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ESYWORLD

NEWS FROM THE WORLD OF AUTOMATION AND LIGHTING

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WELCOME

Dear readers,

Whether the phases of the moon, a diary or the alarm clock on your bedside table, time in all its facets has always defined human life. So it's no wonder that it also plays an important role in on-demand lighting control – and has done so for more than a century, since the invention of the timer.

Today, the combination of the time factor with sensor-based motion detection and brightness control increases both quality of life and energy efficiency. Discover examples of this and the ways in which times are changing – including for a world-leading trade fair such as Light + Building – and more in the latest issue of ESYWORLD!

Happy reading!

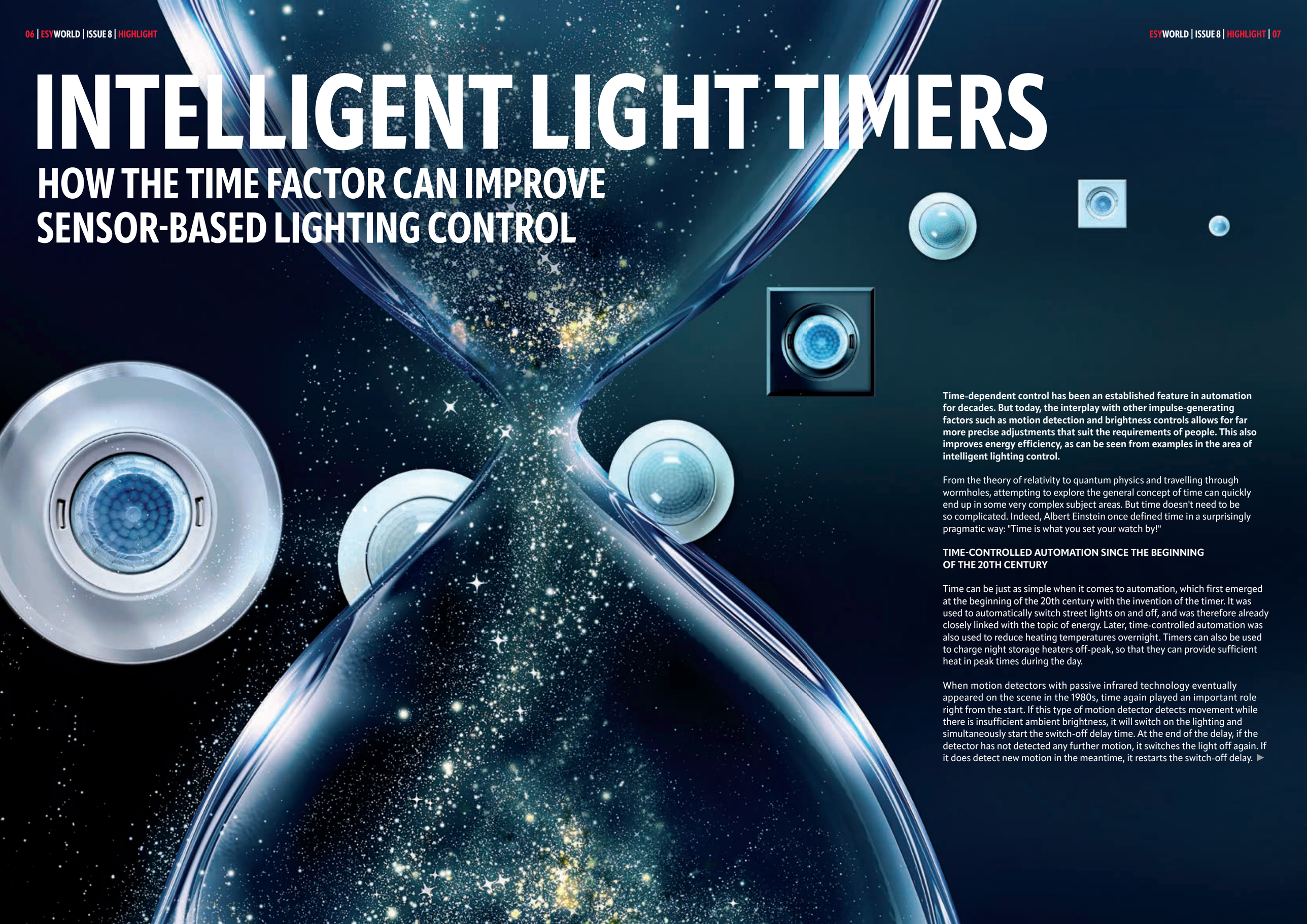
Mareks Peters

Chairman and CEO of ESYLUX

TOPICS

INTELLIGENT LIGHT TIMERS

HOW THE TIME FACTOR CAN IMPROVE SENSOR-BASED LIGHTING CONTROL



Time-dependent control has been an established feature in automation for decades. But today, the interplay with other impulse-generating factors such as motion detection and brightness controls allows for far more precise adjustments that suit the requirements of people. This also improves energy efficiency, as can be seen from examples in the area of intelligent lighting control.

From the theory of relativity to quantum physics and travelling through wormholes, attempting to explore the general concept of time can quickly end up in some very complex subject areas. But time doesn't need to be so complicated. Indeed, Albert Einstein once defined time in a surprisingly pragmatic way: "Time is what you set your watch by!"

TIME-CONTROLLED AUTOMATION SINCE THE BEGINNING OF THE 20TH CENTURY

Time can be just as simple when it comes to automation, which first emerged at the beginning of the 20th century with the invention of the timer. It was used to automatically switch street lights on and off, and was therefore already closely linked with the topic of energy. Later, time-controlled automation was also used to reduce heating temperatures overnight. Timers can also be used to charge night storage heaters off-peak, so that they can provide sufficient heat in peak times during the day.

When motion detectors with passive infrared technology eventually appeared on the scene in the 1980s, time again played an important role right from the start. If this type of motion detector detects movement while there is insufficient ambient brightness, it will switch on the lighting and simultaneously start the switch-off delay time. At the end of the delay, if the detector has not detected any further motion, it switches the light off again. If it does detect new motion in the meantime, it restarts the switch-off delay. ►

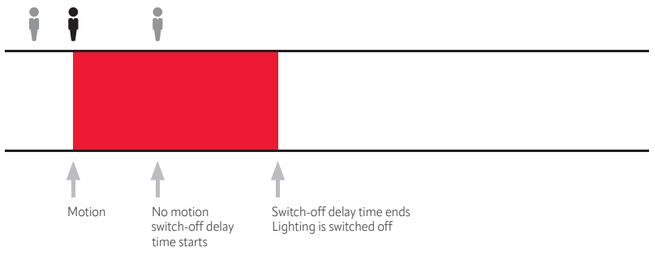
The switch-off delay time can be customised based on the requirements of the location. This applies to both motion and presence detectors. The sole difference is that, while a typical ON/OFF motion detector only measures ambient brightness when it detects movement, a presence detector measures it continuously. A presence detector will deactivate the artificial light if the natural daylight is sufficient to satisfy the required level of brightness, meaning it may even do so if someone is present, i.e. before the end of the switch-off delay time.

CONVENIENT AFTERGLOW

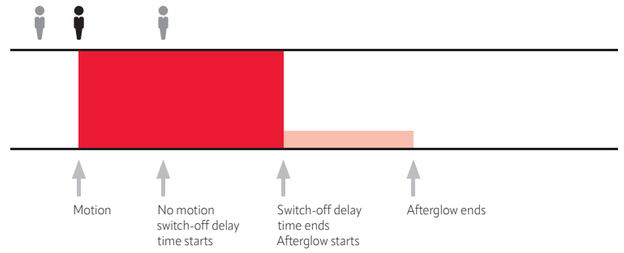
From the point of view of energy efficiency, the shortest possible switch-off delay time is naturally advantageous, which will likely influence the parameters in many locations. However, there is another consideration. In many jobs and professions, workers will frequently leave their stations for brief periods throughout the day. If the switch-off delay time has already ended by the time they return, the room will be in darkness, even though a dimmed light would be much more inviting and make the worker feel safer.

That is why the afterglow function was invented. After the end of the switch-off delay time, the light enters a dimmed basic lighting state for a certain period. This means that the person returns to an area that is still slightly illuminated, while the dimmed state means that the afterglow is still more energy efficient than 100 % illuminance. With ESYLUX DALI-2 solutions, the afterglow can be further restricted to specific weekdays and times, since it will generally not be required outside of working hours or at weekends. ►

SWITCH-OFF DELAY TIME AFTER LAST DETECTED MOTION



AFTERGLOW AT THE END OF THE SWITCH-OFF DELAY TIME



After the switch-off delay time has ended, the afterglow stays on for a while longer, emitting a dimmed light. So if you're away for just a brief period of time, you'll return to a pleasant basic lighting level.

A dimmed orientation light in empty corridors can increase the feeling of safety, improving quality of life in a building.

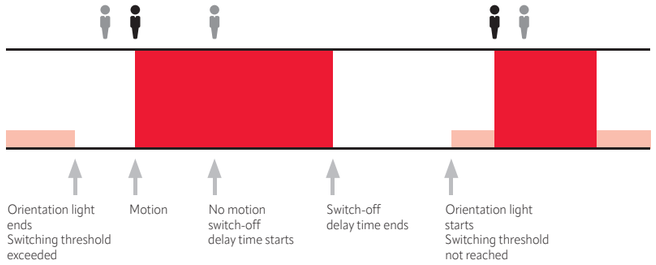
Dimmed basic lighting, such as that used for afterglow, can also be helpful in other places, such as passageways. Unlike at a desk, where the purpose of the lighting is to enable the user to work, in passageways the focus is on safety. In typical office corridors in Europe, the minimum illuminance is 100 lux, which is maintained automatically by presence detectors equipped with light sensors. They only switch the lighting off after a switch-off delay time, which is triggered after they no longer detect motion.

TIME-CONTROLLED ORIENTATION LIGHT

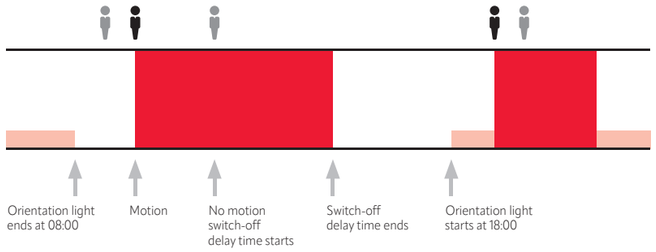
Similarly to afterglow, this is not always the best solution for the user. If someone is sitting in an office with a glazed door or even glass walls, a slightly illuminated corridor can noticeably increase their feeling of safety. And when there is little or no daylight, anyone moving through or standing in a network of office corridors will similarly feel more at ease if the empty corridors are not in total darkness.

A slightly illuminated, motion-independent orientation light can be the solution here, often referred to as a corridor function. Like the afterglow, this provides a dimmed basic lighting of 20 %, for example, but unlike the afterglow, it does not necessarily follow a period of human presence. In lighting systems with ESYLUX Light Control or similar, it is triggered by time and, with the COMPACT APC20 DALI-2 presence detector, is also limited to specific weekdays. ▶

ORIENTATION LIGHT BASED ON BRIGHTNESS



ORIENTATION LIGHT BY TIME



Orientation light can be activated depending on ambient brightness – and with DALI-2, at specific times on selected weekdays. ▲

ENERGY-EFFICIENT STANDBY SWITCH-OFF

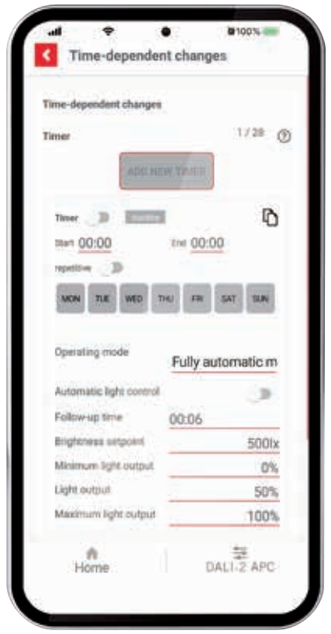
Bus systems such as DALI-2 offer a wide range of additional options for improving energy efficiency. The dimming function, for example, also allows for presence and daylight-dependent constant lighting control, which significantly reduces energy consumption compared to presence and daylight-dependent switching. And when it comes to maximising efficiency, a lighting control system with DALI-2 is second to none, particularly in terms of the standby consumption of DALI control gears when the lighting is switched off.

This standby consumption has now been drastically reduced in Europe by the Ecodesign Directive, but it would of course be even better to have no standby consumption at all. Here, once again, we can see the advantage of automation: from a technical point of view, it is certainly feasible to switch off the standby manually when the lighting is not going to be used for a longer period. But how can we be sure that this is actually done every time? That's why automatic standby switch-off is one of the most advanced functions of modern lighting control – for example, outside of weekly operating times, as with the COMPACT APC20.

VARIABLE OPERATING MODE

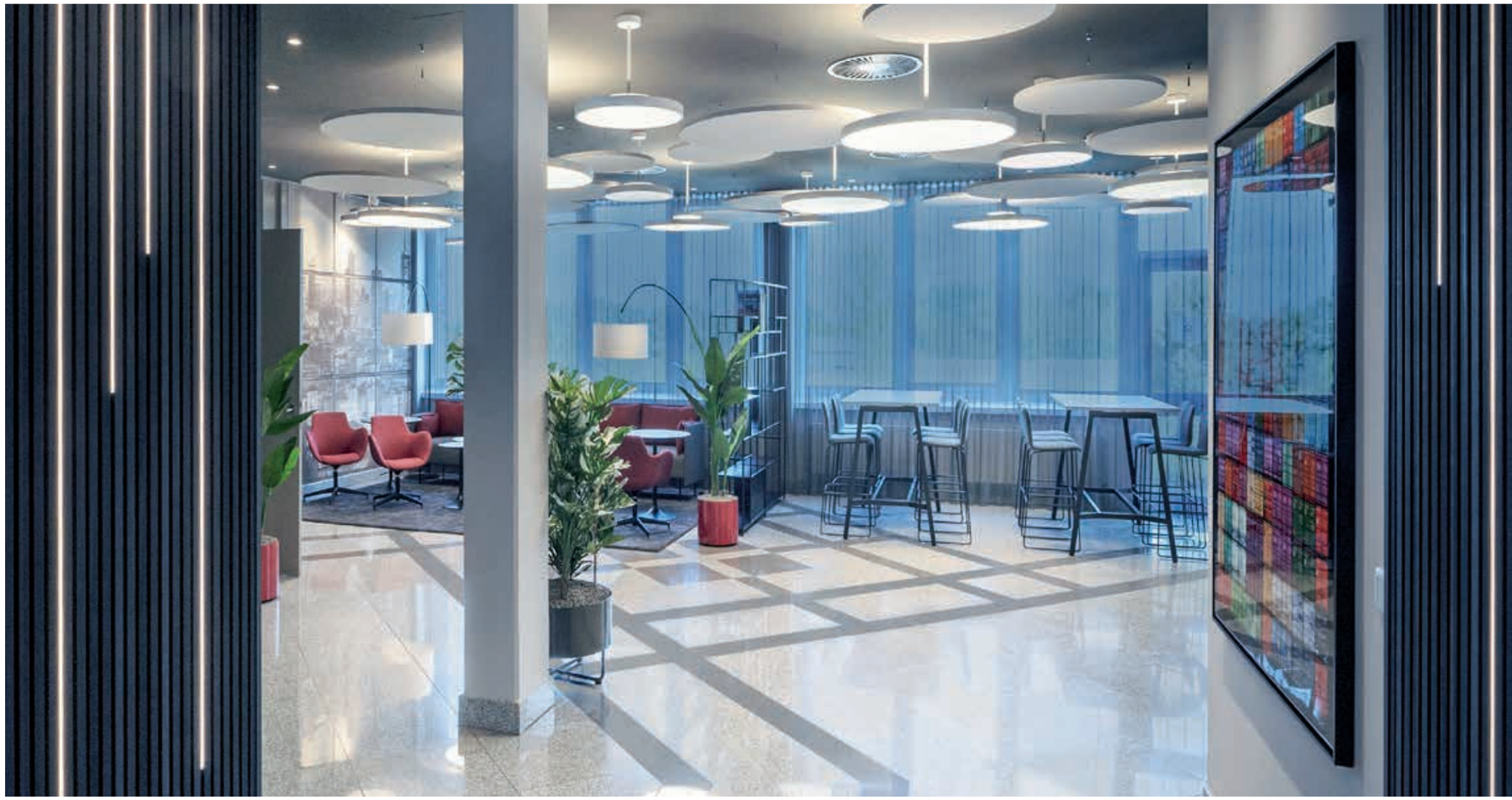
One further, final example of time-based lighting control relates to the basic function of a presence or motion detector: the operating mode. In the last issue of ESYWORLD, we demonstrated how a DEFENSOR motion detector with time-dependent operating modes can reduce nocturnal light pollution outdoors. But time-controlled changes of operating mode can also be useful for indoor applications.
In addition to fully automatic, semi-automatic and stairwell lighting modes, this is especially true of automatic brightness. It is ideal for use in foyers, for example, where it can automatically provide adequate lighting as soon as daylight or ambient light conditions drop below a certain lux value. To avoid unnecessary energy consumption, this mode should ideally only be active on weekday evenings – which is why the COMPACT APC20 can easily switch to fully automatic mode during the day, at night and at weekends.

These examples show how closely interwoven lighting control and the time factor have always been. And in particular, the example of the DALI-2 industry standard, with its high degree of flexibility, illustrates how more and more possibilities are constantly being developed. And the best part: while the theory of relativity and quantum physics may also continually provide important new insights in the area of energy efficiency, when it comes to lighting control, things are a lot easier to understand. Set the day and time, set the function parameters, et voila! ■

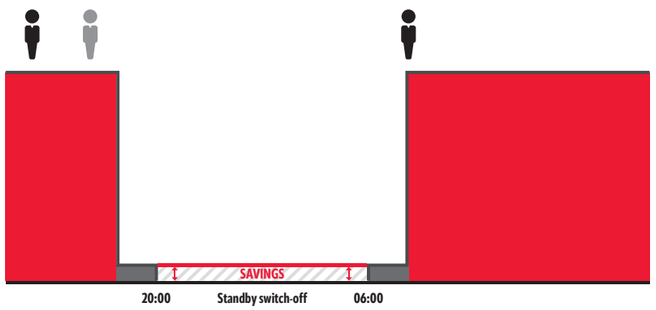


◀ Fully automatic mode during the day, at night and at weekends, and automatic brightness on workday evenings for adequate lighting in foyers, for example: with the COMPACT APC20 presence detector, it's possible to switch between operating modes according to day and time.

Homogeneous, dazzle-free illumination, long LED service life and indirect light to create beautifully lit spaces: SVENJA recessed lights for DALI-2 or ON/OFF are ideal for providing adequate lighting, such as time-controlled in foyers. ▼



TIME-CONTROLLED STANDBY SWITCH-OFF



TRADE FAIR BRAND IN TRANSITION

JOHANNES MÖLLER, LIGHT + BUILDING BRAND MANAGER, REFLECTS ON HIS WORK OVER THE YEARS

Every two years, a huge crowd heads through the gates of Messe Frankfurt for Light + Building. On the top floor, behind a glazed façade, you'll find the Rainbow Room. It not only offers a fantastic view, but also a space for in-depth discussions – like our interview with Johannes Möller.

Johannes Möller's career at Messe Frankfurt began 16 years ago. As a dual studies student with a permanent employment contract, he was trained in trade fair, conference and event management. He later had a range of roles, including Personal Assistant to the CEO and Director Brand-Development Technology. In 2020, he took on the role of Director Brand Management for world-leading trade fair Light + Building.*

* This interview with Johannes Möller was conducted on 3 May 2024. All statements and information were correct on this date. On 1 August 2024, Johannes Möller took on the new role of Group Show Director – Building Technologies Shows at Messe Frankfurt.

The Messe Frankfurt site has stood for centuries as the world around it has transformed – much like Light + Building itself, which comes around every two years like clockwork to debut its innovations. Johannes Möller, who took up his post at Light + Building amidst the challenges of spring 2020, talks to us about his work and how the trade fair business is changing with the rest of the world.

Mr Möller, the world is becoming ever more digital, including in the areas of lighting and electronics. Even the largest meetings are held over video nowadays, and products are presented online in elaborate 3D installations. So aren't in-person events like Light + Building a little out of date?

On the contrary. Thankfully, Light + Building 2024 proved to us that they are by no means out of date, and that in-person events are absolutely necessary. Exhibitors want them, customers want them, and it's not just Light + Building – all of the trade fairs in our portfolio demonstrate this. Messe Frankfurt doesn't organise events only in Frankfurt, but is active around the world, with around 30 subsidiary companies in almost all markets. And it can widely be seen that the urge to meet in person, to experience innovations in person, to understand customer ties in person and not just over the Internet – that is absolutely back.

Our trade fair business here in Frankfurt boasts 800 years of company history. We've experienced a lot but like-minded people have been coming together here to trade with one another and exchange knowledge for 800 years. There have been just two major moments of doubt. The first was with the explosion of the Internet at the beginning of the century. That was the first time we asked ourselves, is there really still a need for this? In the future, won't we just be doing all this over Second Life and email? No, as it turned out, we wouldn't. ▶

The second major moment was the COVID pandemic, and again we've since returned to 'normal'. We've certainly learnt that some things are perfectly suited to being moved online, such as business meetings and smaller meetings. But actually meeting customers, presenting products, this requires us to return to the big trade fairs.

The last four years have been a turbulent time for in-person events. How has Light + Building dealt with this and how are things looking for the trade fair today?

Yes, it really was a difficult time for us. We were practically under an occupational ban. We were no longer allowed to do the thing that really constitutes our purpose at Messe Frankfurt, that being bringing together as many people as possible. And our business model only really works when the world is at peace, when free trade is possible and when borders are open. Specifically, when we can travel freely. So our business model almost completely ground to a halt during those four years. But I think we really made the most of it by refining our event. We came out of the pandemic stronger than ever, because it was more clear what our focus is, what people need from the fair, what cannot be replaced and therefore where we need to concentrate our energies.

In your position, you are largely responsible for Light + Building getting back on track. But perhaps you can explain once more what exactly a brand manager does.

The title, Head of Brand Management Light + Building, doesn't exactly make clear the role behind it. Primarily, I'm the project manager of Light + Building in Frankfurt. I'm responsible for strategic direction, as well as for the overall economic viability of the event. The Light + Building network is made up of 13 trade fairs both within Germany and abroad. These range from the huge Guangzhou International Lighting Exhibition, to impressive events in Istanbul, India, Shanghai, Dubai and Argentina, as well as the LightFair in Las Vegas.

These fairs all belong to our show portfolio and are all organised by us, meaning they have the same "Made by Messe Frankfurt" quality seal. And the role of brand manager involves strategically aligning all these events and ensuring that they develop in the same direction, addressing the same topics, updating product groups, but also taking advantage of synergies between the events.

And what does a typical workday look like for you?

Well, the great thing is that there's no such thing as a 'normal' workday. Over the next few weeks, for example, I'll be visiting the overseas events in person. Our Guangzhou International Lighting Exhibition is just around the corner, so that will involve opening the trade fair, meeting partners on site, visiting key accounts and, in the preparatory and follow-up phases of the fair, key account management.

The Frankfurt site consists of an eastern and western section with 12 halls and an exhibition area of nearly 400,000 square metres. This makes Messe Frankfurt the world's largest fair, conference and event organiser with its own premises. ▲

Brand manager with foresight: Johannes Möller looking over the eastern section of Messe Frankfurt. The modern complex in front of the Frankfurt skyline gives no hint that the history of this exhibition and trade centre dates back to the 12th century. ▼

A large part of my job is also managing Light + Building partners. We work with the major industry association ZVEI, with their Lighting section and Buildings platform. Many of our key players and top exhibitors are organised under or members of these groups. And on the visitor side, there is the ZVEH, the Central Association of German Electrical and Information Technology Trades. Together, we strategically organise the trade fairs, tweak them, discover new hot topics, discuss marketing and develop them further. So a lot of my time is spent maintaining contact with our partners and strategically expanding on our relationships.

Besides that, of course, it's about leading the Light + Building team. And during all of this, we are involved in the trade fair cycle, which builds over a two-year period, starting with the scheduling of the first major customers, right up to the detailed planning that ensures the fair runs properly. That means, for example, what entrances are open, where the bus stops are located, where the billboards are hung. So my job really runs the whole gamut, from strategic orientation on a global scale to nitty gritty operational issues.

You really don't have a desk job, then.

Visiting customers is also a part of it, for example. Although I think that's the most fun part. Travelling to visit customers, to see production, to see what they're working on. That's inspiring. How customers are organised, how their processes run, what their offices look like, what kind of atmosphere there is – it's fun, seeing all that. ▶

And although, fortunately, there aren't that many, there are always one or two competitor trade fairs to visit. What are our competitors doing, how are they developing, how are other trade fair venues organised? Being involved in trade fairs, you look at things in a particular way. It makes you a real stickler for details, so you hone in on small things immediately: how do they do hang their displays, how do they lay the carpet, why are admissions organised that way? After all, in some cases it's not really about the theme of the other fair, but the processes they use. So we can learn just as much in China as in Germany.

The trade fair motto is very closely connected to the brand. This year it's "Be electrified". How did you come up with this?

Light + Building is the world's leading trade fair for lighting and building technology, and just from the name, you can tell that it is very wide-ranging: we go from technical lighting components to complete lights in the area of technical lighting, but then we also deal with design-oriented light, all the way to urban lighting. And in the western area of the exhibition grounds, we take the whole topic further, incorporating conventional electrical installation, plug sockets, switches and motion detectors, photovoltaics, energy storage, electrical heating, wallboxes and e-charging.

There is therefore an incredibly broad range at Light + Building. And when it comes to finding a motto or the hot topics for the fair, it is of course also about coming up with a headline that will appeal to every exhibitor and make everyone feel at home. And with "Be electrified", I think we've done just that. Everything at Light + Building is in some way electrified or powered. What's more, electrification is currently a hot topic in both global politics and the daily news, with a focus on e-charging, heating and energy distribution. And since we know that buildings account for 40 % of total energy consumption, the issue of energy efficiency is a major priority. This makes electrification even more significant.

And what does the process of choosing the motto look like?

It's always in collaboration with the strategic partners that I mentioned earlier. Of course, the trade fair can't just come up with a motto or a list of hot topics out of nowhere. Those are defined by the exhibitors who attend and make the fair what it is. So, to begin with, we conduct workshops with the Light + Building team and the marketing communication department; we come up with the idea and some alternatives, then take them to our strategy circle or our advisory committee. We sit down with selected top representatives from the industry and jointly reach a decision. What's important to note is that we never do this alone – it's in cooperation with others. And the associations we coordinate with are ultimately none other than the representatives of our top customers.

So it clearly takes a while to develop a motto, then. What other challenges are there in your work?

Without a doubt, constantly reinventing the fair and ensuring it remains attractive. At the same time, and this is really an entirely personal answer, I'm not simply selling a product that I have in stock and am able to reproduce. I sell square metres, and each one can only be sold once. There's only one spot by the entrance and only one spot next to Customer X, and so on. And so I really am always working with my team, day in, day out, to reach the best compromise.

In 2024, more than 151,000 visitors from all over the world came to take part in the fair activities at Light + Building and seek inspiration from the latest innovations. After some difficult times, the trend is clearly heading upwards again. ▲

As you can imagine, I can't just give everyone what they want. That would never work. The perfect situation would be if we had just one enormous hall in which everyone could set up their stalls right next to everyone that they want to be right next to, such as the companies they have cooperation agreements with. But it simply doesn't work that way. So we're always working to reach the best compromise and fit the giant puzzle together. That takes a lot of time, and many, many discussions. It's something we work on throughout the whole year.

You've worked for Messe Frankfurt for more than 16 years. Looking back, what are the issues that have changed or come to prominence during that time?

Yes, it has indeed been quite a long time. The trade fair business has kind of remained constant, as we still always work to bring together the supply side and the demand side on the exhibition grounds. But it has become more media-driven. Communication was completely transformed during the pandemic years, with many old traditions being done away with. Communication with the exhibitors has changed a lot and has become a lot more intensive.

Customers want quicker response times, and always the flexibility to also make a video call if required. The frequency with which a customer has to be looked after, the number of touchpoints you have with each one per week, that has increased significantly over the years. There's just no comparison to the old days, with written registration forms that arrived in the post and a questionnaire that you sent back by post or fax. ►

The biggest advertising hook for a time in which secure energy supply and optimal energy efficiency are amongst the most important issues: "Be electrified" is the motto of Light + Building 2024. ▼

You need only take a look at the roof of the new Hall 12 to see that more sustainable use of natural resources has also long played a key role for Messe Frankfurt. ▲

Those were simply different times. That said, I really like this fast pace a lot, and I also think it's good that we are in more frequent contact with customers.

You're also talking here about the increase in digital communication. When you took on the role of Brand Manager four years ago, you said that you wanted to make the trade fair even more digitally accessible.

Yes, and we have absolutely done so. And not just because we wanted to, but because it was clearly what our customers wanted. At that time, no one knew when we would be able to travel and meet in person again. Expanding our digital offering was the only way to go. And in 2024, we launched another Digital Extension. I encourage everyone to go and take a look. I find it similar to certain aspects of LinkedIn, my business network. On the Digital Extension, I can find a clear list of information on who visited the fair, who was registered, who I was perhaps unable to meet, and I can now get another opportunity to connect with them. As a visitor, I can do the same with the company profiles. For example, who is my point of contact for a particular product area or country? I can exchange contact details, join a video call or connect more closely.

However, we do also have to point out that what our customers expect from us is a professionally organised face-to-face meeting. So the physical event in Frankfurt is still at our core. The idea of the Digital Extension was always to extend the fair experience, to make its contents usable even after the event and to enable people to catch up on programme highlights that they might have missed after the fair ends.

◀ Lighting control, too, should be future-proof and energy efficient. DALI-2 was therefore one of the hot topics at Light + Building 2024 – as it is here in a conversation between ESYLUX employee René Bünting and his guests.

One further topic that has gained considerable importance in recent years is sustainability. The 2024 fair motto was also created, to some extent, against a background of sustainability. What other influence does this topic have on the trade fair?

It is certainly one of the biggest topics. The Light + Building event in itself already stands for sustainability. So the products that will be on show, the offers that are needed to move towards a more sustainable future, to manage energy efficiency and energy, that's what our major exhibitors in the western area stand for. At the same time, it's a topic that must actually be visible on the exhibition grounds. And there are many examples of this. For example, for years we've relied solely on green electricity, which is why we're involved in a solar park in the Uckermark region. We've made significant progress in the areas of waste recycling and water management and are continually improving further.

If we properly understand sustainability as the triad that it is, i.e. if we also incorporate the social aspects, our membership in the UN Global Compact is a commitment to all those who work for Messe Frankfurt and our suppliers. On the issue of fair pay, for example, we are committed to complying with all regulations set out in the long catalogue of values. And we are proud to say that, as of this year, we are also EMAS certified. So we don't just say we're going to do something – we actually have it officially verified. EMAS sets out clear goals for areas in which we must improve each year. With that in mind, we are aiming for trade fairs at the Frankfurt site to be climate neutral by 2040.

Besides that, it is of course also important that the exhibitors practise sustainability in their stand construction and their presence at the fair. And that is something that I absolutely do recognise. This year, for the first time, we introduced the category of Sustainable Stand Construction for our Designplus Award. And we had fantastic submissions, with concepts from various exhibitors, where you could really see that a great deal of thought had gone into them. In terms of waste management, recycling products, recycling stands, these are topics that we will continue to focus on over the coming years.

Another issue that seems to be with us for the foreseeable future is the shortage of skilled labour. How has Messe Frankfurt been affected by this?

My time at Messe Frankfurt began 16 years ago with a dual studies course in trade fair management, so I was myself a sponsored specialist. I did that at Baden-Württemberg Cooperative State University, where you can only study if you also have an employment contract. This shows that Messe Frankfurt has had a very targeted training programme for skilled workers for a long time. And that means we're still well positioned today. What's more, Messe Frankfurt is also a very fair and attractive employer. ▶

The areas where we really do have a problem with a shortage of specialists are things like parking attendants, cloakroom attendants, gate staff, cleaning staff, stand security, catering – all the positions where lots of people are needed at short notice to keep the exhibition grounds running. To give you a rough idea, on the final build night of a Light + Building, we need around 1000 cleaners and carpet-layers until the fair opens at 9 the next morning. Just for that one day, to lay the carpets, do the cleaning and so on. Finding those people in such numbers, those are the challenges that we're currently facing.

Many service providers end up travelling a long way to do this, because we're unable to find any locally. Furthermore, the airport in the Rhine-Main region has similar staff requirements. That makes it all the more difficult. One thing that certainly does help is that we pay well above minimum wage and well above the average. But the short-term nature of the work, in which we sometimes also need chefs, those are the major challenges.

Do you also recruit from outside Germany?

Yes, we also look outside Germany. One example: we had a large gala event in the banqueting hall and we really needed a gala dinner to be served. Surf and turf for at least 1500 people. We needed at least 170 chefs for that evening and had to fly in extra people from Switzerland. We also work with extremely large subcontractors who are able to draw on a large network. But when we can't find people, for whatever reason, then it gets difficult. And that's something that both the exhibitors and the visitors notice in terms of the quality of the event. So we really have to stay on top of it.

Mr Möller, to finish, let's look again to the future. As we know, the next Light + Building is never far away. Is there any chance you can reveal the motto for Light + Building 2026?

No, I can't do that yet. We are now about a month and a half past the fair, and yesterday we had our big meeting to analyse the results of the market research. The market research consists of a very detailed survey of each exhibitor, as well as an exhibitor visitor survey. We then go back to the strategy circle and then the advisory committee to figure out first of all: what are the takeaways and where do we need to go from here. And I believe that we'll have the new motto ready in September or October, and then going into November we'll move on to the registration mailing for the 2026 event.

So there's no motto yet, but how would you very briefly recommend Light + Building 2026 to someone who has never visited the trade fair before?

When it comes to lighting and building technology, Light + Building is the one-stop-shop for users and manufactures to discover the innovations presented by all relevant market participants. So it really is the best time investment if you want to be active in the industry or sector. Come to the fair, be inspired, get involved in the trade fair activities – and maybe find some things that you weren't even looking for!

Many thanks for the interesting conversation! ■

From parking attendants to gate staff, from catering to logistics, a world-leading trade fair like Light + Building only runs smoothly when all the cogs fit together cleanly – both large and small.

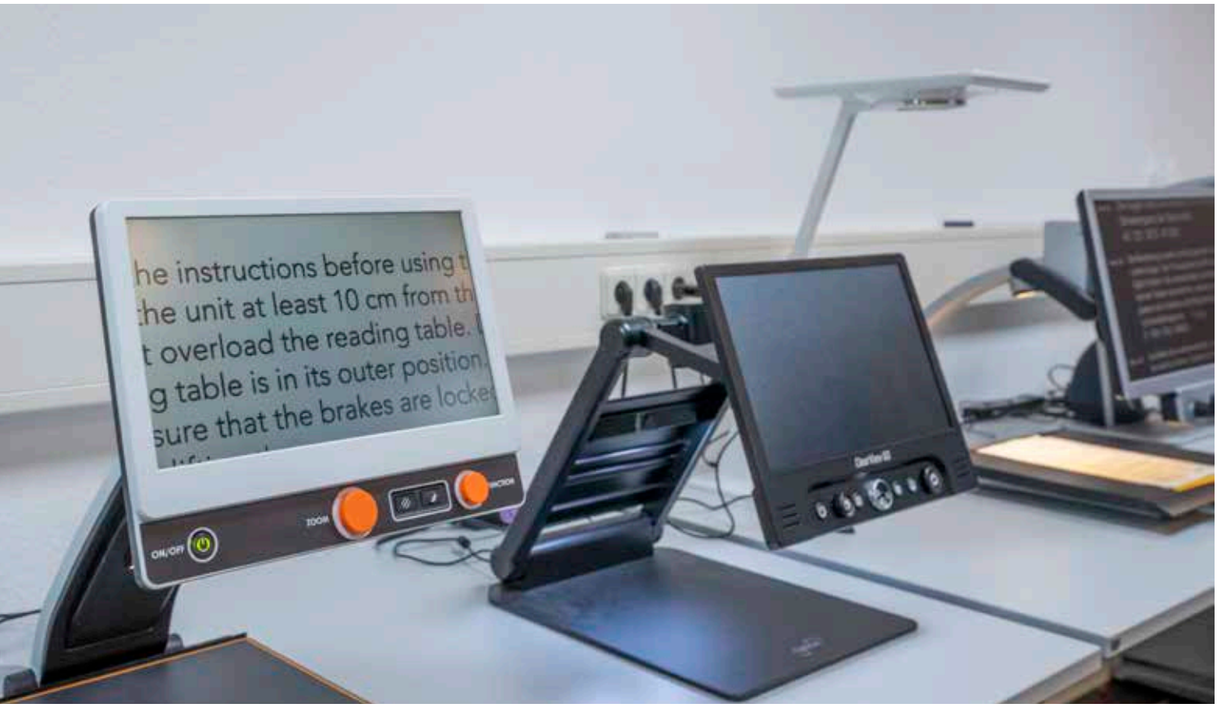
IMPROVING VISION

HOW AN ESYLUX LIGHTING SYSTEM IS HELPING VISUALLY IMPAIRED PEOPLE IN THEIR PROFESSIONAL LIVES

When outfitting test workstations for blind and visually impaired people, the Berufsbildungswerk Soest opted for the most suitable components, regardless of manufacturer. Finding the right lighting solution was key to this. For the ceiling lighting, the organisation opted for a lighting system with flexible Tunable White luminaires and simple plug-and-play installation.

Social and occupational rehabilitation for young people with severe or partial sight impairments or young people with autism spectrum disorder: This is the task to which LWL-Berufsbildungswerk Soest (BBW) has devoted itself. The organisation has a nationwide catchment area and offers over 140 training places and 124 accommodation places. Around 70 % of its graduates successfully achieve the long-term transition to employment on the general job market. ►

The testing room at the advice centre in Soest presents manufacturer-independent solutions to individually improve the real workplaces of the visually impaired and blind clients of the Berufsbildungswerk.



Screen readers are an indispensable tool. They are particularly suitable for people with severely impaired contrast vision and who require high magnification. ▲

Lighting systems featuring ESYLUX Light Control are used as ceiling lights. The ability to precisely adjust illuminance and light colour were decisive factors here. After all, the requirements differ from client to client. ▲

TRAINING AND ADVISORY CENTRE FOR BLIND AND VISUALLY IMPAIRED PROFESSIONALS

In addition to apprenticeships, the Berufsbildungswerk also offers diagnostic and pre-training assistance. This includes determining potential for development and individual measures for professional qualifications. Together with the LWL-Integrationsamt Münster, the Berufsbildungswerk also operates the training and advisory centre for blind and visually impaired professionals, where it investigates the possibilities for improving the conditions of its clients' actual working environments as required.

Those responsible had to find suitable technical solutions to optimise the setup of the associated testing room. "We try to make as many resources available as possible, from across different industries and regardless of manufacturer, in order to judge which solution is right for the workstation", says Kai Lammert, specialist consultant for blind and visually impaired people. The simulated workstations have been outfitted with monitors and screen readers for this purpose. "We also work with screen magnification software and software for the blind", Lammert adds.

PLUG-AND-PLAY LIGHTING SYSTEM WITH ENERGY EFFICIENT HCL

For the ceiling lighting in the testing room, they opted for lighting systems with ESYLUX Light Control, consisting of recessed lights, presence detectors and control units. With the exception of the 230 V connection of the control units, these can be installed by unskilled employees using plug and play in the safety extra-low voltage range, thereby offering a design concept for times when there is a shortage of trained personnel. The variant installed here also has ESYLUX SymbiLogic technology with energy-efficient Human Centric Lighting and Tunable White luminaires.

Illuminance and light colour can be easily adjusted manually in the training centre using ELC wall switches. Alternatively, this could also be done with a simple 230 V wall switch. ▼

Basic lighting is provided by one of the lighting systems in the centre of the room, while four systems, each with four ceiling lights, provide individual lighting for the test workstations in the surrounding external areas. "It's all about establishing the optimal test conditions for the workstations", says Stefan Koerdt, technical manager of the Berufsbildungswerk. "To that end, the lighting system covers a wide range, from bright to dark and from warm to cold. And settings can be adjusted quickly and individually".

CUSTOMISABLE LIGHT COLOUR AND ILLUMINANCE SETTINGS

This customisation is particularly important for people with visual impairments. "There is no single lighting setup for a certain eye condition", explains master optician Detlef Menke, who is responsible for individual diagnosis at the advisory centre. "So you can't just look at the note and say, OK, this person has this and that, so the lighting needs to be about 4000 kelvin". When it comes to lighting intensity, that is not possible at all – there is no uniform light pattern. A study conducted in collaboration with Soest University of Applied Sciences confirmed this across all age groups. ►

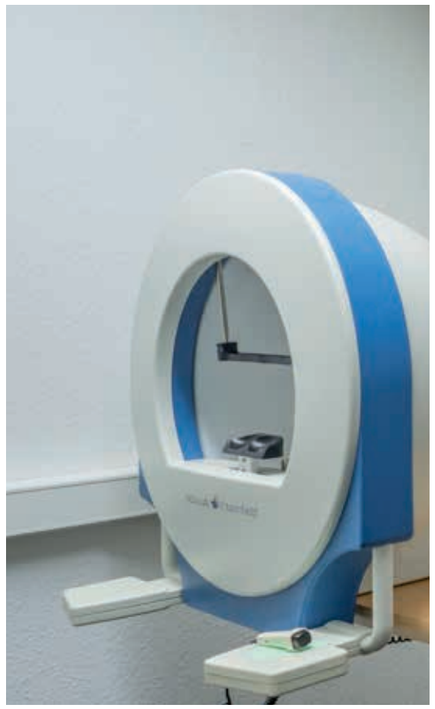
"We do already have the medical records for a new client", says specialist consultant Lammert. "Nevertheless, we want to know exactly and explicitly what remaining vision they have, and find out how we can utilise this". To achieve this, their field of vision, visual acuity and sometimes also intraocular pressure are once again measured precisely. "The clients then sit down at the various workstations and test the aids on site". This requires homogeneous illumination with adjustable colour temperature in order to check contrast sensitivity.

TRANSLATING RESULTS ONTO THE ACTUAL WORKSTATION

The light colour and illuminance are easily adjusted using a special wall-mounted switch for the lighting systems. One additional aspect that is particularly important is glare. "A major issue", Lammert stresses. Glare is, of course, never good. But for people with visual impairments, glare sensitivity can play a completely different role. The room's blackout system also helps to achieve the most neutral results possible: "We're able to switch off absolutely everything so that we have no light coming in from outside", says Lammert.

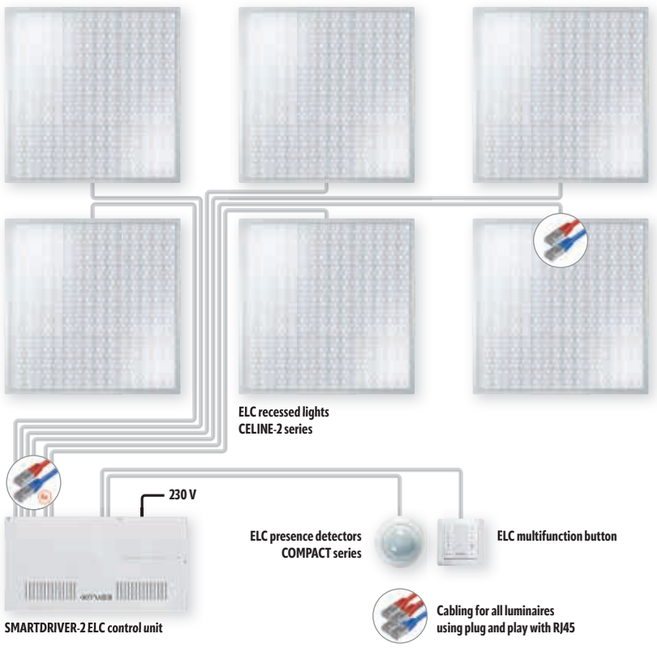
After a test is completed, the settings for all light values are documented – a spectrometer helps to precisely determine the current light colour. Everything is then compiled in the optical report and serves as the basis for setting up the actual workstation at the client's place of work. "This task is performed by the integration specialists", Kai Lammert explains. They go directly to the workstations in a private enterprise or public service, where the recommended measures are usually then implemented.

They might also propose certain assemblies or devices at this point. According to Lammert, however, it is up to the client or employer to decide which offers are accepted. In addition to light quality, the issue of energy efficiency also plays an important role today. That was also a factor in choosing the ESYLUX lighting system for the centre's own testing space, explains Stefan Koerdt. In addition to the LED illuminant, the accompanying presence detector also contributed to that decision. "We are currently carrying out conversions in many areas, converting passageways to LED lighting and incorporating presence and motion detectors. That all helps us to save energy". ■



In the advisory centre's refraction room, the BBW team examines their clients' remaining vision in detail. A projection perimeter enables precise measurement of the entire field of vision for this purpose. ▲

The LWL-Berufsbildungswerk Soest (BBW) offers more than 140 training places and 124 accommodation places, and around 70 % of its graduates successfully transition long-term to employment in the general job market. ▲



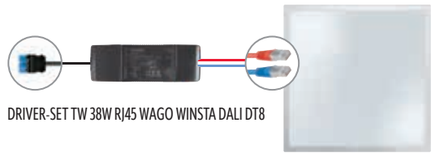
◀ Lighting systems featuring ESYLUX Light Control: only the SMARTDRIVER-2 control unit requires a 230 V mains connection. Meanwhile, other system components are connected and supplied with power simply using plug and play, which is also used for scaling the systems.

Lighting systems featuring ESYLUX Light Control are now also available for integration into KNX building automation systems. Read more on page 38!

ENERGY-EFFICIENT, HIGH-QUALITY OFFICE SPACE

HOW ESYLUX LUMINAIRES ARE HELPING IMPROVE WELL-BEING IN EMMY NOETHER HAUS

◀ KfW Efficiency House 55: Emmy Noether Haus in the Kiel Science Park. Around 370 employees benefit from a quality of life in line with the requirements of the modern day, including at construction company Goldbeck Nord GmbH on the fourth floor.



The lighting characteristics of the CELINE-2 recessed lights can also be adjusted independently of lighting systems with ESYLUX Light Control using compatible driver sets, such as those for WAGO WINSTA – just like in Emmy Noether Haus! ▲

The construction of Emmy Noether Haus at Kiel Science Park provided office and commercial space with state-of-the-art room technology. A KNX-based building automation system with sensor-based lighting and heating control improves both the experience of being in the space and the energy efficiency. Employees benefit from the flicker-free Human Centric Lighting (HCL) provided by ESYLUX ceiling lights with plug-and-play installation.

Light brickwork, floor-to-ceiling ribbon windows, green outdoor spaces – it is a building complex for the times in every respect and, furthermore, complies with the requirements of a KfW Efficiency House 55. With four full storeys and one penthouse level, Emmy Noether Haus offers the approximately 370 employees of its resident companies quality of work and life in line with modern-day requirements. And that is also down to its location.

KIEL SCIENCE PARK AS A BRIDGE BETWEEN SCIENCE AND COMMERCE

The building is located in the centre of Kiel Science Park, a community of around 100 companies. Maintaining a healthy work-life balance is a key concept here. Among other things, this is ensured by a daycare centre, boules pitch, shower facilities and restaurants. The Science Park is also located directly next to the Christian Albrecht University of Kiel and, in the words of the Lord Mayor of the city, thereby forms "an extremely important bridge between science and commerce".

Goldbeck Nord GmbH is one of the companies benefiting from the favourable conditions in Emmy Noether Haus. On the fourth floor, the architects designed an open-space concept for the construction company without any open-plan offices. Zones with team workspaces are interspersed with meeting rooms separated by glass walls, while sound-absorbing acoustic elements in the suspended ceiling and between individual zones ensure a quiet work environment. ▶

HUMAN CENTRIC LIGHTING FOR ADDED QUALITY OF LIFE IN THE WORKPLACE

As on all the office floors in Emmy Noether Haus, Human Centric Lighting further improves the experience of being in the space. Daylight-like light gradients, brightness and light colour all change dynamically, which increases vitality and well-being, stimulates concentration and even improves health, as workers sleep better at night. "The companies report that their employees are better able to concentrate on their work and feel more healthy", confirms Jan-Phillipp Wriedt, an electrical engineer with dc Services GmbH, which was responsible for the planning, installation and project development of the room and building automation elements in this project.

The project used ESYLUX series CELINE recessed lights with Tunable White luminaires. "The decisive factors were the superb LED quality, the very low flicker factor and effective glare suppression", explains Wriedt. Users can override the automated light sequences in their zone as required using a switch. "If a user returns to their workspace after a long absence, the automation system is restarted by resetting it", explains Wriedt.

TIME-SAVING PLUG-AND-PLAY INSTALLATION

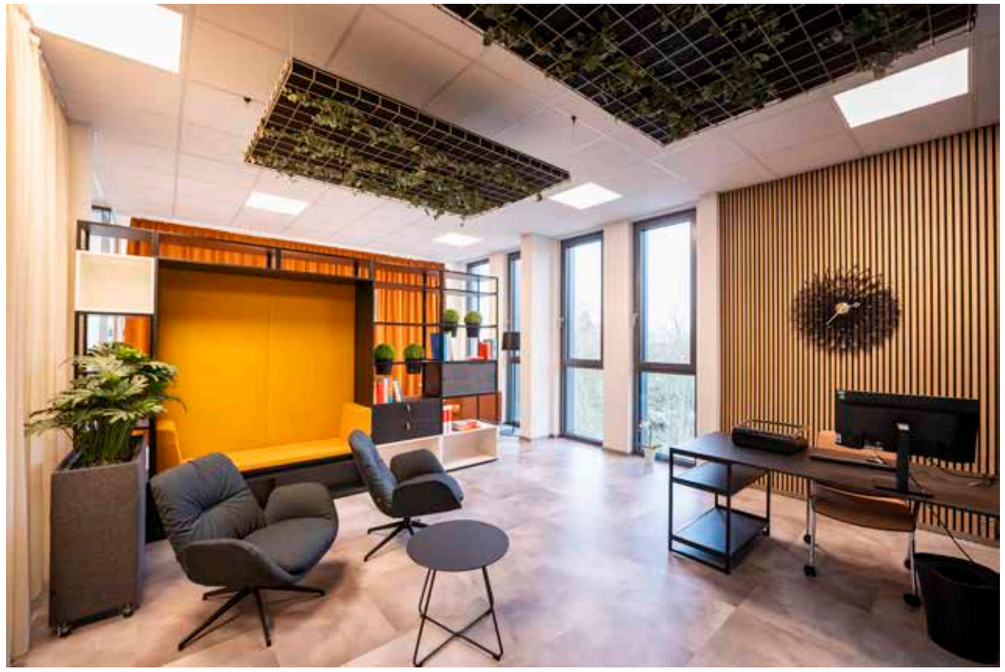
One further advantage of these luminaires was their ease of installation. The CELINE recessed light variants used are supplied with power via RJ45 sockets. The system could therefore be wired almost completely using plug and play thanks to compatible driver sets with RJ45 plugs on one side and WINSTA connectors from WAGO on the other – a compelling argument at a time when electrical installers have to contend with high workloads.

"It's only a matter of time before pluggable solutions are in widespread use in the German market", says Jan-Phillipp Wriedt with certainty. In many other European countries, this practice has already long been established, and that too is due to the growing shortage of skilled workers. After all, with plug and play, anyone, including unskilled employees, for example, can take care of the wiring, without knowing the first thing about electrical engineering.

HAPPY EMPLOYEES

Goldbeck Nord GmbH's employees have been consistently happy with their new working conditions. "It's a very modern way of working, which I had previously only seen in magazines", says architect Walad Rahman. "The interplay of glazed surfaces and open spaces creates a pleasing effect of depth". Rahman also finds it novel and interesting that the brightness of the lighting changes according to the light outside. As daylight increases, the presence detectors dim the artificial lighting in an energy-saving manner.

"In terms of the lighting, it's much more pleasant, and the office feels more open", agrees branch manager Julius Müller. "You're more focused at work and at the same time more interactive". The lighting control is very discreet and he always feels like everything is illuminated evenly. In comparison to his previous working environment, this is an entirely different way of working. The CELINE luminaires were also ideal for working at a screen: "The glare suppression is fantastic". ■



Communal areas integrated into the office space offer employees a place to relax at any time. ▲

Human Centric Lighting with CELINE recessed lights from ESYLUX ensure dynamic, daylight-like lighting in all the office spaces. ▼

Human Centric Lighting also ensures increased well-being in the kitchen and toilets. ►

CROSS-ROOM, TIME-DEPENDENT LIGHTING CONTROL

COMPACT APC20 PRESENCE DETECTOR WITH INTEGRATED DALI-2 CONTROL UNIT

With the COMPACT APC20, ESYLUX offers a new level of configuration for presence detectors with integrated cross-room DALI-2 lighting control. The detectors can activate or adjust functions based on the day of the week and the time of day, or make use of a swarm function to improve comfort in open-plan offices. Configuration is performed as usual: easily, by app or Bluetooth.

APC presence detectors in the COMPACT series enable cross-room, decentralised automation of up to 64 control gears in up to 16 lighting groups via their integrated DALI-2 control unit – without the need for a building management system. With the APC20 presence detectors, ESYLUX introduces a new specification level with additional special functions.

CONTROL BASED ON THE DAY OF THE WEEK AND THE TIME OF DAY

In many cases, time-dependent control allows for more demand-based automation that is often more energy efficient. APC20 presence detectors can therefore activate or alter functions and parameters depending on the day of the week and the time of day. This means, for example, that different operating modes, an orientation light for safety and scenes can be activated at specified times. Standby mode for DALI control gears can also be switched off completely to save energy via a separate detector output. ►

COMPACT APC10

COMPACT APC20

NEW

UP TO 16 LIGHTING GROUPS

- **Individual control of up to 64 control gears in up to 16 groups**
- **Fully automatic operation, semi-automatic operation, manual override (16 scenes)**
- **Presence- and daylight-dependent constant light control**
- **Group control with offset supported**
- **Level of brightness adjusted manually**
- **Basic lighting with afterglow and orientation light**
- **Flexible group switching**
- **Can switch HVAC systems and 230 V luminaires**

TIME FUNCTIONS

- **Weekday- and time-dependent control**
- **Automatic brightness**
- **Automatic stairwell light**
- **Standby switch-off**
- **Swarm function**
- **Central function**

SWARM FUNCTION FOR EXTRA COMFORT IN OPEN-PLAN OFFICES

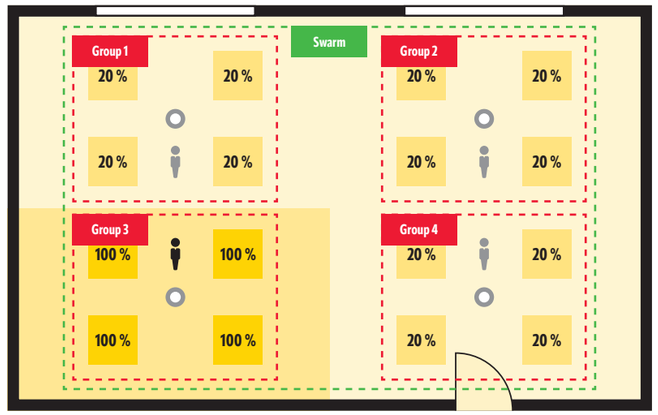
Sitting alone at a desk in a shared office often means working in an isolated island of light, which can be uncomfortable both emotionally and for the eyes. The detector's swarm function prevents this: When the swarm function is activated, the APC20 detectors dim the lighting in unoccupied areas of the room to comfortable basic lighting that reduces contrasts in brightness. The lighting turns off completely only when the last person has left the office.

CENTRAL FUNCTIONS FOR STANDARDISED OVERRIDE

APC presence detectors control each lighting group in a DALI range individually using additional BMS presence detectors, thereby enabling an override via a 230 V or DALI-2 push button. The new APC20 detectors also feature switching on and off across groups via a central function with adjustable luminous efficiency. This means, for example, cleaning staff arriving in the early evening or morning may switch on the lights via the central push button and get to work immediately with all lighting at maximum illuminance in all areas.

Like the APC10 presence detectors, the APC20 variants can also switch groups flexibly and can now also be controlled based on the time of day and day of the week. Variable scenarios and correspondingly different group assignments of bus participants enable functions and parameters to be easily adjusted to suit different applications. The detectors are available with an overall field of detection of 8, 24 or 32 metres in diameter and enable simple configuration of the entire system via smartphone. ■

CONVENIENT SWARM FUNCTION



Working alone in an open-plan office can often mean working in an isolated pool of light. Many people find this unpleasant, and the contrast between their own workstation and the surroundings can cause eye strain.

The swarm function prevents this by providing energy-efficient, dimmed lighting in unoccupied areas.

Illuminance of luminaires in %
Presence detector
Present
Absent

APC presence detectors act as the intelligent switch cabinets in DALI-2 solutions from ESYLUX: With an integrated DALI-2 control unit and bus voltage supply, an APC presence detector controls up to 64 luminaires in up to 16 lighting groups – decentralised and cross-room. ►

For individual control of all groups, BMS presence detectors, DALI-2 push buttons from ESYLUX or commercially available 230 V push buttons provide the required information from all other zones. ▼

BMS presence detectors

DALI-2 push button

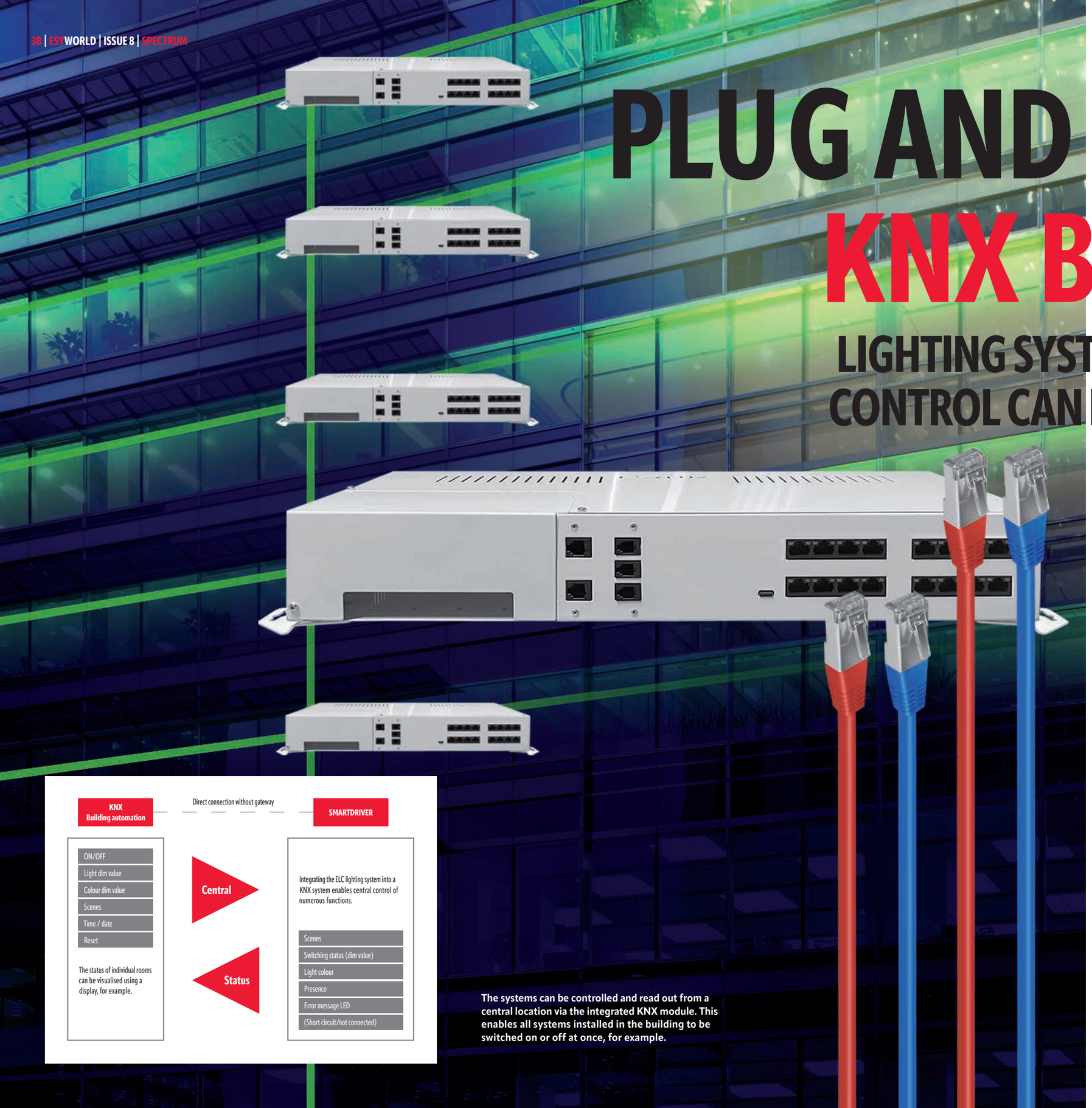
230 V push button manufacturer-independent

APC PRESENCE DETECTORS
With integrated DALI-2 control unit

DALI bus

PLUG AND PLAY FOR KNX BUILDINGS

LIGHTING SYSTEMS WITH ESYLUX LIGHT CONTROL CAN BE DIRECTLY INTEGRATED



The systems can be controlled and read out from a central location via the integrated KNX module. This enables all systems installed in the building to be switched on or off at once, for example.

Room-by-room lighting modernisation using lighting systems with ESYLUX Light Control (ELC) is now also possible in buildings with KNX systems. New versions of the control unit with an integrated KNX module can be used to integrate lighting systems into the bus system so they can be centrally controlled and read out – without the need for a separate gateway. As always, installation is almost entirely plug and play.

Plug-and-play solutions are becoming increasingly popular in a time where there is a lack of trained personnel. Lighting systems with ESYLUX Light Control (ELC) use plug and play to enable room-by-room modernisation for intelligently controlled, energy-efficient lighting. This is made possible by only the SMARTDRIVER-2 control unit requiring a 230 V mains connection. Other system components such as ELC recessed lights or ELC presence detectors are connected and supplied with power via plug and play in the safety extra-low voltage range, which can also be used to scale the systems.

KNX MODULE FOR SEAMLESS INTEGRATION WITHOUT THE NEED FOR A GATEWAY

To enable such room-by-room modernisation projects to be implemented for KNX systems, new versions of the control unit now feature an integrated KNX module. This module enables seamless integration into KNX building automation systems without the need for a separate gateway. This enables central override via switching, dimming and scenes, or by changing the light colour in versions for Human Centric Lighting. The module can also be used to read out from lighting systems: Scenes, dimming values, light colour, presence status and error messages can be determined from a central location and presented visually on a screen if required.

ENERGY-EFFICIENT HUMAN CENTRIC LIGHTING OR CONSTANT LIGHT CONTROL

The versions with a KNX module are available for energy-efficient Human Centric Lighting with Tunable White luminaires or for presence- and daylight-dependent constant light control with a fixed light colour. In addition, there are various other functions that can be used to improve quality of life and energy efficiency in offices, educational institutions and medical facilities. These include a swarm function, an orientation light, energy-saving offset light control in rooms exposed to daylight on one side – and the ability to configure individual scenes. ■

INTELLIGENT LIGHTING IN HARSH ENVIRONMENTS

OLIVIA-2 WITH OPTIONAL INTEGRATED HIGH-FREQUENCY MOTION DETECTOR

OLIVIA-2 moisture-proof lights enable both robust and intelligent lighting solutions for DALI-2 or ON/OFF in car parks, sanitary areas, storage rooms or cellars. An optional integrated high-frequency motion detector combined with the luminous efficacy of the luminaires ensures optimal energy efficiency. Design details such as the integrated through-wiring simplify installation.

Intelligent light control and optimal luminous efficacy are vital prerequisites for ensuring energy efficiency in buildings today. At the same time, installation should be kept simple for when order books are full and there is a lack of trained personnel. In light of this, ESYLUX has expanded its portfolio with the OLIVIA-2 LED moisture-proof lights.

OPTIONAL INTEGRATED HIGH-FREQUENCY MOTION DETECTOR FOR DALI-2 OR ON/OFF

The luminaires feature DALI-2-certified or ON/OFF drivers as well as an optional integrated high-frequency motion detector. Combined with the luminous efficacy of up to 162 lm/W, this motion detector reduces energy consumption: In the ON/OFF variants, it switches a group of sensorless OLIVIA-2 luminaires on and off independently and on demand. In the DALI-2 variants, it acts as an input device for a centrally controlled building automation system or for decentrally controlled DALI-2 solutions from ESYLUX.

INTEGRATED THROUGH-WIRING, VARIANTS WITH EMERGENCY LIGHTING

Luminaires with a length of 1200 or 1500 mm are easy to install due to the integrated through-wiring of 5 × 2.5 mm² and cable glands. The stainless steel mounting bracket for ceiling mounting can be moved flexibly; any available mounting screws obtained when replacing old luminaires can be re-used for this purpose. Tamper-proof stainless steel clips for fastening diffusers, IP66 protection and IK08 impact resistance ensure functionality across all variants. OLIVIA-2 variants with emergency lighting function have been added to the portfolio. ■

MULTI-STOREY CAR PARKS & UNDERGROUND CAR PARKS

WAREHOUSES WITH SHELVES

PLANT ROOMS & CELLARS

IN-HOUSE LAUNDRY ROOMS

DALI 2® or ON/OFF

1500 mm

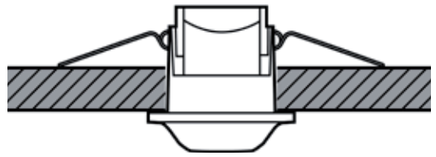
1200 mm

OLIVIA-2 is available in both lengths for DALI-2 or ON/OFF in the following variants:

- Standard version with through-wiring
- Version with high-frequency motion detector (detection range: Ø 9 m)
- Version with integrated emergency lighting function
- Standard version without through-wiring (ON/OFF only)

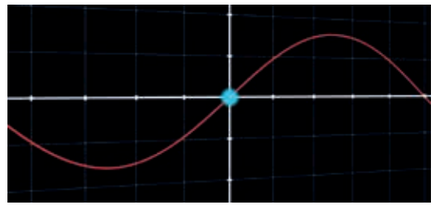
A RAPID WAY TO IMPROVE ENERGY EFFICIENCY

BASIC EXPRESS PRESENCE AND MOTION DETECTORS



The detectors in the BASIC EXPRESS series can be installed in suspended ceilings without any accessories. ▲

With zero-cross switching to protect the relay, the detectors in this series are ideally equipped to withstand the high in-rush currents of LEDs. ▼



The presence and motion detectors in the new entry-level BASIC EXPRESS series are a quick and simple introduction to on-demand lighting control. The detectors can be installed in suspended ceilings without the need for further accessories and used to switch the lighting based on demand. This means that the detectors increase energy efficiency and convenience in building areas where simpler functionality is sufficient.

Energy-efficient building modernisation is one of the most critical challenges we are faced with, as both energy costs and global CO_2 emissions need to be reduced. Simple movement- and daylight-dependent switching of lighting makes an important contribution to this. The BASIC EXPRESS series provides a particularly quick entry into this type of automation.

INSTALLATION WITHOUT THE NEED FOR ACCESSORIES OR CAVITY WALL BOXES

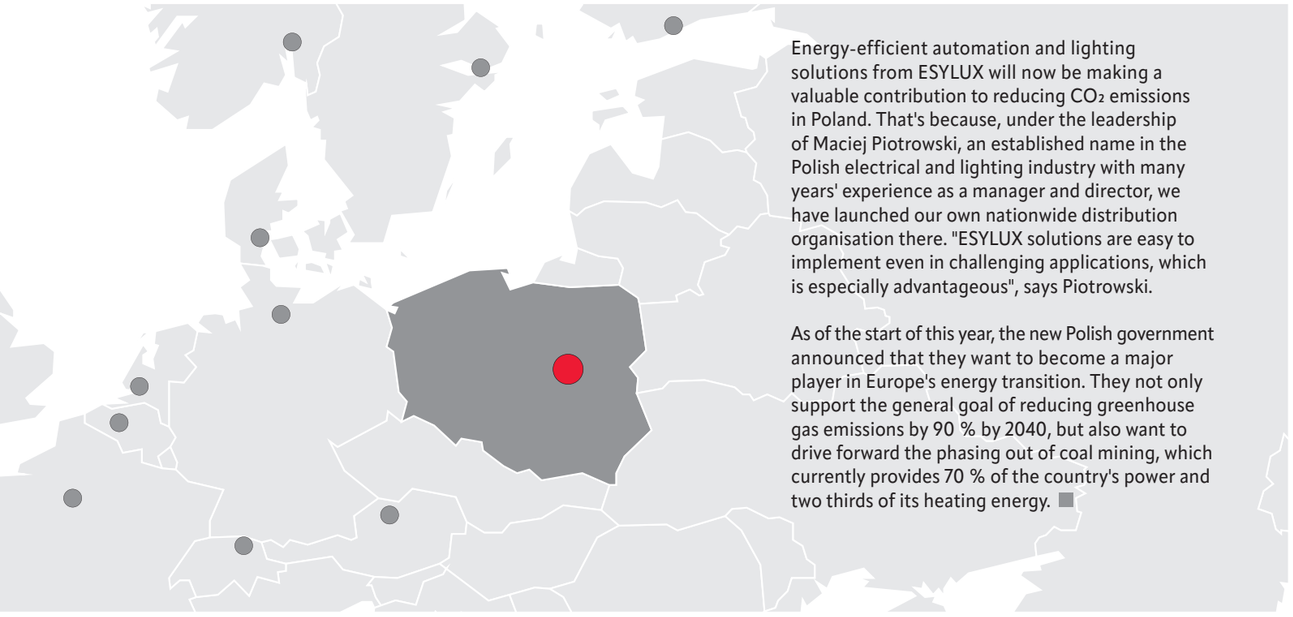
The presence and motion detectors are intended for installation in suspended ceilings without the need for additional accessories. The housing features protection type IP23, integrated strain relief and pre-mounted clamping springs. There is a clamp cover on the top of the housing, meaning installation does not require use of a cavity wall box. The flush-mounted design of the detectors also ensures a discreet appearance.

ZERO-CROSS SWITCHING TO PROTECT THE RELAY

During operation, zero-cross switching protects the relay of the detector from in-rush currents caused by electronic ballasts, while the push button input enables semi-automatic operation as required. The total detection range of 8 metres in diameter can be easily extended through parallel wiring. Through-wiring with double diaphragm cable entry for cables of up to 2.5 mm^2 also makes installation easier. ■

NEWSFLASH

ESYLUX DISTRIBUTION LAUNCHED IN POLAND



Energy-efficient automation and lighting solutions from ESYLUX will now be making a valuable contribution to reducing CO_2 emissions in Poland. That's because, under the leadership of Maciej Piotrowski, an established name in the Polish electrical and lighting industry with many years' experience as a manager and director, we have launched our own nationwide distribution organisation there. "ESYLUX solutions are easy to implement even in challenging applications, which is especially advantageous", says Piotrowski.

As of the start of this year, the new Polish government announced that they want to become a major player in Europe's energy transition. They not only support the general goal of reducing greenhouse gas emissions by 90 % by 2040, but also want to drive forward the phasing out of coal mining, which currently provides 70 % of the country's power and two thirds of its heating energy. ■

DUO DALI NOW WITH NIGHTLIGHT FEATURE

Presence and daylight-dependent switching of the lighting ensures convenience through automation and energy-efficient operation, and makes reliable use of the LED service life. In some situations, however, this type of automation may actually be a disturbance. For example, if the light goes on every time a patient moves in their room at night in hospital.

To prevent this, the ESYLUX developers have now equipped the DUO-DALI presence detectors in the COMPACT series with a nightlight function. Using button 1, this can easily be switched on or off, the motion detection deactivated and the lighting dimmed – all the way 0 %, if required. And if a higher illuminance is required in the meantime, that can be easily set using button 2. The strength of the nightlight can be adjusted in 1 % increments as desired, making this function ideal for hospital corridors! ■

ENERGY EFFICIENCY SIMPLY SNAPS INTO PLACE

Time and again, unique concepts are developed in the various ESYLUX distribution countries and succeed throughout the national market. One such example is the new SNAPFIX mounting system from Feller in Switzerland: devices with pre-mounted adapters can simply be snapped into place and then secured in the Feller mounting plates on the wall – with no need for bolts or screws.

To ensure energy-efficient modernisation with our wall-mounted detectors in the COMPACT and BASIC series, we have added new SNAPFIX variants. For KNX, ON/OFF or 12 – 36 V UC! ■

TOUCHPOINTS

FUTURE LIGHTING | **20 – 21/11/24**
Gorinchem | The Netherlands

GET NORD | **21 – 23/11/24**
Hamburg | Germany

ELEKTROTECHNIK | **12 – 14/02/25**
Dortmund | Germany

ELTEFA | **25 – 27/03/25**
Stuttgart | Germany

E-NNOVATION | **05 – 07/05/25**
Salzburg | Austria

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Interview with Johannes Möller: Messe Frankfurt GmbH, Henning Angerer

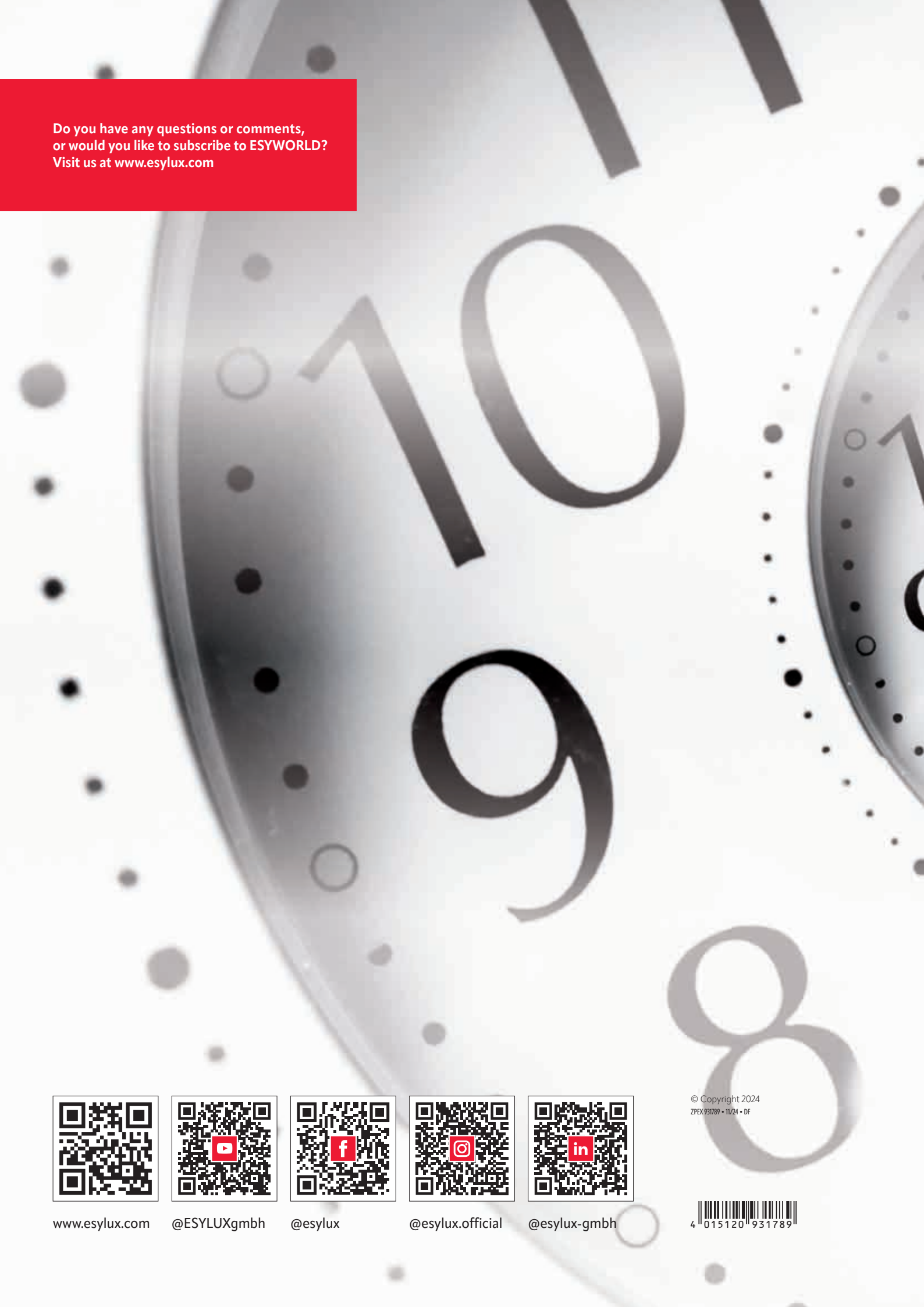
References Berufsbildungswerk Soest & Emmy-Noether-Haus Kiel: Henning Angerer

PERFORMANCE FOR SIMPLICITY

ESYLUX develops, produces and distributes intelligent automation and lighting solutions for a better quality of life and energy efficiency in office buildings, educational institutions and healthcare facilities. The focus is always on the wishes and needs of the individual.

To satisfy these requirements, we use our experience in electronics and automation to develop products such as LED-based systems for energy-efficient Human Centric Lighting. Our portfolio ranges from the complete automation and illumination of individual rooms through to networking and integration into building-wide systems. In view of the often complex requirements we encounter in the process, we place particular value on making sure that our product solutions are easy to use.

Our customers and partners are wholesalers, installation companies, electrical and lighting planners and architects who trust more than 55 years of market experience and the personal specialist advice our experts provide. We meet the highest quality standards in our research, development and production at our German location in Ahrensburg. Our sales organisation is global: ESYLUX operates in collaboration with experienced trading partners and is represented by numerous distribution companies in Europe, Asia and Oceania.



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