

ESY WORLD

THE LATEST FROM THE WORLD
OF LIGHTING AND AUTOMATION

THE POWER OF LIGHT

HOW EFFICIENT HUMAN CENTRIC LIGHTING CAN BE

A VISION OF THE FUTURE

ESYLUX GENERAL MANAGER OLIVER SEGENDORF ON
BRILLIANT AUTOMATION

FROM KAMEN TO SINGAPORE

WHAT DRIVES GLOBAL MARKET LEADER VAHLE

WELCOME

Dear readers,


The average German spends around eight of his 80-odd years at work – just behind the 24 years he spends asleep and the 12 years watching TV. Even if the results of this study don't quite match the situation in other countries, they certainly highlight the extent to which work governs our lives. We may not be able to change this, but we can try to make our work as pleasant as possible,

for example, using biologically effective lighting that resembles daylight. This also helps us sleep better at night. Discover how this works in the first issue of **ESYWORLD. We hope you enjoy reading it.**

Mareks Peters and Oliver Segendorf



Chairman and CEO, ESYLUX



General Manager, ESYLUX

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HIGHLIGHT THE POWER OF LIGHT

Human centric lighting in the office affects vitality, concentration and health. If only it weren't for the matter of energy efficiency. There is a logical solution: high-tech sensors combined with intelligent light management. In a word: SymbiLogic.



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ESYLUX General Manager Oliver Segendorf talks about brilliant automation concepts and the basic requirements for happiness.



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Vahle upgrades to Biologically effective lighting for global tasks. The Goodman shopping centre in Hämeenlinna is making savings through demand-based lighting control, while the Helsinki postal service is delivering environmental benefits with ESYLUX sensors.



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THE POWER OF LIGHT

HUMAN CENTRIC LIGHTING IN THE OFFICE:
A BRIGHT NEW DAY OR THE DARK SIDE
OF ENERGY EFFICIENCY?

WORKING WITH SYMBOLOGIC: THE DIFFERENCE BETWEEN NIGHT AND DAY

Daylight makes people happy, helps them perform well and has controlled human biorhythms since time immemorial. Human centric lighting is the magical formula for an age where people spend more and more time working indoors. But brighter light also means higher energy consumption. Or does it? ESYLUX has developed a technology that calls our assumptions into question: SymbiLogic.

Sitting for long periods with poor posture is bad for the back, and people are also generally exposed to less fresh air than in the past – now that we have largely moved into buildings to work, often at desks, we have a number of problems to contend with. We now also know how much the human body misses natural light. Even large windows and the best-designed architecture don't have the same effect as being under open skies.

It is 15 years since the role of the intrinsically photosensitive retinal ganglion cells (ipRGCs) in the human retina was discovered. And yet it has taken quite a while for lighting manufacturers to pay sufficient attention to the biological effect of light. That might seem a little surprising at first. However, mass implementation of this type of lighting only became possible after the introduction of the LED and subsequent improvements in its quality. ►



LIGHTING BOOSTS VITALITY, CONCENTRATION AND HEALTH

This is one reason why many people still do not know what biologically effective light or human centric lighting is all about. A glance out of the window is enough to answer that. There are two fundamental states: dimmer, warm white light in the early morning and evening, in contrast to bright, cold white light with a high proportion of blue during the day. The transitions between them are of course fluid and dynamic, determined by the interplay of the earth's rotation, the sun's path and blue skies.

Each light condition affects the human body in a different way. When the bright, cold white light of the forenoon sun hits those ganglion cells in the retina, it triggers several biological processes. The ganglion cells do not contribute to conscious recognition or vision. Instead their role is to transmit *non-visual* information. They therefore react to changes in light colour and brightness. One of the main consequences of bright, cold white light hitting the cells is the suppression of the body's production of melatonin – a neurotransmitter which makes us tired. Through this and a number of other processes, a bright, cold white light during the day increases vitality, well-being and concentration, and helps us make fewer mistakes.

Light is therefore the most important timer for the human day/night rhythm. Bright, cold white light during the day stabilises this rhythm, which results in more restful sleep and therefore contributes to good health. However, it is also important for the light to become dimmer and warmer in colour as evening approaches, so that we can start preparing for rest in good time. In short: Bright, cold white light activates and stimulates while dimmer, warm white light aids relaxation.



OUTSIDE ON A SUNNY DAY, WE RECEIVE
100,000 LUX

OUTSIDE ON A CLOUDY DAY, WE RECEIVE
10,000 LUX

IN THE OFFICE, WE STILL ONLY RECEIVE A BRIGHTNESS OF
500 LUX

AND, IN SCHOOLS,
300 LUX

HUMANS SPEND
90 % OF THEIR TIME IN ENCLOSED SPACES

▲ *More blue in the forenoons, more red in the evenings: Light from the CELINE Quadro-Sets with SymbiLogic stabilises employees' day/night rhythms.*

HUMAN CENTRIC LIGHTING AND ENERGY EFFICIENCY – A CONFLICT WE CAN OVERCOME

The advantages of indoor lighting that simulates daylight's changing light colour and brightness are very clear. Especially in the workplace, this is a classic win-win situation. Employees have a greater sense of well-being, are more motivated and therefore perform better. The employer also benefits from this, through the increase in employee satisfaction as well as through their higher productivity. Ultimately, this type of lighting is advantageous to the whole company.

However, every benefit comes with a challenge. After all, something else has a significant effect on the way office buildings are run these days: increased energy efficiency requirements. The brightness of biologically effective light is continually above the 500 lux prescribed by standards, and at times significantly so. Peak values can range from 700 or 800 lux to over 1000 lux, which indicates higher consumption despite the use of LEDs. ▶

↑ INCREASES
MOTIVATION
PRODUCTIVITY
EMPLOYEE LOYALTY

↓ REDUCES
ERRORS
ABSENCES
WORKPLACE ACCIDENTS

Source: Quantified benefits of human centric lighting report by ZVEI/LightingEurope/A.T. Kearney, April 2015



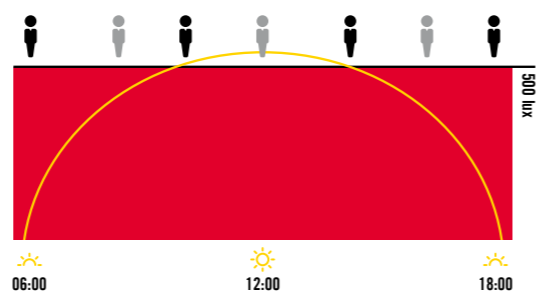
SENSORS AND INTELLIGENT LIGHT MANAGEMENT PROVIDE A SOLUTION

So what do we do? ESYLUX took on this problem and developed SymbiLogic, a technology which not only provides Biologically effective lighting but also implements it in an energy-efficient way. The key elements here are the use of presence detectors and intelligent light management – as found in the PRANA+ Office Floor Light and the light systems of the CELINE and NOVA Quadro-Sets.

The sensors in the presence detector alone reduce costs dramatically, since they automatically ensure that the light only shines when people are present. Each presence detector also has a light sensor. This compares the workplace brightness level to a prescribed value. Of course, the existing daylight entering through the window is taken into consideration here. If this is sufficient for work, the presence detector switches the artificial light off. Even more energy can be saved if the detector also has constant light control. This continually adjusts the artificial light so that, combined with the available daylight, the targeted amount of light is achieved. This allows the best possible use of daylight.

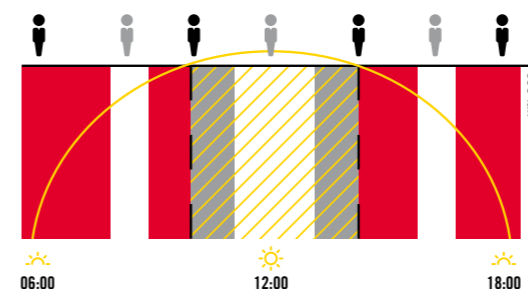
▲ Intelligent Biologically effective lighting using the example of the multi award-winning PRANA+ Office Floor Light

MANUAL SWITCHING



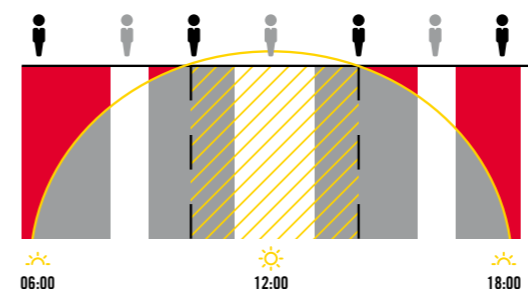
Office space without automation — the light and other devices frequently stay on all day and use energy unnecessarily.

PRESENCE- AND DAYLIGHT-DEPENDENT SWITCHING



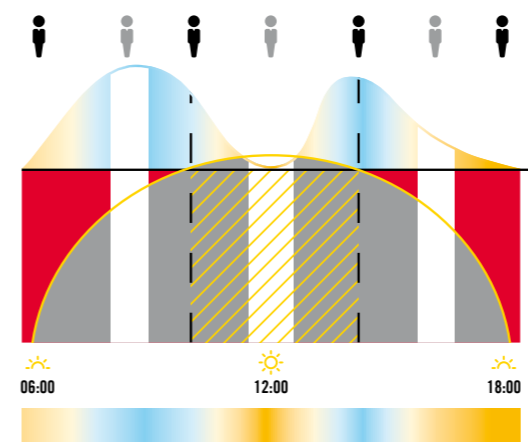
Presence- and daylight-dependent switching using a presence detector automatically reduces energy consumption.

DAYLIGHT-DEPENDENT CONSTANT LIGHT CONTROL



The best use of daylight: constant lighting control with a presence detector.

ENERGY-SAVING POTENTIAL WITH BIOLOGICALLY EFFECTIVE LIGHTING



SymbiLogic technology from ESYLUX with presence- and daylight-dependent and adaptive constant light control.

SYMBILOGIC OFFERS ADAPTIVE CONSTANT LIGHT CONTROL

The SymbiLogic technology now combines all of these benefits, which make a difference even when controlling a normal light, with a biologically effective lighting. This initially sounds simpler than it actually is. Conventional constant light control cannot be used with biologically effective lighting. A conventional constant lighting control system maintains a single light value throughout the day, e.g. the aforementioned 500 lux. Although a Biologically effective lighting also has to maintain a standard minimum value at the workplace, biologically effective lighting is in fact much brighter and, above all, its brightness level constantly changes. The solution lies in the SymbiLogic adaptive constant light control. This adjusts itself based on a value which also continually changes according to the desired brightness pattern. In one sense, this is a real innovation since, for the first time, it enables optimum use of daylight even within biodynamic brightness patterns. SymbiLogic also applies trusted building automation principles to the most modern form of indoor lighting.

Some people may wonder why this technology is called SymbiLogic. It's actually very simple: The name reflects the concept of *symbiosis*. This term is frequently used very broadly and to refer to all sorts of things, but it fits this context precisely. On the one hand, humans are benefiting from nature. Nature has taught them which light suits them best, meaning they are now able to simulate that light in indoor spaces. On the other hand, nature also benefits. Presence-based, daylight-dependent control combined with adaptive constant light control allows SymbiLogic to ensure the most energy-efficient implementation possible – thereby minimising the use of natural resources. ■

- Proportion of artificial light
- ▨ Sufficient daylight
- 👤 Present
- 👤 Absent

MAKING CLEANING MORE INTELLIGENT

OLIVER SEGENDORF ON BRILLIANT AUTOMATION CONCEPTS



Any manufacturer of intelligent products and technology has to be on the ball in a number of areas. A conversation with ESYLUX General Manager Oliver Segendorf on digital networks, his own recipe for happiness and great ideas for clean rooms.

Mr. Segendorf, if you had to explain to an outsider what ESYLUX does, how would you do it?

I would explain it to them exactly as I would to my children. I say to them: "Now, like lots of other people, Dad works in an office all day. And because we spend so much time there, we need really good light. That's why ESYLUX makes such good lighting. But using light and other equipment in the office requires energy, which costs lots of money and natural resources. And that's why ESYLUX also ensures that energy is only used when absolutely necessary." Then of course, I tell them how great it is when the light just turns on and off automatically without anyone needing to worry about it. My children are always fascinated.

You make it very clear that ESYLUX now produces intelligent lighting in addition to its automation solutions. Why take this step?

That was essentially the next logical development. Demand-based control of building technology has always been at the core of our business as an automation specialist, and presence-based lighting control was always at the forefront. We are European market leaders in this area, and we have decades of experience. Now we work with modern lighting just as we do with automation in the electronics field. We are therefore able to fully integrate our competence into this area. We also stand out in a positive way from all the conventional lighting manufacturers. In short: We don't just know about light – we know about intelligent lighting. ►



▲ Automation in production — a robot helps to manufacture a NOVA Quadro-Set.

◀ As General Manager, Oliver Segendorf has been steering the future of ESYLUX in Hamburg since 2013.

The LED light source is the ideal medium for light control. This is demonstrated perfectly by the PRANA+ series with SymbiLogic technology. ►

ESYLUX also refers to the synergy of lighting and automation.

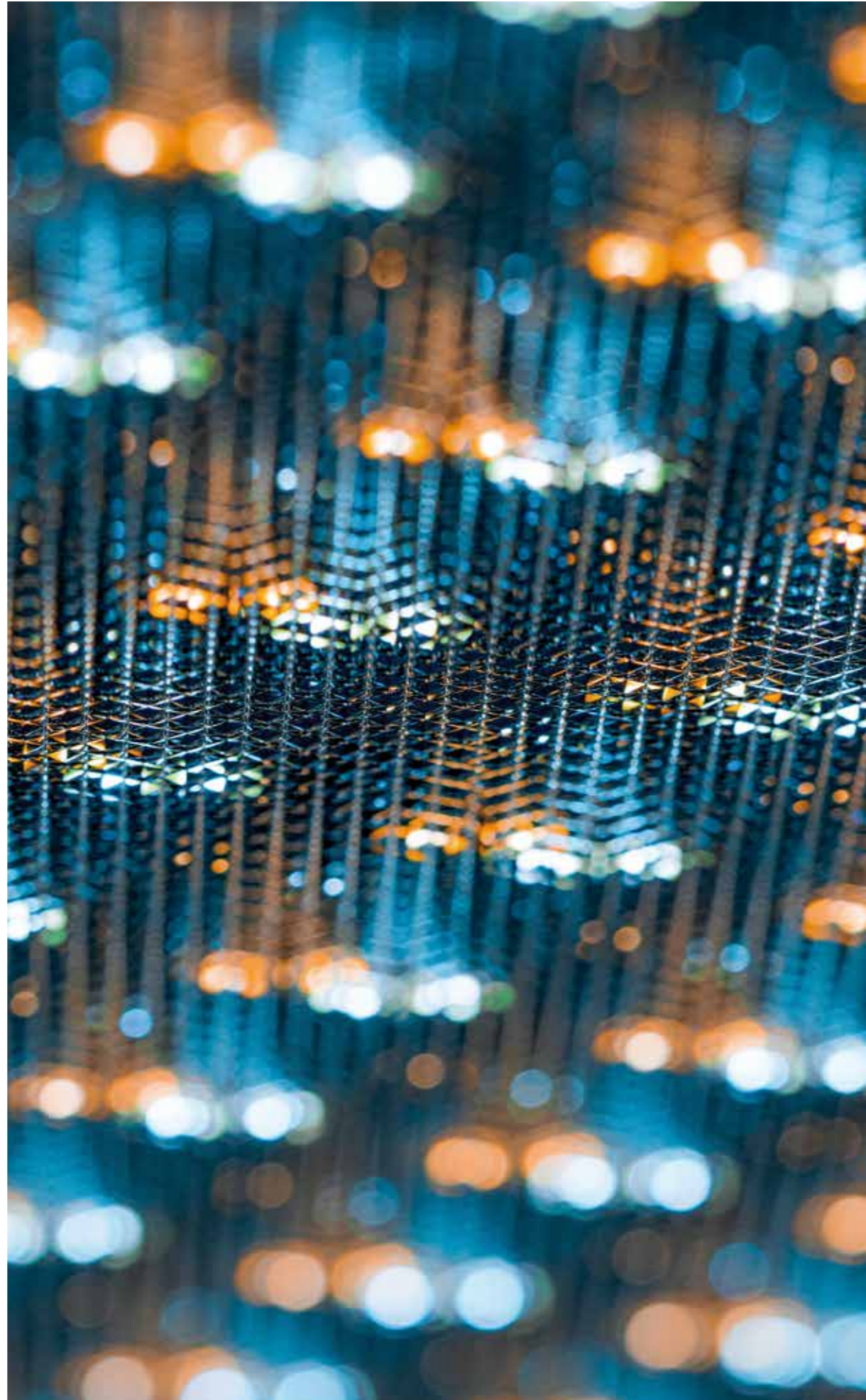
That's right, even though I personally find such expressions a bit too abstract. The important thing is what it ultimately means. It means light for people – the light that our bodies and souls need. The perfect light must not flicker and must provide the right brightness and colour at the right time – and without the person needing to worry about it. Only when these features help us feel good in the daytime and sleep better at night is the light at its optimum level. With SymbiLogic, we have achieved that in a particularly energy-efficient design.

What role does the LED light source play in this?

The LED is the perfect medium for light control – an electronic component that can be controlled extremely well. And it has also outgrown the teething problems that it had eight to ten years ago. It is also important for Biologically effective lighting. Although it used to be technically possible to create light like this with conventional bulbs, it involved disproportionately high costs and the price/performance ratio was completely unacceptable.

"The future will be all about information management – use-by dates, light lifespans and so on."

The LED has made lighting design much easier, and what's more, I can dim them without wasting energy. Dimming a halogen light is so inefficient that I have to use nearly the same amount of energy for just half of the light output. From an ecological and economic perspective, that's absolutely ridiculous. In this respect, the LED is miles ahead.



And it is sure to progress even further. What new developments do you anticipate?

I think the future will be very much about information management within intelligent building systems: use-by dates, for example, light lifespans and so on. This will be the future in terms of the digitalisation of building automation. Of course, those making the decisions will first have to recognise the benefits, but that won't be a problem. For example, there is a relay in every presence detector that switches the light or other functions on or off as required. If this relay were to break, many switches would be able to detect this beforehand because the relay would take slightly longer to open. Theoretically, it would be possible to detect the moment this happened. A signal would then be generated and transmitted via the building system, informing the user that a replacement would soon be needed. Manufacturers or service technicians could then respond to the request in good time. Predictive action like this takes on particular economic relevance in urban areas with highly frequented buildings, in which virtually every centimetre must be used to its full potential. After all, a building is made to be used.

"Office rooms could even be cleaned only when required, depending on their actual usage."

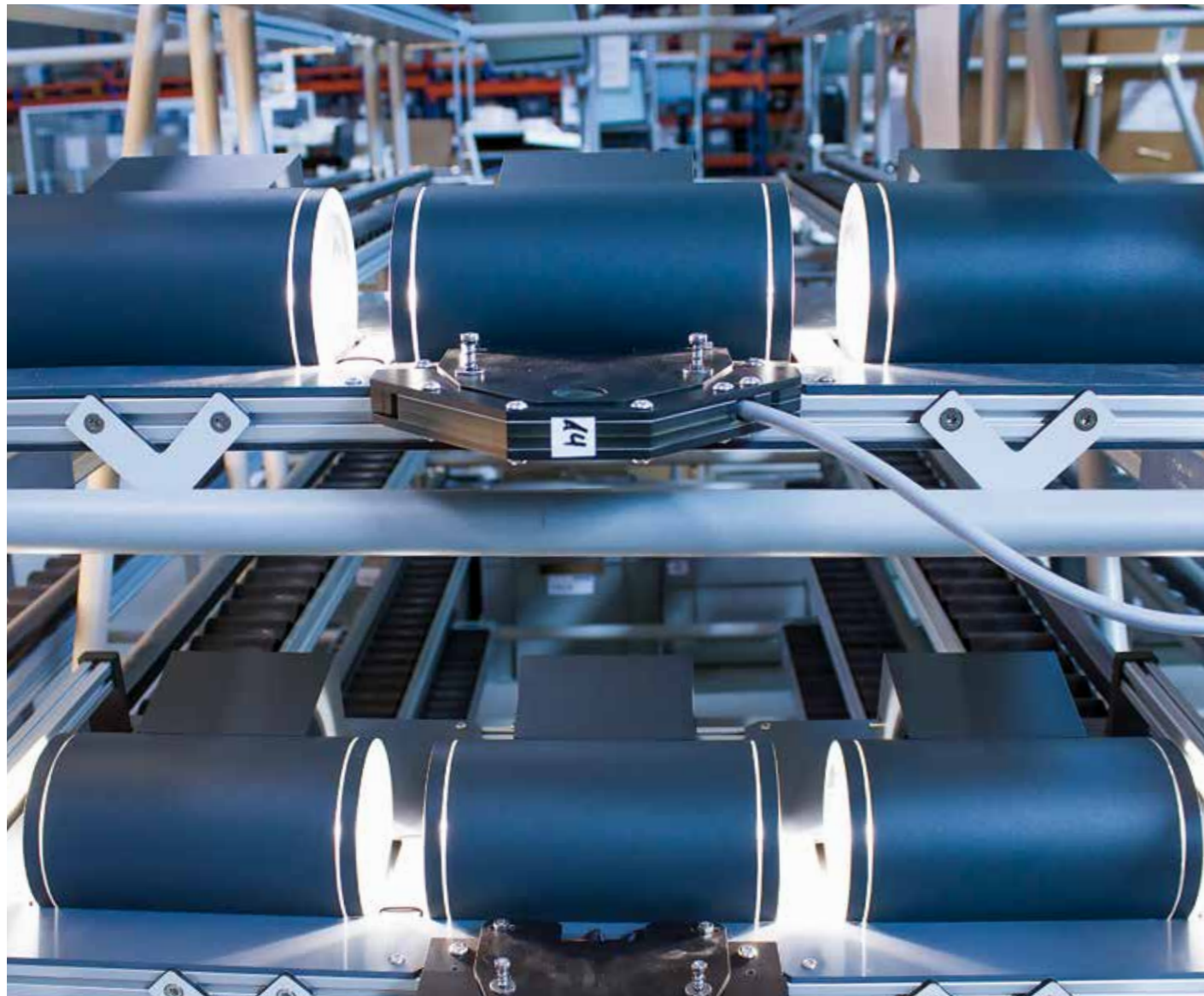
Another example comes to mind: Office rooms could even be cleaned only when required, depending on their actual usage. Rooms are frequently cleaned automatically, even if they don't need it. However, if the digital building system knew from the individual presence detectors which rooms had been used and when, this could be organised much more intelligently. The system could even inform an external cleaning firm about usage automatically. The firm could then allocate its employees more specifically. If a room was left unused for a week or two because its occupant was on holiday, it would simply not be cleaned. It might be cleaned after four weeks, however, as a lot of dust would have accumulated even though the room had not been used. There is an infinite number of clever ways to use this technology, all designed to save time and resources, which is then available for other tasks. Efficiency is the main driver here, and this makes as much ecological sense as it does economically. ►

Is the same importance attached to energy efficiency in all of the many countries where ESYLUX operates?

Not at all. Sometimes the main reason for deploying our automation systems is the convenience that they bring. In the end, it always comes down to energy costs. One example is Norway. The average Norwegian household uses around 15,000 kilowatt hours per year, while the average German household only uses around 3,000. Homes in Norway are heated using electricity, which would be inconceivable in Germany. The reason for this is the enormous amount of hydroelectric power available to Norway, resulting in lower power costs. This is fine from an ecological point of view, since hydroelectric power is very environment friendly.

So as a manufacturer, it is very important to keep global differences in mind. Does this also apply to quality assurance?

These days, if you want to create a product to satisfy global demands, you need to operate globally and have international connections. Quality is mostly determined by the fundamentals and for ESYLUX, that means development at our German site. The subsequent production in Ahrensburg obviously requires components from all over the world, and of course we have to be just as fastidious about the quality of these. To ensure top-quality parts from our suppliers in the Far East, for example, we work with our office



▲ *Biologically effective lighting waiting to be deployed – the NOVA Quadro-Sets undergo thorough performance tests at the German site in addition to the standard checks.*

◀ *Lighting the way to top quality – the ALVA up/downlights also have to pass stress tests.*

in Hong Kong to select our partners there very carefully. And of course no finished product escapes quality control. At our site in Germany, we use test devices developed in-house to check every function of our detectors and every current on their circuit boards. As well measuring the relevant parameters, the lights also undergo performance tests. We don't just carry out spot checks: Products leaving our premises are subject to a full inspection. We check every single device.

Mr. Segendorf, a personal question to finish: What does light mean to you personally?

This brings me back to my children. There are a few things in life which are really important. What matters most to me is my family, so I always want them to be well and happy. This can only be the case when certain basic requirements are met. They need enough to eat, enough to drink, good-quality air and good light.

A person can't be completely healthy if one of these elements is missing, however well their other needs are met. For me, light is nothing less than fundamental to a happy life.

MANY THANKS FOR THE INTERESTING CONVERSATION. ■

A BRILLIANT PERFORMANCE

GLOBAL MARKET LEADER VAHLE REINVENTS THE WHEEL USING LIGHT FROM ESYLUX

When the power delivery specialist modernised and added to the office facilities at its Kamen headquarters, it opted for an ESYLUX light system with integrated intelligent technology. The result: improved light quality, lower energy consumption, better employee motivation. So everything runs more smoothly, even huge projects like the Singapore Flyer. ►

▼ 28 gondolas turning up to 165 metres above the ground: The Singapore Flyer is powered by VAHLE and protected with lightning conductors.



POWERFUL LIGHTING FOR GLOBAL TASKS

Anyone who has driven through the west of Germany on the motorway more than once probably knows the Kamener Kreuz junction. Far fewer people will know that the headquarters of a global market leader are just a stone's throw away. Demand-based energy and data transfer combined with over 100 years of experience have put VAHLE on the international map. Their product range extends from busbars and conductor lines to solutions for digital data transfer and a system for contactless energy transfer. The company, which operates in over 52 countries, is involved in numerous large projects that showcase its success: VAHLE busbars are used to turn the particularly large *Singapore Flyer* Ferris wheel, while large container ports, from Hong Kong and Rotterdam to Panama, run much more ecologically thanks to modules and complete systems supplied by the manufacturer.



▲ The global market leader is to implement human centric lighting technology from ESYLUX.

◀ Extensive implementation of the NOVA Quadro-Sets' lighting system: newly-created office space in the former gallery of Hall 14.

NEW OFFICES TO IMPROVE COMMUNICATION AND THE WORK ENVIRONMENT

Several new offices were built in Kamen at the end of 2016, and others modernised, to ensure that the company could enjoy continued success within its own four walls while using state-of-the-art technology. To improve communication between employees in the main building – built in the late 1960s – seven individual offices had to be unified into two large areas covering a total of 150 m². A similar plan, though much more complex, is being implemented roughly 200 m north as the crow flies, in hall 14 which was newly built in 2012: Part of the former gallery needed to be converted into a large open office area measuring 180 m² using drywall, with an attached conference room and a single office separated by a glass wall.

Open-plan offices were created in both areas, and in each of them VAHLE prioritised the well-being of their staff. "A pleasant working environment and improved ergonomics in the workplace are of primary importance to us," explains Bernd Hauptreif, the Director Operations. As well as ergonomic chairs and height-adjustable desks, employees in the newly created open offices benefit from a larger window surface area. Additionally, background noise is effectively dampened here and in Hall 14 by a newly installed acoustic grid ceiling. ▶



DYNAMIC LIGHTING PROGRAMS WHICH PROMOTE AND INCREASE WELL-BEING

The light from the NOVA Quadro-Sets, combined with the intelligent control, fits well into the VAHLE concept in a number of ways. Employees benefit from the fact that the designs installed here utilise ESYLUX Symbi-Logic technology and from the stimulating effect of human centric lighting: "You feel awake for longer and don't get as tired," confirms Mario Jahn, an administrator in order processing. Another factor is the particularly energy-efficient implementation of the Biologically effective lighting using the integrated sensors.

"The users themselves don't consciously notice the dynamic changes in light colour and brightness during the course of the day," says Karsten Schmidt, Regional Sales Manager for Asia. The light is said to be very pleasant and always clear and bright. *Before*, explains Detlef Angersbach, Team Leader in international order processing, "it used to be too dark or too bright, depending on the weather." This was highlighted by individual employees' subjective sensitivity to the light levels. Dennis Endl points out that complaints relating to this are no longer made. This is partly because the system's light management automatically prevents a brightness level below 500 lux, and partly due to the more balanced illumination compared to the previous arrangement, where the fluorescent tubes lit some areas more than others.

Investing in the ESYLUX intelligent lighting system has paid off for VAHLE, and not just because of the all-round positive feedback from staff. Dennis Endl also says: "I don't normally praise products this quickly, but these lights are just great." Director Operations Hauptreif says they will soon be ready to start modernising the offices in Kamen. Further 650 m² are already scheduled. Improving communication and staff well-being will again be central to the process – supported by the NOVA Quadro-Set lighting system. ■

SENSOR-CONTROLLED LIGHTING SYSTEM WITH BIOLOGICALLY EFFECTIVE LIGHTING

VAHLE paid particular attention to the lighting. As with their own products, the management team wanted to employ a sustainable solution. "It was clear to us from the very beginning that we would invest in an LED-based system to keep electricity use to a minimum," says Dennis Endl, the leading Operational Electrician. Regular reading of industry journals had made him aware of two aspects which play an equally important role in modern lighting: daylight-based control and the potential biological effect of the light. In connection with this, he found a piece on light systems from ESYLUX – a discovery that was to bear fruit.

In total, 73 interconnected NOVA Quadro-Sets from ESYLUX were installed in the redesigned rooms. The Quadro-Sets are highly extendible LED lighting systems, consisting of master and slave lights for suspended ceilings. Presence detectors and light sensors are integrated directly into the master lights along with an intelligent control unit. The master lights also contain the power supply for all system lights, which is why the slave lights can simply be connected to them using plug-and-play.

The storm-proof new building in 2012: Hall 14 on the ▲ operational premises in Kamen.

Lots of windows and Biologically effective lighting in the ► ceiling: an open-plan office in the main VAHLE building.



EFFICIENT SHOPPING IN HÄMEENLINNA

Demand-based lighting really helps reduce costs, even in thoroughfares and entrance areas. In the Goodman shopping centre in Hämeenlinna, Finland, energy efficiency and customer comfort are just as important as a wide range of shops, which is why MD-C360i/8 and MD-C360i/24 motion detectors from ESYLUX are deployed in the parking garage. ■



ENVIRONMENTAL PACKAGE FOR HELSINKI

Preserving natural resources is one of the clear organisational values of the Finnish postal service. There was no question that the decision-makers would opt for automatic, demand-based lighting control at their headquarters in Helsinki. The C series sensors from ESYLUX were eventually selected. One advantage of these detectors is that they are suitable for both recessed and surface-mounted installation. ■

INTELLIGENCE NOW HAS A SYSTEM

CELINE QUADRO-SETS

Ready to go: The CELINE Quadro-Sets from ESYLUX represent the first system solution for intelligent work lighting that combines lights, sensors, a control unit and cables in a modular system. They operate in the same way as the NOVA Quadro-Sets – right down to the biologically effective lighting based on SymbiLogic technology.

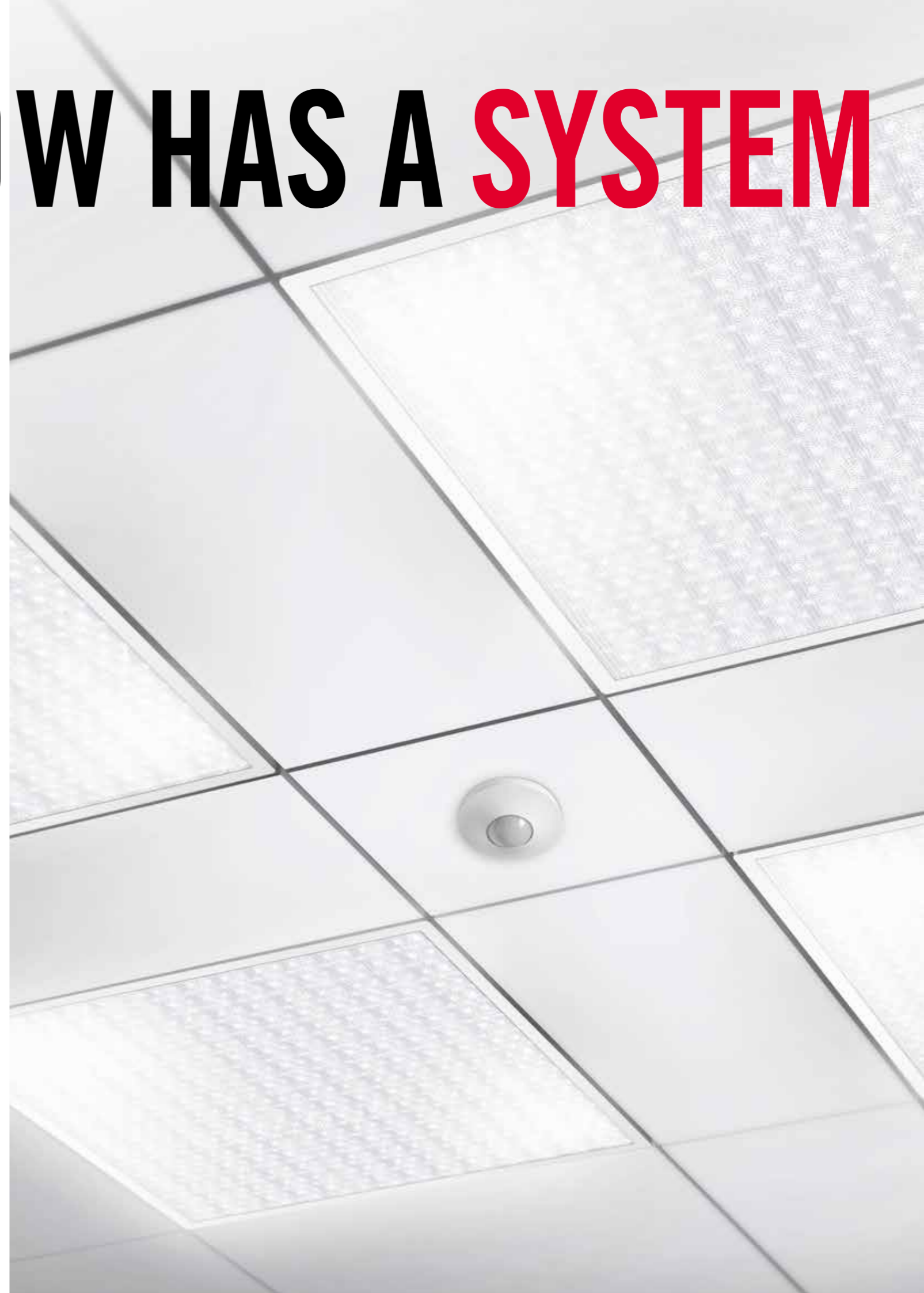
Suspended ceiling systems offer many design and positioning possibilities during installation of the desired room technology. The Quadro-Sets from the CELINE series therefore offer an alternative to the NOVA Quadro-Sets.

SYSTEM SOLUTION WITH INTELLIGENT LIGHT MANAGEMENT

Just like the NOVA Quadro-Sets, these form a lighting system. However, this solution features full-surface LED ceiling lights combined with the separate PIR and light sensors of a presence detector and the separate ESYLUX Light Controller control unit, to make a modular system. The ceiling lights fit the typical grid measurements of suspended ceilings (600 x 600 mm or 625 x 625 mm) and they can be connected to the controller via plug-and-play. The controller contains the power supply for all system lights and, in conjunction with the presence and light sensors, delivers presence-based, daylight-dependent constant lighting control including individual scene control. At its highest configuration level, this system also produces ESYLUX SymbiLogic Biologically effective lighting for a better quality of life in the workplace.

HIGHLY EXTENDIBLE, BIOLOGICALLY EFFECTIVE LIGHTING ALSO FOR KNX

In terms of room size, the system can be adjusted to fit all common environments. The CELINE Quadro-Sets themselves contain four lights, but it is also possible to connect a smaller number to the ESYLUX Light Controller via plug-and-play. Up to 20 Quadro-Sets can be combined for particularly extensive installations. In addition or as an alternative, up to 4 x 25 DALI-compatible standard lights can be connected to the interfaces that are integrated into the ESYLUX Light Control (ELC). It is also possible to integrate the DALI switch for presence-based control of conventional consumers. As with the NOVA Quadro-Sets, there are various options available for controlling the system. ■



STAND OUT FROM THE CROWD

ISABELLE OFFICE FLOOR LIGHT

Intelligence that makes sense at work: ISABELLE is a simple yet intelligent lighting solution for individual workstations, and is characterised by its deliberately minimalist design. Further details such as the sensors integrated into the lamp head allow this light to combine demand-based lighting with superb energy efficiency.

Floor lights are becoming more and more popular for lighting individual workstations, not least because of their high level of portability. This means they can easily be set up flexibly as required and transported between different rooms or buildings as necessary.

MINIMALIST FORM WITH INTEGRATED SENSOR TECHNOLOGY

In response to this increased popularity, ESYLUX presents a new solution in the form of the ISABELLE Office Floor Light, with its modest look belying an intricate interior. The powder coating on the light's surface also helps to give the exterior an attractive appearance. The stand and lamp head are made from lightweight aluminium to ensure portability and ease of transport, while the steel base guarantees the necessary stability. The ISABELLE's lamp head is also equipped with an indirect light source to flood the ceiling with light, meaning that the ISABELLE creates particularly homogeneous lighting. We integrate our own intelligent sensor technology in the bottom side of the lamp head: A presence detector to ensure that the light only switches on if the user is at their workspace and the available daylight is no longer sufficient. This automatic process means that the ISABELLE only consumes energy when it is actually necessary for it to do so. Alternatively, the user can override the automatic control at any time, by pressing a button located next to the sensor to switch on or dim the light. Both of these functions can also be activated as required using the light's remote control.

HIGH LUMINOUS EFFICACY FOR COMPUTER WORKSTATIONS

With a glare value of less than or equal to UGR 19, this light complies with the relevant standards and is therefore suitable for use at screen-based workstations, where – depending on the model – it emits light with a correlated colour temperature of between 3000 K and 4000 K. The LEDs in the ISABELLE have a long service life of 50,000 hours (L80B10), and the presence detector ensures that this timespan is utilised in the best possible way by automatically switching the light on and off as required. The light's total luminous efficacy of 133 lm/W also guarantees a high level of energy efficiency. The ISABELLE Office Floor Light is available in anthracite or white and with a range of base variants for even greater positioning flexibility. ■



▲ *Ideal combination of automation and manual operation: button and presence detector in the ISABELLE lamp head.*

◀ *No more table legs in the way: optional U-shaped base.*

ATTRACTIVE AND ATTENTIVE



FLAT PRESENCE AND MOTION DETECTORS



▲ *FLAT options at a glance: white, black or concrete grey, round or square, with a glass or plastic cover.*

▼ *Mounting height of only 6.8 mm and an elegant appearance.*

Top performance in a slimline design: The FLAT presence and motion detectors' flattened lenses make them an ideal automation solution for spaces where elegant décor demands equally attractive technology.

Smart designer offices, executive floors of local banks – there are lots of places where the management attaches particular importance to stylish interior design. These aesthetic considerations are accompanied by a desire for increased energy efficiency and comfort through demand-based automation. In order to satisfy both requirements, the technology needs to have an attractive design.

SLIMLINE DESIGN WITH MINIMAL INSTALLATION DEPTH AND MOUNTING HEIGHT

The FLAT presence and motion detectors for 230 V, DALI and KNX meet this requirement in several ways. Their flat housings and lenses lend them an elegant appearance, and with a mounting height of only 6.8 mm, they maintain the clear lines of sophisticated interior design. The detectors are available in several designs to enable stylish integration into different environments. This means there is a choice between round and square shapes, and between white, black and concrete grey – similar to RAL 7023, suitable for the visible concrete preferred by many architects and developers. The presence detectors in the series are also available in designs with a high-quality glass surface.

DEMAND-BASED LIGHT – EVEN IN MASTER/SLAVE OPERATION

In terms of functionality, the detectors provide demand-based illumination and the associated energy efficiency. Several detectors can invariably be combined to suit areas where the eight metre diameter detection range is insufficient. The user can intervene manually using a conventional button on the 230 V and DALI detectors, and a KNX button on the KNX variants. A special feature of the 230 V FLAT detectors is their zero-cross switching, which reliably protects the relay against high inrush currents when operating LED lights. ESYLUX has equipped the DALI-compatible detectors in the series with the ability to configure networked electronic ballasts automatically, making installation of a DALI system easier. The KNX-compatible variants have 47 communication objects, each with numerous individually configurable parameters. ■

OUTDOOR PROFESSIONALS WITH NEW SENSORS



▲ The built-in motion detector in the AFL SUN floodlight reduces operating costs and extends the service life of the LEDs.

Extremely robust and now demand-driven too: The new SUN LED floodlights contain integrated movement and light sensor technology. This provides the user with a lighting solution that is as durable as it is intelligent, able to provide an optimum level of brightness automatically whilst remaining energy efficient.

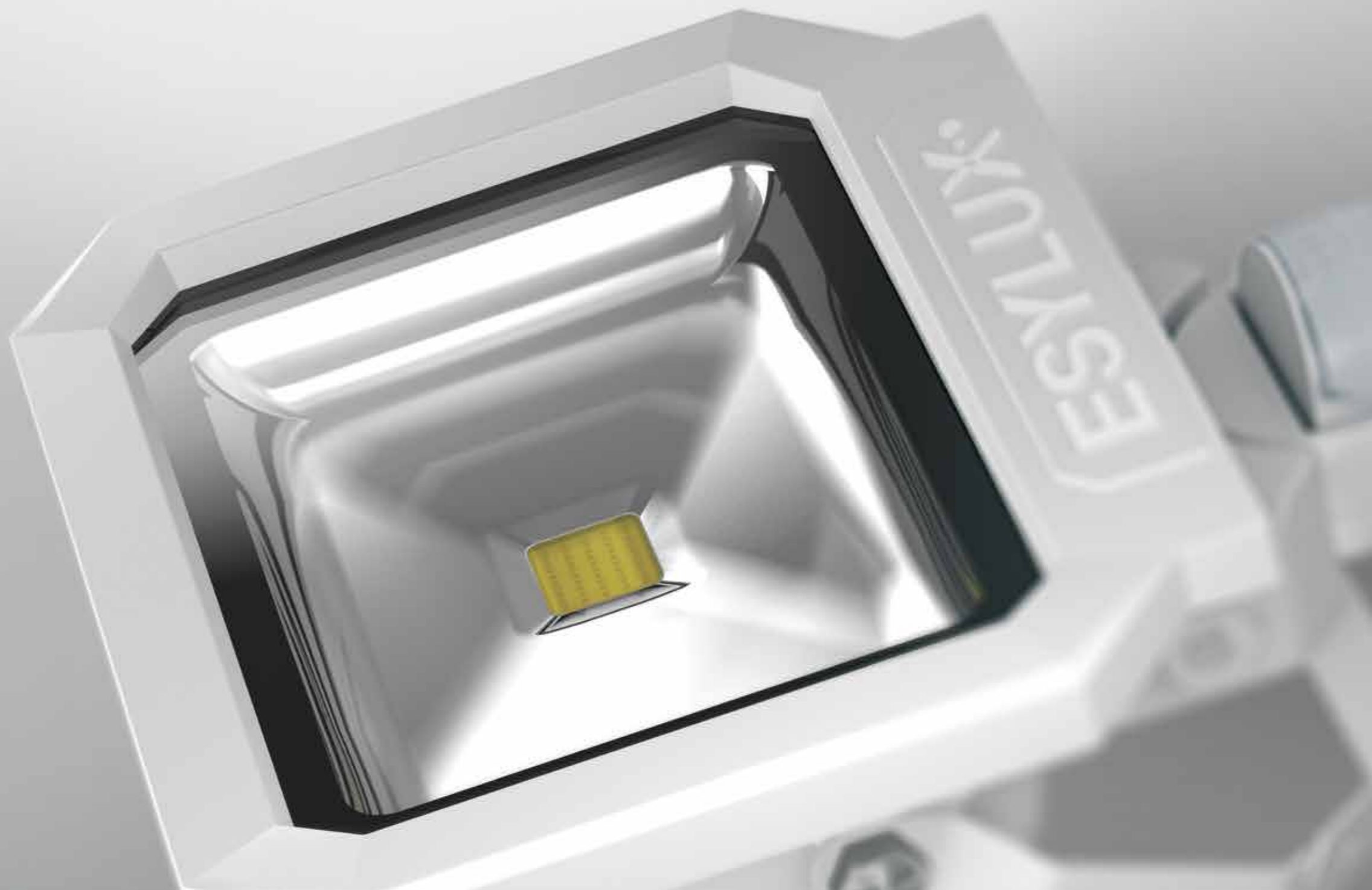
Building operators and developers have long since begun the transition to using energy-efficient LEDs even for their external lighting needs. If these lights are also controlled using motion detection and light sensor technology, this provides an even longer service life for the light source.

LONG-LIFE AUTOMATION SOLUTION – ALSO MADE POSSIBLE THANKS TO ZERO-CROSS SWITCHING

This is another reason why ESYLUX has developed new AFL variants of its SUN floodlight series. They possess an integrated motion detector with a 160 degree field of detection and a range 12 metres in diameter. The unit's PIR and light sensor equipment ensure that the light is only switched on automatically if movement is detected while the light level is below the set value of 3-1000 lux. If no more movement is detected within the switch-off delay time, the sensor deactivates the light again. As well as greater energy efficiency, this enables the user to benefit from the LEDs for longer. This is because their nominal service life of 50,000 hours can only be reliably achieved when using demand-based activation. A long life for the detector is also ensured: Its zero-cross switching reliably protects the relay against the inrush current from the LEDs.

DURABLE AND EASY TO INSTALL

The motion sensor's range and field of detection can be configured using the included lens mask and by switching the axis alignment between vertical and horizontal. The spacious connection box with its easily accessible terminals allows for convenient through-wiring if necessary. This makes it possible to wire numerous automatic lights in parallel, as well as an intelligent master/slave wiring system. This enables a light with integrated sensor technology to activate up to nine standard devices from the series if a movement is detected. The floodlights can be installed flexibly on a flat wall or on internal or external corners, using the ITD mounting bracket supplied by ESYLUX. The housings come in white or black and are constructed from durable die-cast aluminium. Stainless steel external screws ensure stability, meaning that nothing comes loose. ■



NEWSFLASH

PRANA+ OFFICE FLOOR LIGHT WINS GOOD DESIGN AWARD

The Good Design Award is the oldest design prize of its type. It is awarded annually by the Chicago Athenaeum Museum of Architecture and Design in the USA in collaboration with the European Centre for Architecture, Art, Design and Urban Studies. "The award for the PRANA+ is a renewed affirmation of our decision to implement outstanding quality not just in the technology behind our lights, but also in their design," says Marcus Pabsch, Head of ESYLUX Product Management. As well as its design, which is the result of collaboration with the *Peter Schmidt, Belliero & Zandée* creative team, the PRANA+ Office Floor Light naturally stands out for the quality of its light and its energy-efficient SymbiLogic human centric lighting. ■



ALVA SERIES AWARDED READER PRIZE

Around 500 exhibitors presented products at this year's eltefa in Stuttgart, demonstrating their innovations to the numerous industry specialists in attendance. "In the name of increased connectivity" was the exhibition slogan – and of course, the intelligent solutions from ESYLUX reflected this perfectly, with both the new KNX-compatible design of the CELINE Quadro-Sets and the ALVA bollard lights. The readers of the *elektrobörse smarthouse* magazine were also impressed by the way the ALVA series successfully combined durability, aesthetics and intelligence. Peter Eberhard, the Publishing Manager at WEKA FACHMEDIEN, went to the ESYLUX stand in Hall 6 to convey the good news in person: second place in the lighting category in the annual vote for Products of the Year 2017. ■



10 YEARS OF ESYLUX IN SWITZERLAND, SWEDEN AND THE NETHERLANDS

International expansion was one of the most important developments in the corporate history of ESYLUX. Today we are represented by a total of 13 subsidiaries worldwide. Now, in 2017, three of them look back on their first ten successful years.

"In the beginning we really had to roll up our sleeves to get noticed," recalls Ellinor Brosell, who looks after operational organisation and external communication in the Swedish office. But as the years passed, ESYLUX became one of the leading providers of automation and light control in Sweden. They were helped by their regular presence at Elfact, the leading Scandinavian trade show for power generation and distribution. "The customers count on our specialist knowledge, but also value the fact that we are a friendly team with whom they can go and enjoy a drink after work."

THE MOST SUCCESSFUL BUILDING AUTOMATION COMPANY IN THE NETHERLANDS IN 2015

ESYLUX on the TV? That was the reality in the Netherlands, as our colleagues there were able to reflect on a rather special award. Well over a year and a half ago, they won the prize for the most successful company in the building automation industry, and were even nominated for the award of most successful Dutch company overall. "Innovation is the key word at ESYLUX", according to one of the many positive comments from the voting commission. This was a well-earned prize, which Managing Director Remco van Kerkvoorde and his team in Sliedrecht can rightfully be proud of.

HIGH LEVEL OF CONTINUITY IN SWITZERLAND

About 615 kilometres further south-east as the crow flies, and roughly 400 metres above sea level, another ESYLUX success is being celebrated – this is the Zurich office of the Swiss team, led by Alexandros Athanasiadis. He is particularly pleased by the high level of staff continuity, which also promotes good relationships with customers. "Our customers are also delighted when we invite them to our German location." The last visit to Ahrensburg was at the beginning of May, when representatives from a large Swiss wholesaler came to see ESYLUX production and development in person. There were other things to discover too: The social programme included a visit to HafenCity quarter of Hamburg and a tour of its port. ■

TOUCHPOINTS

ELMÄSSAN NORR | 6–7/9/17
Umeå | Sweden

INELTEC | 12–15/9/17
Basel | Switzerland

EFA | 20–22/9/17
Leipzig | Germany

ARCHITECT@WORK | 27–28/9/17
Munich | Germany

SONEPAR PARTNERTREFF | 12–13/10/17
Wels | Austria

ELMÄSSAN STOCKHOLM | 18–19/10/17
Kistamässan | Sweden

ARCHITECT@WORK | 6–7/12/17
Düsseldorf | Germany

PERFORMANCE FOR SIMPLICITY

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ESYLUX develops, manufactures and sells intelligent automation and lighting solutions for improved quality of life and energy efficiency in office buildings, educational institutions and medical facilities. People's requirements and needs are central to what we do. To satisfy these requirements, we use our experience in electronics and automation to develop products such as LED-based systems for energy-efficient, Biologically effective lighting. Our perspective ranges from the complete automation and illumination of individual rooms through to networking and integration into building-wide systems. In light of the often complex requirements that we are faced with, we place particular importance on easy operation of our product solutions.

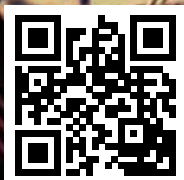
We work with wholesalers, installers, electrical planners, lighting planners and architects as both customers and partners who place their trust in our extensive market experience dating back almost 50 years and in the personal technical advice from our experts. Furthermore, we meet the highest quality standards in our research, development and production at our German location in Ahrensburg. Our sales organisation is global: ESYLUX operates on five continents in collaboration with numerous experienced trading partners and is represented by 14 subsidiaries in Europe, Asia and Oceania.

This is an excerpt from our list of exhibitions and events. Visit our website for more information. We are looking forward to meeting you in person.

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