL PORTERS

Access Control in 15 Languages

FULLY AUTOMATED VISITOR MANAGEMENT that saves costs and time – Neuenhauser Maschinenbau GmbH is deploying an innovative access control solution made by Bosch at its headquarters in Neuenhaus. Fully automated access for suppliers and tradesmen is now controlled by a new, state-of-the-art visitor management system. The solution also ensures that all relevant coordination and documentation tasks are taken care of – in 15 different languages. The fully digital solution allows cost-competitive management of all delivery operations, along with simplifying dispatch by means of defined access profiles, and allows detailed, end-to-end documentation of access to the premises.

“We Inspire Buildings to Live Intelligently”

How can we update existing commercial buildings for the digital age in the 21st century? The ‘Building Intelligence as a Service’ program unites technology, software, systems and sensors with building technology processes and user requirements. This aim is to provide sustainable, safe and comfortable environments that adapt and respond to the needs of humans as a service. We talked to Andreas Mauer, chief technology officer within Energy and Building Solutions at Bosch Building Technologies, about intelligent buildings as a service.

Mr. Mauer, what’s the thinking behind intelligent buildings as a service?

We design and develop new IoT services that make a contribution to turning buildings into intelligent and proactive living and working environments. We combine technology, software, systems and sensors with our knowledge of building processes and procedures, and integrate them within one digital environment. All of the information is pooled in a solution architecture that can master key challenges such as connectivity, secure data storage and processing, and visualization. This allows us to create a fundamental basis that existing buildings, for example, can also profit from. The main focus is on technology and processes from the perspective of optimized building operations, which means, for example, the rapid identification and solving of any incidents or – of key importance – improving energy efficiency. This point primarily interests property owners or facility managers and operators. Moreover, we also direct a focus at the people who use the buildings, and how they and their needs are safeguarded by the building in different situations. This involves, for example, the issue of how the users are given specific information when they drive into the parking garage or are sitting at their desk or in a conference room, or are on their way to the elevator or to the canteen.

What might these individual IoT services look like?

If, for example, I’m on my way to lunch in the canteen, a mobile app gives me recommendations as to what’s on the menu. When I’m going to the café, I can order a cappuccino while I’m still on the way there. And if I’m in a conference room, the room already knows which temperature or light settings I prefer, and the Microsoft Teams screen opens. The building is connected to my Office calendar and knows exactly where I want to go and how long I’m likely to remain there.

In principle, it’s about the ability of the building to respond to different situations according to the context, and in an efficient manner. COVID-19 has given demand for these types of digitalization solutions an additional boost. We receive new inquiries every week, for example ones about the issue of using rooms optimally.

“We want building owners to reap the full benefits of the IoT technology of the 21st century.”

You mentioned efficiency, which is a key term...

We aim to achieve the highest possible levels of building efficiency with the aid of sensor environments suitable for versatile use. Among other things, this refers to issues such as sustainability, CO₂ output and energy consumption, but also security aspects. Our aim is to gain a proactive understanding of this interplay, and to take the corresponding action. This is a core feature of our program. Sustainability is, in general, also a decisive criterion for the Bosch group as a whole. At the same time, environmentally friendly concepts help save costs over the long term.

How have customer requirements and expectations changed over the past few years?

Just five years ago, the attitudes encountered among owners and operators of commercial buildings – such as office blocks, shopping malls, railway stations or airports – tended to be conservative in regard to sustainability. The interest in investing in better energy efficiency was not as high as it is today. This mindset has changed significantly. Today, an emphasis is placed on using functional buildings the same way that modern vehicles, private residences or smartphones ☞

are used as a tool in our work and living environments, and make them more comfortable. We want building owners to reap the full benefits of the IoT technology of the 21st century. We achieve this by offering sustainable IoT business services for buildings which provide the option of retrofitting them to existing field devices and older building systems.

“In principle, it’s about the ability of the building to respond to different situations according to the context, and in an efficient manner.”

What does this mean in specific terms?

Take fire alarm systems, for example. We simply supplement the existing, mandatory fire alarm sensors with additional sensor systems and functions. From a user’s point of view, it is apparent that today’s generation of digital natives see and perceive buildings completely differently, and are looking for the full experience of digital connectivity. We have even noticed that young professionals want to know how intelligent the buildings of potential new employers are when looking for a job. For

example, Microsoft has built fully digitalized headquarters in Ireland. The company’s aim is for every inhabitant of the country to visit this building at least once over the next five years. The idea is that this should provide an incentive for today’s adolescents to apply for a position with the software giant later on.

Which know-how is Bosch contributing?

Our ‘gold’ is our wealth of experience as a system integrator in building security, in building automation, and in all matters related to energy. We can employ this expertise to project a global vision onto a building, and use it to observe and comprehend what’s going on at any point in time – and this in real time. This allows us to control all building functions in an optimal way. For example, this makes it possible to plan and initiate so-called health-checks – i.e. service assignments – in a proactive manner. One emerging trend is that more and more services are required in which we are, in a number of cases, still building up our expertise. This is where we are working together with partners, for example on anonymized track & tracing of a person or an object within a building, or on indoor navigation within large building complexes.

“Sustainability is a decisive criterion for the Bosch group. Environmentally friendly concepts help save costs over the long term.”



ANDREAS MAUER

Andreas Mauer is the vice president (VP) and chief technology officer (CTO) of Energy and Building Solutions at Bosch Building Technologies. His industry-specific background can be found in the fields of industrial automation and IT consulting. Mauer joined Bosch as CTO SW in the Security & Life Safety Management software products division. He is currently focusing on IoT business services to create modern digital connectivity opportunities and energy solutions for commercial buildings.

Which methods does your team work with?

We ask about the operator’s pain points, and survey customer opinions, and compare the current user journeys with those of the future. The key term here is domain-specific semantic modeling. This is an abstract, formal description and model of the basic data and relationships that are important for the solution. When this is integrated in a digital environment, then what are known as knowledge graphs can be created. This means that a digital map of

the real world covering one service, or several related services, is created. This digital twin is used to merge processes with specific systems and with different people. This real-time digital map is the main method we use – and it is something that, to a certain extent, makes us unique. It even enables us to get older buildings fit for the future – or to ‘onboard’ them, as we call it.

What comes next?

Continuing our multi-domain and integrative observation and comprehension of processes that occur in buildings allows us to attain the highest levels of process effi-

“The real-time digital map is the main method we use – and it is something that, to a certain extent, makes us unique.”

ciency. This enables us to implement semi-autonomous building processes – and this is exactly what there is a demand for today. Our industry is moving away from domain-controlled systems towards versatile and flexible system and sensor environments. We are currently developing a common platform that will allow us to build up all these new IoT services, and offer it as a building management service suite. It really is something unique.



Learn more about smart buildings and how you will benefit from intelligent buildings in the future:
boschbuildingsolutions.com/smart-buildings

65 Inspirational Stories

New York's New 'Skyline-Changer'

New York's skyline is one of the most famous in the world. All its other skyscrapers will soon be joined by a new one illuminating the night sky: 'The Spiral' is a luxury office building featuring intelligent building technology, with Bosch subsidiary Climatec supplying its building management system.

The Spiral aims to be smart, to be green, and to offer an enviable quality of life. Are we really talking about a skyscraper? We are – albeit a very special one. The towering building, which is currently under construction in the western part of Midtown Manhattan, New York, represents a new generation of skyscraper. 'The Spiral' is a 65-story building and its surface area of around 265,000 square meters will largely be used for office space. Its extraordinary interior and exterior architecture, its environmentally friendly design, and its smart technology mean that 'The Spiral' embodies the future of the sustainable, interconnected and comfortable workplace. And this is exactly how Bosch's subsidiary Climatec has played a major role. 



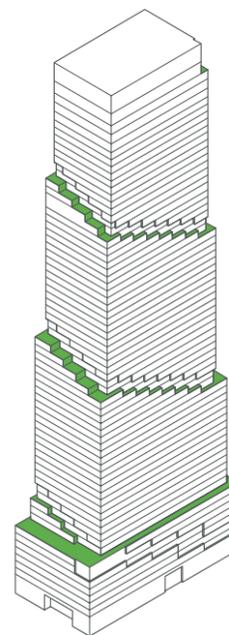
Open spaces can be used flexibly and encourage conversation

HUDSON YARDS

'The Spiral' is located adjacent to New York's district of Hudson Yards on the Hudson River to the west of Manhattan. Hudson Yards is one of the largest and most costly private-sector construction projects in the history of the USA. It is home to 15 luxury skyscrapers for offices and apartments – some of which were designed by 'starchitects' – as well as parks, hotels, a subway station of its own, a school, and all sorts of other infrastructure that will help the district make New York more dynamic, and attract new talent to Manhattan. Construction started in 2012, and the district was officially opened in March 2019. However, some buildings are still under construction.

GARDENS IN THE SKIES

More about those later... Let's start by taking a look at the exterior, before we move on to examining the interior. Soaring around 300 meters high, 'The Spiral' will be one of the tallest office buildings in New York. The name of the skyscraper is, of course, no accident. The architects from the BIG-Bjarke Ingels Group and the Tishman Speyer real estate company drew inspiration from Manhattan's classic 'step-back architecture' when planning the structure. The building will exhibit a twist running from the bottom to the top, before narrowing at the tip, and thereby creating a cascade-like design. This is expected to allow light and air to reach the streets below. The building's future users will have plenty of space to take a breather and share their ideas outdoors on the terraces located on each story. The hanging gardens, which will form a helix around the building and will be still visible from far away, will make 'The Spiral' even greener.



Space to breathe – 'The Spiral' has a cascade design with terraces on every story

The focus of the interior design is also on encouraging communication and working in comfort. The open-plan offices allow future tenants to use the space available the way they require, and offer plenty of room for meetings and similar activities. "Because the competition for tenants is keener than ever, we're hoping that our intelligent building technology will make our partner's portfolio even more attractive," says Gabe Mans, Sales Manager at Climatec.

INDIVIDUAL AND INTELLIGENT

Climatec's technology plays a major role in the inner workings of the Spiral. The system integration and building automation experts are equipping 'The Spiral' with a central, high-end building automation system that is, in a sense, the beating heart of the skyscraper. This system allows all the different components to be integrated and managed, including the security solutions and technologies that increase the level of convenience for ☺



265,000

square meters is the total office space that 'The Spiral' offers

the users of the building. The operator will, for example, be able to configure different systems individually, and/or make adjustments to several systems at once. This makes optimizing the energy efficiency, or overhauling the visitor management system, for example, much easier.

Moreover, the Climatec solution also helps to look after all the greenery that flanks 'The Spiral'. It monitors the building's irrigation system and ensure that the plants receive the right amount of water at the right times – there are strict rules for this according to the type of plant. The lighting and energy management systems can also be integrated into the automation system.



“Because the competition for tenants is keener than ever, we’re hoping that our intelligent building technology will make our partner’s portfolio even more attractive.”

GABE MANIS

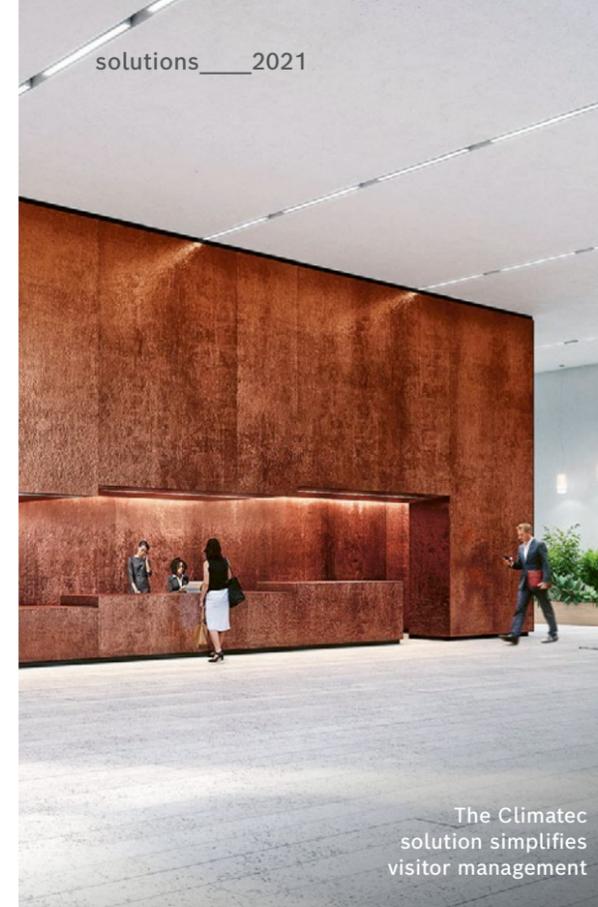
The latter enables the owner to monitor the total energy consumed in the building and ensure that the CO₂ emission guidelines enacted by the City of New York are not exceeded. “On the one hand, our sys-

tem focuses on cost and energy efficiency and manages to combine its indoor and outdoor areas in a sustainable manner. On the other hand, the intuitive operation of our customized user interface also makes building management much more convenient for the users,” as Jonathan Ambjor, customer advisor at Climatec in New York, concludes.

The building automation system is part of a convergent network – a large-scale network that merges numerous, previously decentralized, technologies. This network is used to support the IT infrastructure, as well as the individual building systems. The Climatec solution therefore provides a communication, monitoring and control platform that is used to integrate many other building systems, such as the electricity meters or lighting control system. In a nutshell – intelligent interaction between the most diverse components. Should the operator wish to integrate other items of equipment or functions in the future, this can be done with ease.

SYSTEM INTEGRATION AS ‘FEEL-GOOD MANAGERS’

“A mammoth project like this requires a huge amount of coordination work on the part of us system integrators,” as Gabe Manis says. And not just in relation to the technology alone. Jonathan Ambjor adds: “We always do our utmost to ensure that all parties are content.” The Climatec team believes it is important to perform its tasks in close consultation with the client – in this case Tishman Speyer. “We want people to see us as more than just salespeople,” says Ambjor. “We’d like them to consider us partners.” And it was exactly this mindset that helped Climatec to rise above the competition during the bidding phase. Another benefit of the Bosch

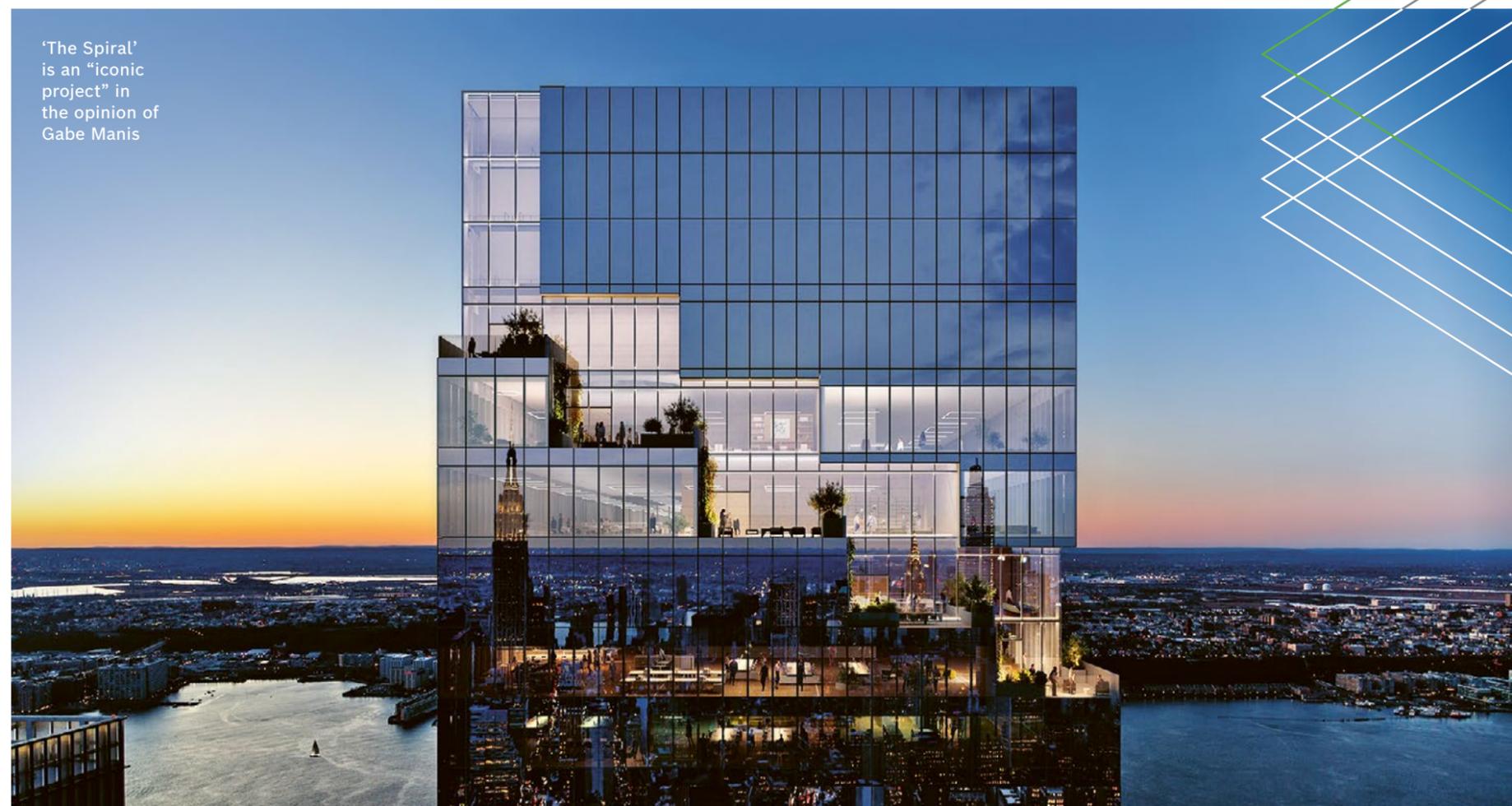


The Climatec solution simplifies visitor management

subsidiary: “We can make decisions on the basis of the track record we have built up, and of our local know-how. At the same time, we have Bosch, a global leader in technology, to provide support,” says Gabe Manis.

The construction project is expected to be completed in full in 2022. And even though 'The Spiral' is not Climatec's first skyscraper, it's really special for Jonathan Ambjor: “Every day when I drive home from work to my family, I see the building on the skyline and I feel honored that my company had the opportunity to be involved in working on this iconic project.” ●

'The Spiral' is an “iconic project” in the opinion of Gabe Manis





Smart Technology You Can Count On

Modern automation systems provide the basis for sustainable, economically attractive, and safe buildings. No wonder our customers are placing their trust in connected solutions, increasing digitalization, and ongoing optimization. By providing new ideas, all our experience, and guidance over a building's full life cycle, we help you to realize cost savings while enjoying more comfort in everyday operations.

Energy savings of 40%

Building automation offers an energy saving potential of up to 40% for commercial buildings



Building automation only accounts for 1 to 2% of the total construction costs if it is included in the plans right from the start

HOW OUR CUSTOMERS BENEFIT FROM BUILDING AUTOMATION SOLUTIONS

 PROFITABILITY They optimize their business, and benefit from cost savings	 COMFORT They offer those who use the building a state-of-the-art and attractive environment
 SUSTAINABILITY They conserve resources and increase their building's sustainability	 SAFETY AND SECURITY They significantly improve monitoring and security processes in their building

Learn more interesting facts about building automation: boschbuildingsolutions.com/building-automation



TODAY'S INTELLIGENT BUILDINGS SIMPLY USE AUTOMATION TO PROVIDE ANSWERS FOR THESE ISSUES:

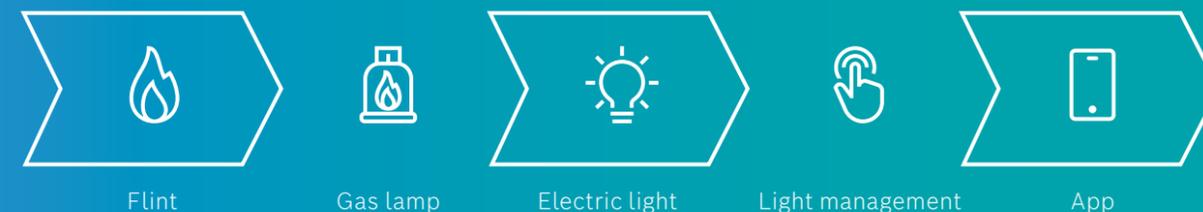
- ✓ Heating, ventilation, air conditioning, air quality
- ✓ Energy recovery
- ✓ Lighting
- ✓ Consumption data monitoring (heat, gas, electricity, water)
- ✓ Shading
- ✓ Control of multimedia systems and equipment
- ✓ Occupancy detection
- ✓ Integration of safety and security technology: access control, fire protection, video surveillance, hold-up alarm systems, windows, doors
- ✓ Energy and technical control centers
- ✓ Remote monitoring, remote control

WHAT BUILDING AUTOMATION CAN DO

- Measurement and control
- Operation and automation
- Visualization and analysis
- Connection and optimization

FROM THE FLINT TO THE DIGITAL CONTROL SYSTEM

Lights, please! Automation is the logical consequence of innovation – as this example alone clearly shows.



New Concepts, Sustainable Change and the World of Work

New Work: just a buzzword from the world of startups or the future for our workspace? Opinions differ, but at the very least, ever since the coronavirus came along, there's been no getting around it – we've had to find new ways of working together in a team. And yet the New Work movement encompasses far more than just the virtual office and Zoom meetings.

But what exactly does the concept of 'New Work' involve? Duden – yes, the concept of 'New Work' has actually made it into the most respected dictionary of the German language – describes the concept as “the flexibility that characterizes the forms that today's (office) jobs and/or the organization of work (for example, telecommuting) can take”. New Work is also often associated with what has been dubbed the World of Work 4.0. This has been shaped by the forces of digitalization and globalization: the work that people do has been liberated from the constraints of time and place – and the entire world economy is interconnected. These developments bring new opportunities, but also new challenges – this being the need to rethink flexibility, structures and our work environments. In other words, New Work.

“The concept encompasses any number of aspects. What they all have in common is that they are not only changing the way we work, but also the way we live,” as Dr. Marion Weissenberger-Eibl, a university professor, explains. She holds the Chair for Innovation and Technology Management at the Karlsruhe Institute for Technology (KIT) and

is also the director of the Fraunhofer Institute for Systems and Innovation Research. Her take on New Work: “For me, it's all about questioning structures that have become entrenched in the world of work.”

“For me, it's all about questioning structures that have become entrenched in the world of work.”

PROFESSOR MARION WEISSENBERGER-EIBL, KARLSRUHE INSTITUTE FOR TECHNOLOGY (KIT)

Breaking with old habits and expectations – Fabian Mottl, communications manager at Steelcase, a manufacturer of innovative work environments, is in full agreement: “Where classic corporate structures with their rigid frameworks and clear hierarchies seek to put constraints on the individual, New Work promotes the employees' freedom to choose.” For Mottl, New Work attempts to put people and their needs first. “People want to have more say about how they use their time at work, for example, or where they choose to work.” Marion Weissenberger- 

New Work: More than just online meetings...



Eibl also points out that the trend suggests companies are turning their backs on the classic nine-to-five cubicle-based work model. "When it comes to young workers in particular, the work-life balance plays an important role – for them, it's about combining family life, leisure time and work."

CREATIVE ENCOUNTERS

This means that New Work can be understood as an umbrella term that is based on concepts that are not only able to be realized within an office environment, but also outside it. "The work environment makes a major contribution to the work ethic and wellbeing of employees," says Weissenberger-Eibl. Conceiving of new types of workplaces shifts the focus toward the potential for sharing information and for

"New Work needs a role model."

**FABIAN MOTTL,
COMMUNICATIONS
MANAGER AT STEELCASE**



...it's about
flexibility and
the employees'
needs

teamwork. This also shows that the important thing is to move away from rigid structures in favor of more flexibility, quality of life and sharing. "One of the ideas behind the New Work movement is that creative ideas emerge as a result of chance encounters." One function of architecture is to help foster these opportunities. This is often achieved by opening up the office space, and creating new spaces that allow staff to recharge. And yet the office layouts must still provide areas for people to work individually – in the end, many workers sometimes still want a place to retreat to. Mottl emphasizes that apart from addressing issues of aesthetics and allowing chance encounters, the interior design concept must not neglect functionality. "Simply offering access to power outlets, providing ergonomic seating that helps maintain good posture, or giving workers surfaces to set up their devices are factors that can determine whether the areas really are used or not."

Simon Wu, founder and managing director of iDA Workplace, a Shanghai-based provider of innovative workplace design services, recommends configuring the working space to cater to needs, and not to individuals – because modern technology ultimately allows them to work wherever they like. According to Wu, most workers fall into one of three categories: those who need to concentrate, those who like to give advice, and the ones who travel. "If you keep all of these types in mind, people can choose their work environment according to the respective task at hand – do I want to be alone, do I want to workshop an idea, or do I want to hold a brainstorming session?" All this has a big impact on efficiency and creativity at work, and, over the long term, helps improve the bottom line. There's one thing he's confident about: in the future, offices as we know them today will no longer exist. The focus will be directed at the group, and not the individual. Meeting spaces and areas for collaboration will become more and more important.

At times, even small changes are enough: "Even when you're still coming up with ideas, providing rooms that are designed to break up routines, or to give workers a view from the window, is already a step in the right direction," as Fabian Mottl explains. Whiteboards or writable walls, for example, help with visualization and sharing ideas. "A single whiteboard, however, isn't going to do the trick," says Mottl. We need well designed room layouts that cater to individual requirements.

THE BUILDING AS A PERSONAL ASSISTANT

Room design concepts refer to far more than just new furniture and equipment – digitalization and connectivity also play an important role. Simon Wu describes his vision of a smart room reservation system that is able to recommend the perfect space for any given context – one that takes into account

the type of work being done, how many people will be involved, and which equipment will be needed. The smart building technology would then tailor parameters such as air quality, humidity and temperature to the respective requirements. This would not only make the work more productive, but also much more comfortable and conducive to good health.

Martin Höttecke, a professor at FH Münster University of Applied Sciences and an expert in smart homes and smart building, can also conceive of a day when even your company cell phone is connected to the parking garage. "Imagine, the garage knows that you are on your way in your electric car, and can recommend a suitable parking space with a charging station to you directly, saving you from having an unnecessarily stressful morning."

Indoor navigation apps, for example, would be an excellent aid for visitors in large office buildings as well. This is also true of a building that knows where you work as soon as you've walked through the door, and has already sent the elevator down to meet you. "From climate to security technology, the only limit is your imagination. In the end, the entire building automation system will be at the service of humans," says Höttecke.

HUMANS NEED HUMANS

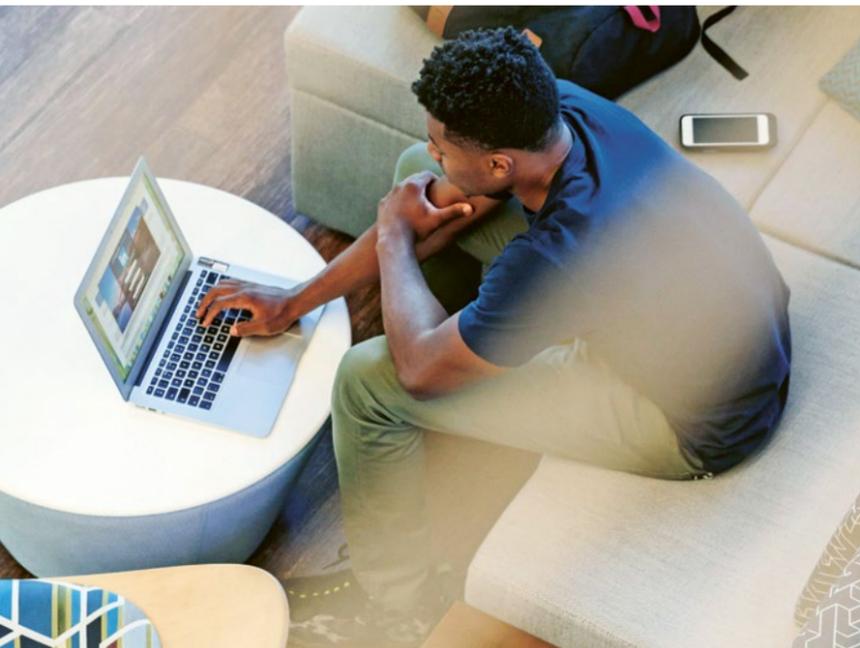
However, potential ideas don't just need to be limited to the office – over the past few months, remote workplaces have become



New Work
thrives in open
room designs

"The entire building automation system will be at the service of humans."

**MARTIN HÖTTECKE,
PROFESSOR AT FH MÜNSTER
UNIVERSITY OF APPLIED SCIENCES**



infinitely more important. Video conferences are now a matter of routine. Doesn't that mean that New Work is already a reality? "Just leaving it at that and telling yourself that it's alright, we've made the transition – I don't think this is the right way forward," says Marion Weissenberger-Eibl. Now, more than ever, is the perfect time to reflect on which tools and processes companies wish to retain, and where there's room for improvement. Moreover, we mustn't forget that humans are essentially social creatures. Digital solutions can help maintain interpersonal connections, but they can't replace them.

“The trend suggests companies are turning their backs on the classic nine-to-five cubicle-based work model.”

PROFESSOR MARION WEISSENBERGER-EIBL, KARLSRUHE INSTITUTE OF TECHNOLOGY (KIT)

What's more, New Work does not have to be confined to office spaces – any environment can, after all, be designed with people in mind, as the smart building specialist Höttecke explains. One example is a major hospital in Westphalia, where tests are currently being conducted on localizing objects: "Nursing staff find that having to constantly track down things that they need – such as laundry carts – is a real hassle." In situations like these, trackers can help. "For me, this is also New Work. New Work is

Might fixed office seating plans soon belong to the history books?

viable in any situation in which we can use digitalization to make our lives better."

NEW WORK IN MID-SIZED COMPANIES?

New Work – it invokes images of hip start-ups, co-working spaces or tech companies in Silicon Valley, particularly when it comes to topics such as digital work, the freedom to choose your own working hours, and telecommuting. "This is where some companies, especially mid-sized companies, start to lose interest," says Marion Weissenberger-Eibl. And yet New Work can take all sorts of different forms. New Work is perfectly feasible for any company and in any industry. As Fabian Mottl explains, "the primary goal should be to create an 'ecosystem' of workspaces that supplements traditional workspaces with alternative ways of using the office – and this in home offices as well. The design must guarantee a positive, rewarding and safe experience for the employee."

THE WORK ENVIRONMENT AS AN IMPORTANT FACTOR FOR JOB SEEKERS

"New Work needs a role model," says Mottl. "This does not mean starting by buying new furniture or making big investments, even if adapting technologies and office equipment makes sense in the long run." According to Weissenberger-Eibl, first and foremost it requires "increased communication and new styles of management". Including employees in the transformation process is a decisive step toward fostering an atmosphere that accepts and welcomes change. At the same time, employers and managers must have the courage to step out of their own comfort zones.

In the future, New Work will also play an even larger role when it comes to recruiting new talent. Marion Weissenberger-Eibl

points to the big American tech firms that have recognized the changing expectations of the workforce, and have long since started offering additional incentives. Google, for instance, has designed an entire living environment that includes cafeterias, laundromats, sports facilities and swimming pools at its complex in Palo Alto, California. In this case, the line between life and work has been deliberately blurred in order to promote employee retention, says Weissenberger-Eibl.

This can, however, also backfire. Not every member of staff is comfortable with the increasing hybridization of work and leisure time. Remote concepts also demand constant availability, and require more discipline and self-organization skills. "Many end up finding it stressful," says Weissen-

Dividing up the space according to requirements rather than people

berger-Eibl. "We have to take their reactions seriously and find good solutions."

SAVING TIME AND CO₂

New, digital ways of working will also have a positive impact on the environment. "If every worker does not have to commute every morning, it will lead to a better flow of traffic in city centers," says Höttecke. This not only saves workers time and stress – it also reduces CO₂ emissions. And not having everyone at the office at the same time allows the space to be used more efficiently – with smart building automation also playing an important role in this case: it not only makes the workplace more comfortable, but also more energy efficient and therefore more sustainable. Whether it's architecture, sustainability or employer branding, "New Work has so many exciting aspects to offer – and they're all interlinked," as Höttecke concludes. And everything is in flux, because after all, the future of work has only just begun. ●

'New Work' is increasingly allowing companies to profit from digital HR processes. Intelligent HR software solutions from Bosch will get your personnel processes fit for the future.



Two Partners Soaring to New Heights

Europe's third-largest airport: Schiphol is used by around 71 million passengers every year

Schiphol Airport is the most important hub for air transportation in the Netherlands. Since it envisions becoming an 'autonomous' airport, Schiphol has a very ambitious IT and data strategy. Bosch has been working with Schiphol for more than 10 years now, and enjoys a very special place as preferred technology provider for the safety and security domain.

Picturesque canals and brick buildings, as well as innumerable small shops and cafés, are all part of Amsterdam's charm. But all it takes is a 15-minute train ride to reach the gates to the wider world, Schiphol Airport. Every year, 100 different airlines bring around 71 million passengers to around 350 destinations from here. An airplane takes off or lands here almost every minute – just under half a million a year. In 2020, Schiphol was already the third-largest airport in Europe after London Heathrow and Paris Charles de Gaulle, and spanning an area of 2,787 hectares, it is about the size of a typical small German town. The area is a true airport city. There are shops and restaurants, as well as a branch of the famous Rijksmuseum with works by famous Dutch painters. The grounds of the airport are also home to a library, a spa and an air-

port park. And that's just the part of Schiphol that passengers get to see; work is in progress around the clock behind the scenes, too.

BOSCH IS PART OF THE TEAM

Around 62,000 employees ensure operations run smoothly at AMS, which is Schiphol's IATA airport code. There are also 50 Bosch employees such as project managers, service technicians or solution architects who work on site in control rooms, or look after security cameras, ground radar, and the voice alarm and public address system, for example. "We have been working with Schiphol for more than ten years, and have continued to grow our partnership the entire time," as Freek Vermeulen, who is an airport customer program manager at Bosch and responsible for customer and stakeholder relations at the airport, says. At the

airport, the team acts as system integrator in the safety and security domain, advises Schiphol on technical issues and projects, provides and installs solutions, and takes care of service tasks such as maintenance and servicing. “Bosch is fully integrated in our operations, knows the business, and understands how important certain safety and security systems are for us,” says Fred de Winter, the senior safety & security business platform manager at Schiphol Airport. “I don’t need to instruct the Bosch employees about what they need to do, because they pitch in and tackle issues at their own initiative.” When the airport’s entire camera surveillance system was modernized a few years ago, Bosch installed around 4,000 video cameras and, working with other partners, developed a customized video management system. The system is now being serviced by Bosch employees, who are also responsible for equipping and maintaining most of the airport’s seven control rooms. “I see Bosch as a department working alongside my own – we really are partners,” as de Winter explains.

ACTIVE CONSULTATION

Maintaining an on-site presence means that the Bosch employees can get involved in, and contribute their ideas to, projects at an early stage. “We advise our clients according to their needs, and look for the most appropriate solutions,” says Frank Zijlma, an implementation, service & maintenance manager at Bosch. When the COVID-19 pandemic first broke out, for example, Bosch advised the airport on which temperature screening technologies could be used. “Bosch is able to contribute



Bosch has installed an ultra-modern control room at the airport—the Airport Operations Center (APOC). It is only one example of many joint projects



“We are providing Schiphol with support in implementing its plans to become the world’s best digital airport, and are contributing our expertise in digitalization and the Internet of Things.”

FREEK VERMEULEN, AIRPORT CUSTOMER PROGRAM MANAGER AT BOSCH ENERGY AND BUILDING SOLUTIONS

to identifying solutions, and has a wide range of expertise to offer in its specialist field of safety and security technology,” says Fred de Winter. This also includes putting thought into process optimizations. “When passenger traffic in the airport’s halls and walkways decreased during the pandemic, we rescheduled work that is usually done at night to the daytime, which saved our customer money,” says Freek

Vermeulen. “I think that thought processes like this are a key component of a long-term partnership that is based on trust.”

SMART CAMERAS TO OPTIMIZE PROCESSES

Over time, the relationship between Bosch and Schiphol has evolved into a vested partnership—a hybrid form of cooperation in which the airport

and Bosch are pursuing a common vision based on shared values and goals, as well as on outcome-based economics. “We are providing Schiphol with support in implementing its plans to become the world’s best digital airport, and are contributing our expertise in digitalization and the Internet of Things,” says Freek Vermeulen. The partnership is being pursued in different project stages: in the first stage, Bosch is providing service and maintenance work for security assets, such as security cameras and ground radar. In the second stage, Bosch is acting as system integrator for complex IT-related projects. “For instance, last year we delivered a state-of-the-art control room called the Airport Operations Center (APOC),” says Freek Vermeulen. In the third stage, both partners will work on innovation projects that make the airport more efficient, smarter, more secure and more autonomous. The use of artificial intelligence plays an important role in this. “The 4,000 cameras that we installed operate with smart



Learn more about our project with Schiphol Airport and other partnerships: boschbuildingsolutions.com/schiphol

READY FOR TAKE-OFF?

Bosch solutions and services make airports even safer, more secure, more efficient, and more convenient. Our experts combine building security with energy efficiency and building automation. This results in interconnected and integrated end-to-end solutions that deliver tangible added value for your customers and associates. For more information, please contact us.

algorithms, and are not only used for security, but can also be used for people counting or to automate a lot of airport processes,” explains Vermeulen. For example, Schiphol is the front runner in what is known as apron artificial intelligence. This involves analyzing all processes around an aircraft stand and using algorithms to estimate when an aircraft can depart. Bosch is providing the camera technology necessary for this innovative system. Other innovations that Bosch is working on at Schiphol airport relate to smart asset management and the use of camera technology to maintain assets and smart roads. For the latter, cameras are being used to anticipate traffic flows around the airport’s car parks, avoid congestion on the access roads, and improve the overall road security.

IDEAS FOR THE FUTURE

During the coronavirus pandemic, Schiphol Airport has been able to maintain its operations, subject to certain restrictions, however a number of digitalization projects had to be put on hold for the time being. However, as soon as the situation allows, the projects will be resumed. Many of these projects aim to improve the quality of service at the airport and to automate many airport processes to make the airport smarter. It’s not just the experience of travel, but also the customer journey provided by the airline, that will keep Schiphol attractive as an airport. “We are very proud that our customer Schiphol considers us as a strategic partner. This long-term relationship is very important to us. It’s ‘performance built on partnership’ at its best,” says Freek Vermeulen. ●



Trainer Steenberg Siemons explains the technical principles of image transmission technology in IP networks, among other topics, in his courses on video technology

Not Just Knowledge – Practical Skills Too

Every year, Bosch trains around 4,000 participants in seminars held at its own academy covering technologies and guidelines relating to building security. The key focus is directed at practical training that helps participants get ahead in their professional lives.



The head of the Bosch Security Academy, Christine Loibl (bottom center), with a few members of the training team

Christine Loibl has taken the principle of life-long learning to heart. After completing her training as a drafting technician for mechanical engineering, she completed her exam as a foreman specializing in metal, gained a qualification in technical business administration, studied business psychology and taught people with speech and hearing difficulties. Today, she is head of the Bosch Security Academy. “You should never be afraid of change,” says Christine Loibl. This credo also applies at the Security Academy, where courses on building security and the associated technologies are held at three locations in Germany. Currently, new topics relating to building automation are being added to the range of seminars. The participants in the seminars include Bosch apprentices and associates, as well as technical staff from other companies.

There are 14 trainers working for the Academy across Germany. Most of them are technicians and engineers with many ↻

years of experience in their field. They help technical staff to learn how Bosch security systems are installed, parameterized and operated, as well as which standards and regulations apply. The number of participant days offered by the Security Academy adds up to around 14,200 a year. Bosch

apprentices account for one third of this number. In addition to the courses that they attend at vocational schools, they also undergo training at the Security Academy to qualify them as information and systems technology electricians, or information and telecommunications technology electricians. In addition, training courses are also provided for external customers such as planning agencies for security systems and building automation, major customers, and contract partners. "Our aim is to give the participants the knowledge they need to master the daily challenges that their projects bring," says Christine Loibl. "Thanks to our practical approach to training, this works really well. It allows the participants to practice on the very latest systems at our locations."

The Security Academy offers more than 240 different seminars, all of which are constantly updated. "This is the right address for anyone who wants to get up to speed with technology, standards and regulations," says Christine Loibl. The

trainers working at the Academy have many years of practical experience, and when requested, travel to Bosch locations or to other companies to provide employees with further

training there. In addition to the classroom-based courses, the Security Academy also offers webinars. This proved to be an advantage when the COVID-19 pandemic first hit. "We didn't hesitate to add new modules to our existing online seminar program, and are experimenting with innovative learning methods," as Christine Loibl reports. For example, the trainers use quizzes to add variety to the learning process in webinars – something that the participants really enjoy. "A training center never stops learning either," as Christine Loibl concludes. ●



Thomas Lehder is one of the trainers covering the topic of fire alarm technology



The number of webinars available has increased significantly in the last few months: Florian Heilmann gives courses on the Universal Security System USS

"You should never be afraid of change."

CHRISTINE LOIBL



OLYMPIAHALLE MUNICH

Sustainably Optimized for the Next 30 Million Visitors



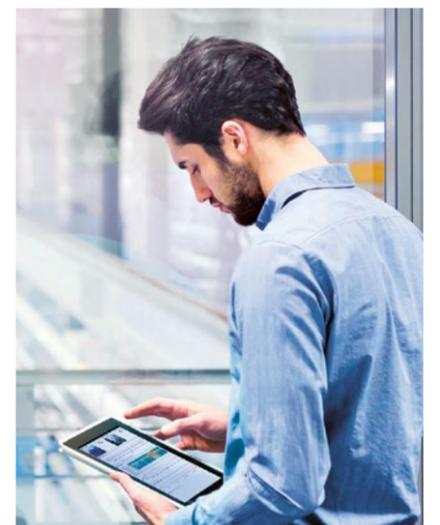
CONCERTS, BUSINESS AND SPORTING EVENTS – more than 3,000 events attended by around 30 million visitors have been held in the Olympic Hall in Munich since it first hosted the Olympic Games in 1972. To get it ready for the next 30 million visitors, this unique building is now being equipped with automation equipment that has been designed to cater to the many different ways in which the facility is used. The new building automation solution optimizes operations at the Olympic Hall

in a sustainable manner, improving safety, cost effectiveness and efficiency. The building technology systems were upgraded in accordance with the latest international building automation standards, and this while the building remained in use. Safety and energy systems such as fire control or cooling systems have been equipped with intelligent, state-of-the-art control strategies and integrated automation technology. This allows existing systems to continue to be used productively.

ENERGY PLATFORM

Using Efficiency and Intelligence for Saving Energy

CONNECTIVITY PROMOTES ENERGY EFFICIENCY: the Energy Platform – a component of the Bosch Industry 4.0 portfolio – merges production data from different sources, thereby allowing real-time analyses to be made. The cloud-based application uses all of the information to calculate the corresponding key figures for an exact assessment of energy and resource efficiency. Intelligent algorithms help to predict how energy consumption changes and to avoid load peaks, or detect deviations in the consumption patterns of machines and correct them. Automatic predictions can therefore help reduce energy consumption over the long term. Bosch itself already uses this solution in more than 100 plants and sites worldwide.



Digital Strategies for People, Medicine and Walls

High-tech on all levels – at the Bad Neustadt Campus, everything revolves around providing medical care for people. The fascinating new building that has gone up in Lower Franconia shows which role connected solutions can play in building automation, and how the right technology partner can ensure the clinic runs optimally.

The newly designed grounds of the medical care facility at the Bad Neustadt Campus, which includes a center for clinical medicine and outpatient treatment, are a paragon of excellence in network-based medical services, and provide a textbook example of state-of-the-art and visionary health care in Germany's rural areas. The overall campus concept includes pursuing a consistent digital strategy that ensures the highest quality treatment. It almost goes without saying that large sections of the buildings, which need to provide space for so many people and maintain a state of perfect hygiene, are organized and operated digitally. 

RHÖN-KLINIKUM AG

RHÖN-KLINIKUM AG is one of the largest health care service providers in Germany. This major medical center provides excellent medical care and benefits from a direct line to universities and research institutes. Over 18,000 members of staff are employed at the five locations – Bad Berka Central Clinic, Bad Neustadt Campus, Frankfurt (Oder) Clinic, the University Hospital of Gießen and Marburg (UKGM) – treating over 860,000 patients a year.



Markus Lang,
project manager at
RHÖN-KLINIKUM AG

A LONG-TERM PARTNERSHIP PROVIDES ASSURANCES

Over the last 14 years, RHÖN-KLINIKUM AG has implemented automation projects at a number of locations with the support of the professionals from Bosch subsidiary GFR. This experience and close partnership have resulted in an extensive range of solutions being used at the Bad Neustadt Campus. Automation systems for heating, ventilation, air conditioning, plumbing and electrical technology have been installed throughout the building complex. This involved the creation of around 22,000 physical and 100,000 virtual data points, all of which are expected to help to cater to human, medical and logistical requirements. Did this plan work? As Markus Lang, project manager at RHÖN-KLINIKUM at the Bad Neustadt Campus, says: "The extensive building automation system ensures that all technical systems run in the background without any problems. They provide information on all faults and anomalies. Because all building technology and medical systems function reliably, we have all the basic requirements needed to run the clinic efficiently and reliably."

WIN-WIN DUE TO A NEW PLANNING APPROACH

The fact that everything now runs so reliably and conveniently can be attributed to a very intensive and meticulous planning process. All existing building automation systems were migrated during the very first stage of construction. In addition to the construction work, the GFR experts were also commissioned to help with planning. "The many years spent working together meant that the level of mutual trust and understanding necessary was there right from the start of the project. Many requirements were clear, and a specifications sheet ensured that we could get started right away," explains Uwe Seppmann, head of sales at GFR. "We are always on the lookout for optimum solutions – whether they be technical or financial. Because we were also in charge of the planning services for this project, we were able to work very efficiently."

VISIBLE, RELIABLE AND EASY TO OPERATE

Operating reliability and ease of operation have top priority in everyday activities at the clinic. Guaranteeing both these requires a high level of expertise. "We place a lot of value on providing regular training for our technical personnel so they can operate the building automation at all system levels, and change or modify parameters," says Dirk Rohde, group director of construction and technology at RHÖN-KLINIKUM AG. "We have visualized all the technical systems to ensure optimal monitoring of the

100,000

virtual and 22,000 physical data points are used to cater to human, medical and logistical requirements



building automation systems, and correct interpretation of the data. This helps us understand the way everything operates, and facilitates the introduction of automation technology. Moreover, we have imple-

"We are always on the lookout for state-of-the-art solutions – whether they be technical or financial."

mented a system of access authorizations according to qualification, as well as remote monitoring of annexes – we have created the perfect network. This means a root cause analysis can be carried out from the associate's desk."

One of the main functions of building technology and its associated automation systems on the campus is to ensure reliable, efficient and sustainable operation of all building and medical technology systems. "The building automation reduces the workload of technical staff, and allows them to respond to faults and incidents quickly and effectively. The more user-friendly the system is, the more time and effort it saves," says Markus Lang.



Dirk Rohde,
group director of
construction and
technology at
RHÖN-KLINIKUM AG



Service, Security, Small Talk – What Customer Service has to Offer

Every day, service technician Kevin Wilhelm uses his understanding of technology and his excellent people skills when heading out to see his customers. He embodies the Bosch ideal – long-term customer satisfaction.

Something is wrong.” This is a statement that Bosch service technician Kevin Wilhelm frequently hears when customers call for help. “But no matter how complicated the problem is, so far, I have always been able to find a solution.” No one working day is like another, but there’s one challenge that remains the same – understanding what the customer wants. And that is exactly how Kevin Wilhelm views his job: “Keeping customers happy in the long term is my modus operandi.” The 30-year-old, who enjoys working out at the gym or tinkering with his computer in his free time, has already completed his training as a systems technician at Bosch. He has been working in customer service in the greater Frankfurt area for four years, checking building security systems for private and commercial customers, performing maintenance work and rectifying technical faults.

CUSTOMERS AS A SOURCE OF INSPIRATION

Since he has been working for customer service, Kevin Wilhelm has learned to how to respond to the specific needs that customers

have – on both a technical and an interpersonal level. “Some just want to have a chat, while others tend to withdraw and let me get on with things. Over the years, this has allowed a relationship based on trust to develop.” Kevin Wilhelm often learns quite a bit from chatting to customers: “Every conversation can provide the inspiration for a solution to the problem.” For example, an older customer recently told him that he was having trouble using a smart key system. Kevin Wilhelm listened closely – taking his needs and proposals all the way to the company, where they can be factored into the ongoing development of the product. “This is how you can keep refining the technology,” as Kevin Wilhelm says. A kind of real-life usability test. Given the fact that he looks after around 150 customers from all sorts of different fields, you wouldn’t necessarily expect close relationships like this. Kevin Wilhelm looks after banks, train stations and industrial facilities, among other things. Sometimes he works on small systems and sometimes he deals with 2,000 intruder or fire alarms in total – and this diversity is what makes the job so interesting for him. When the service technician is asked about his typical working day or a ‘standard customer’, he immediately replies: “There isn’t one.” Sometimes he spends the whole day driving from customer to customer, sometimes he spends three days in the same place doing maintenance work. His area of expertise is intruder alarm systems. “The higher the security level, the more interesting it is,” he says.



Watch our video featuring service technician Kevin Wilhelm: boschbuildingsolutions.com/kevin-wilhelm

Customer service: listen closely and find solutions



Sometimes he’s on site for hours, sometimes he ‘just’ presses a button. Every day is different

TOP TRIO FOR THE FRANKFURT AREA

Kevin Wilhelm’s team has three members in total. This ensures that there is always someone available who can drive out to see customers spontaneously – after all, you can’t schedule faults, and they can cause huge problems for customers. Wilhelm and his colleagues start their morning by checking their phones to see which fault reports, among other notifications, arrived during the night. Then they decide on priorities: who needs to go where first? Who is working on which job today? Besides his fixed appointments, Kevin Wilhelm can organize his day as he likes. “My work is flexible, and I’m responsible for organizing it – Bosch gives me a lot of latitude, as at the end of the day, I know my customers best.” Once the day has been planned, Kevin Wilhelm gets into his company car (which he is also allowed to use privately) and drives out to his customers. Of course, ever since the coronavirus pandemic first started, he has been really vigilant about observing social distancing and hygiene rules. He explains

“Every conversation can provide the inspiration for finding a solution to the problem”

that his employer has done everything possible to ensure he has everything he needs to maintain hygiene standards. Whether he needs masks, gloves or disinfectant, Bosch has always reacted quickly – and given the safety and health of its associates and customers top priority. Kevin Wilhelm is now what is called a ‘technology mentor’ in all matters relating to transmission devices and intruder alarm systems. The close work relationship with his line manager allows him to continue the training and career development activities that interest him and will help him reach his goals: “And this takes me in the direction that I want to go in,” as Kevin Wilhelm explains. “This means that I am in a good position to help Bosch and my customers.” He also holds his own workshops on innovation, keeps himself available to answer questions, and has regular discussions with colleagues, for example the ones responsible for installation. Passing on information is a key activity in this particular area, because it provides customers with more effective support. “This is all about learning from each other. Every project has its own specific challenges,” says Wilhelm. Sometimes he knows more about things than his colleagues, and sometimes he gets to learn something new from an experienced colleague – “especially when the systems are older than I am”. This said, it’s generally rare that he doesn’t know what to do about a fault. What is his number one ambition for the future? “I want to do things perfectly – for the customers.”

FRECHEN TRUCK STOP

The Parking Lot of the Future

GERMAN FREEWAYS require around 31,000 additional parking spaces, according to estimates. One consequence of this scarcity of parking – and other shortcomings that are associated with it, such as a lack of fencing and gates, poor illumination and inadequate security – is a rise in cargo theft. Bosch has demonstrated how this problem can be countered in a showcase project at the Frechen truck stop parking lot. It was converted into a state-of-the-art security zone with the aid of a connected and integrated solution from which operators, leaseholders and customers will all profit. More than 20 state-of-the-art security cameras are used to keep the four gated entrances and exits, as well as the parking lot, under surveillance. The entire truck stop is monitored round the clock by means of the Bosch video control center. Virtual security guard patrols allow an immediate response to dangers and unwanted movements



on the parking lot. The control center can address people on the premises directly through loudspeakers with a direct connection to the video cameras, and notify security personnel or the police in the case of an emergency. In addition to this all-round protection, truck drivers also benefit from streamlined processes. If a parking space has been reserved using Bosch Secure Truck Parking, a camera is used to scan their license plates automatically and compare them with the booking data when they enter the truck stop. The gate opens and the driver can approach the secure parking space conveniently and quickly. The Frechen truck stop has been awarded a Level 2 certification by the Transported Asset Protection Association (TAPA).

MARTOR KG

Intelligent Protection

75 YEARS OF EXPERIENCE and now based in more than 70 countries: the family-run company MARTOR KG is one of the leading manufacturers of cutting tools for industrial and professional applications. In the future, its success will also be based on a solution that the experts at Bosch planned and implemented for the company's new site with the aim of providing reliable protection, early hazard detection and improved processes. A fire and intrusion alarm system, complete surveillance of the premises using video cameras, access control, and time and attendance management have all been connected up and integrated by just one supplier. Intelligent video image analysis monitors the exterior of the building and controls external lighting.

**PUBLISHER INFORMATION**

The magazine *Bosch Energy and Building Solutions* is aimed at customers, partners, and other interested parties. It provides information on issues and projects related to improving security, comfort, and efficiency in commercial buildings. The 2021 issue is published in English and German in Germany, the Netherlands, India, and the U.S.A.

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Publisher

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Editing and design

C3 Creative Code and Content GmbH,
Stuttgart, Germany

Lithography

Piltz Repro

Print

INFOSCAN GmbH

Photo credits

Axel Rubbel, Bosch, Dietmar Strauss,
Dominik Obertreis, Fotostudio M42,
iStock, Olympiapark München GmbH,
RHÖN-KLINIKUM AG, Robert-Bosch-
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Banding Together for More Sustainability

Watch the latest #LikeaBosch video to see us rap about the issue of sustainability. We're already rocking the issue of energy efficiency for any number of customers.

Shawn is the likable, eccentric hero of the #LikeaBosch campaign, who has already voiced his passion for technology in several music videos. In the latest clip, he is joined by young Shawna. They've banded together to send a message about the need for every generation to take action to protect the environment, and rap about the sustainable products and projects that Bosch is working on. As an in-house analysis reveals, Bosch was the first

major industrial company to make its 400 sites carbon-neutral in 2020. To achieve this goal, Bosch improved its energy efficiency and added more renewable energy, increased its use of green power, and introduced measures to compensate for its CO₂ emissions.

You too can profit from its experience: Bosch Energy and Building Solutions offers its customers a wide range of energy-efficient solutions and services that they can use to reduce CO₂ emissions from buildings or in production, and save on energy costs. The portfolio ranges from a comprehensive optimization of resource efficiency, sustainable energy supply solutions and intelligent energy management, to automated operation of air conditioning, window shades and lighting.

It doesn't matter whether it's big or small – every step taken helps to protect the environment.



Watch the video of the #LikeaBosch campaign: boschbuildingsolutions.com/likeabosch

Performance built on Partnership

As your reliable partner, we provide connected and integrated solutions that make your buildings more secure, more comfortable and more efficient. Our experts support you as consultants, installers, and service providers.

Take advantage of our extensive expertise and integrated solutions based on the latest technologies – all from a single source located near you. Feel free to contact us at any of our many sites.

Bosch Building Technologies
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