

# NEW WORK

THE FUTURE OF THE OFFICE

## A THING OF THE PAST?

HOW TO KEEP THE OFFICE ATTRACTIVE

## SUSTAINABILITY

HEALTHY BUILDINGS FOR MANY  
GENERATIONS TO COME

## CONNECTED ARCHITECTURE

FINDING THE BALANCE BETWEEN  
STANDARDS AND CUSTOMISATION



**NEW WORK** THE FUTURE OF THE OFFICE

# NEW WORK

## THE FUTURE OF THE OFFICE

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# FROM WORKING SPACE TO LIVING SPACE



Many employees have spent significantly less time in the office since the Covid-19 pandemic. Some office buildings are still only 40 per cent occupied and the office is no longer the undisputed hub of working life. The transformation of the world of work is nothing new, but it has accelerated rapidly as a result of the pandemic.

Is the “office exodus” an opportunity to reduce space and therefore costs, or are companies risking a significant loss of innovative spirit and employee loyalty? Do employees benefit from this new freedom or are we hurting ourselves if we lose the personal aspect of work entirely?

Many companies are currently grappling with these issues. Discussions about the world of work are increasingly being conducted at a detailed level, right down to deciding how many days an employee should work from home each week. The fundamental question is: how – and where – do we want to work? How must office buildings be designed to ensure people will still want to spend time in them for many decades to come – not only as a place of productivity, but also of discussion, brainstorming and networking? How can we offer office workers an optimal environment while also meeting sustainability requirements? What role does office lighting play in this mix?

We invited experts from different disciplines to discuss these questions at the “Office and New Work” roundtable in the inspiring setting of the uptownBasel innovation campus. A summary of their opinions and insights as well as some interesting background information about light can be found in this magazine.

We hope you find it an enlightening read!

A handwritten signature in black ink, appearing to be 'S.G.' with a stylized flourish.

**Simone Giesinger**



## WELCOME TO THE CAMPUS OF THE FUTURE

Arlesheim, a town not far from Basel, is home to a stronghold for the future: at the **uptownBasel** innovation campus, future-oriented architecture, high-tech equipment and sustainable design combine to create a site that serves as a model for similar projects. At its heart is a vision of a healthy and attractive environment that can be enjoyed for many generations to come.

Next-generation technology made in Europe: with **QuantumBasel**, the site offers state-of-the-art laboratory and office space for companies and research institutions in the fields of quantum technology and life sciences. Thanks to its strategic location and focus on cutting-edge technologies, QuantumBasel has become an important centre for innovation and scientific collaboration in Basel.

A total of nine buildings are planned for construction at uptownBasel by 2027, offering 50 companies with 2,000 talented employees from forward-looking industries such as IT, IoT, data science and automation an attractive place to work and do business. The first building, which functions as a knowledge transfer centre, has already been completed.

On two floors, each with 6,000 square metres of space, companies will find a dynamic environment for communicating, collaborating and creating – the perfect setting for discussing the sustainable future of work at the **“Office and New Work” roundtable**.

### Bringing the concept of New Work to life

Half of the space at the innovation campus has been optimised for collaboration and communication. Open spaces, kitchens, coffee stations and bar tables encourage dynamic discussion. Whether it's a meeting or lunch, suitable lighting scenes accompany various everyday working life situations, constantly redefining the existing spaces in the process.



### In harmony with nature

The Green Building blends harmoniously into its new surroundings – in terms of both aesthetics and function. Large glass façades and light-flooded atriums help support people's natural circadian rhythms throughout the day. To protect flora and fauna from light pollution, all Venetian blinds at the innovation campus are always completely closed by midnight at the latest. The top floor (roof deck) is an inviting place to spend long summer evenings. To ensure revellers aren't bothered by insects – and vice versa! – the special luminaires in this popular meeting place do not emit any infrared light, which prevents them attracting any creepy crawlies.

### Light to delight generations

Artificial light and daylight combine seamlessly in uptownBasel to support people's performance and mood naturally at any time of day. The versatile **TECTON continuous-row lighting system** ensures the building is future-proof: thanks to its flexible infrastructure, luminaires and digital components can be easily replaced or added, allowing the lighting infrastructure to develop sustainably along with the site – and in line with the concept of the circular economy.





# UPTOWN BASEL

*“You have to be able to take the building apart and put it back together again.”*

**Hans-Jörg Fankhauser,**  
site developer



Teaser  
Round Table

## **Sustainable from the foundation to the roof**

The architectural concept consistently follows the circular approach to ensure its long-term use over several generations. The modular design is based on the Meccano principle in order to facilitate future renovation work. The innovation campus is the first building of its kind to be certified according to the **SNBS** (Swiss Sustainable Building Standard).

Situated on the re-naturalised River Birs, the campus is powered by green electricity from a hydroelectric power plant, while the HVAC systems are powered by a photovoltaic system on the roof. The energy required for cooling is minimised thanks to a sophisticated shading concept and electric vehicles can charge at 500 charging points in the campus car park.

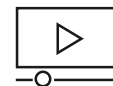
Even the catering at uptownBasel plays its part in the sustainability strategy: the menus use ingredients from the region and have been designed to avoid food waste and long logistics chains.



# INTERDISCIPLINARY COLLABORATION

From architecture, conceptual design and digitalisation to office furnishings and lighting – interdisciplinary collaboration is the only way to create a modern working environment and buildings that are suitable for long-term use. The **“Office and New Work” roundtable** held at uptownBasel in May 2023 was as interdisciplinary as the concept of New Work itself. At the roundtable, moderated by **Simone Giesinger** (Zumtobel Lighting), experts from the fields of architecture and building development, consultation services,

industry and research discussed the key questions surrounding the workplaces of the future: What kind of added value must office buildings offer employees in the future – and what role does **digitalisation** play? What constitutes true **sustainability** in the context of New Work? How do we juggle the trend for individualisation on the one hand and the desire to make the working environment easier to monitor and compare through **standards** and certifications on the other?



Video  
Round Table





**Johanna Trüstedt, Head of Teams User Experience, Drees & Sommer Schweiz, Zurich**  
Interior designer and workplace consultant Johanna Trüstedt specialises in sustainable interior design. She is part of the User Experience team at Drees & Sommer and has been designing healthy, user-oriented interiors in Germany, Japan, China, Spain and Switzerland for over 20 years. Johanna Trüstedt helps companies develop and implement modern workplace designs that are tailored to employee requirements. Her work includes digital transformation, change management, spatial planning and design and the integration of sustainability factors.

*“We help companies find the mix of rooms that suits their team’s culture and way of working.”*

**DREES & SOMMER**

The partner-led planning and consultancy firm has its headquarters in Stuttgart and has been supporting private and public contractors and investors in all matters relating to property and infrastructure for over 50 years. With their future-oriented consulting approach, **Drees & Sommer** offers solutions for successful buildings, profitable portfolios, efficient infrastructure and high standards of living in cities. 4,500 employees in 51 locations around the world support clients from a wide variety of industries. The company provides all its services based on the premise of uniting ecology and economy, in accordance with its guiding principle: ‘the blue way’.



**Birgit Gebhardt, trend researcher and author, Hamburg**  
Birgit Gebhardt researches the workplaces of the future: What does neuroscience say about the way we work? What obstacles do we face as we develop new kinds of workplaces? What kind of environment and content are needed to transform the office into a learning world?

*“I want people to understand how the attributes of our surroundings affect us – and how we can make them work for us.”*

She has condensed her findings from interviews with experts, consultancy projects and travel in the **“New Work Order” studies** commissioned by the IBA (Industrieverband Büro und Arbeitswelt e. V.). Her consulting work for Swisscom Immobilien, Xing and Lufthansa builds on twelve years of project management at Trendbüro, which she also headed as managing director before founding her own company.



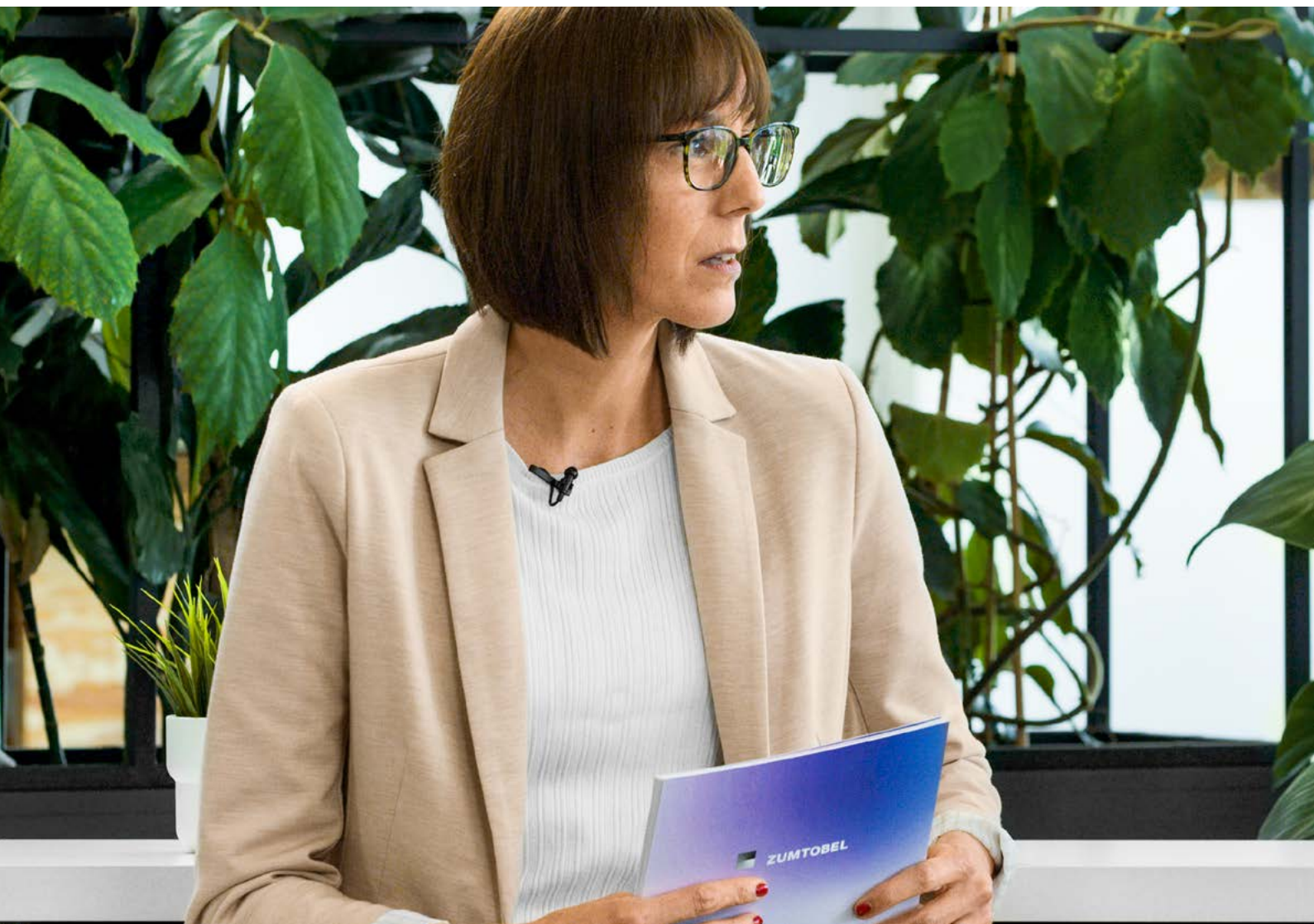
*“Our project is designed for long-term use over several generations.”*

**Hans-Jörg Fankhauser, architect and site developer, CEO Fankhauser AG, Basel**

With the help of an investor, Hans-Jörg Fankhauser has revitalised the uptownBasel site and transformed it into a centre of excellence for Industry 4.0 and quantum computing. The site and real estate developer also believes in the interdisciplinary approach when it comes to constructing Green Buildings for the future.

That’s why the managing director of **Fankhauser AG** employs environmental and environmental law specialists in his interdisciplinary site development team. The focus is on large sites that offer a unique working environment for Industry 4.0 companies.

The company’s portfolio also includes lighthouse projects such as the **TechCenter Reinach**. Hans-Jörg Fankhauser and **Dr Thomas Staehelin** founded **uptownBasel AG** with the aim of making the groundbreaking site in Arlesheim near Basel a shining example of sustainable construction.





**ZUMTOBEL**

**Zumtobel** is in the business of good light. The company has its headquarters in the Austrian city of Dornbirn and develops, manufactures and sells lighting solutions, driven by the conviction that the right kind of light, together with the architecture, can create the right atmosphere in a building at any time of day or night. When tailored to people's individual needs, light becomes an experience.

Zumtobel is committed to sustainable living and working at many levels. For example, the Austrian lighting specialists recognise innovative architects and engineers with the **Zumtobel Group Award**.



*“Using artificial lighting, we want to address the needs that employees don’t know they have – yet.”*



**Jan Schrottenholzer, Head of Application Management Office, Zumtobel Lighting, Dornbirn**

Jan Schrottenholzer has been working in the lighting sector for nine years and has sustainably driven forward the transition from conventional lighting technology to LED technology at **Tridonic**, a Zumtobel Group company. Today, he is head of the Office Lighting division at **Zumtobel**, where his work includes further developing custom lighting. His role focuses on the change in office lighting requirements due to New Work, lighting controls and the digitalisation of buildings through the integration of IoT in the lighting infrastructure. Jan Schrottenholzer studied business administration with a focus on marketing and corporate finance at the University of Innsbruck and the University of New South Wales.

*“We need to look beyond the engineering sector to other disciplines such as social and human sciences.”*

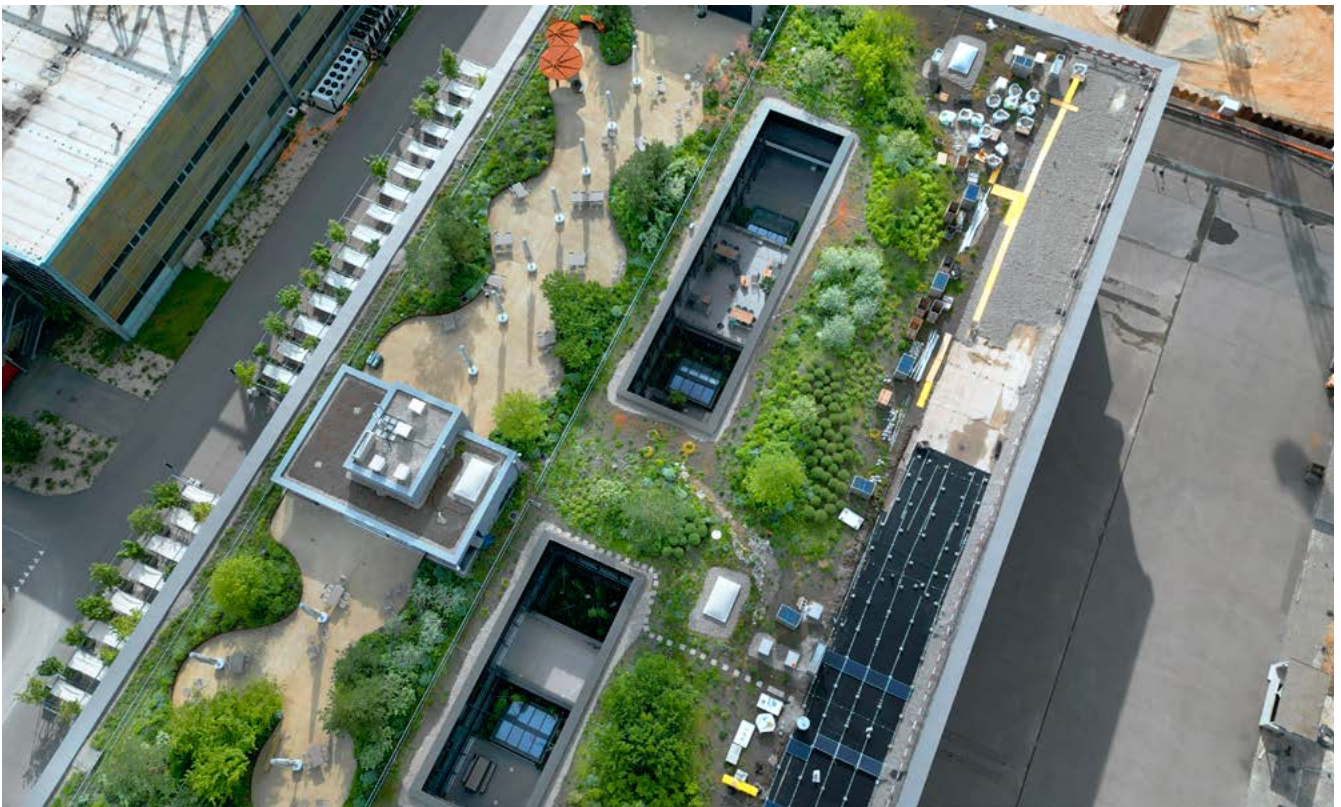


**Carina Buchholz, Senior Brand and Application Content Manager, Zumtobel Lighting, Dornbirn**

Carina Buchholz has more than 25 years of experience in the lighting sector and is a specialist in office lighting. As a business administration graduate, she combines her practical expertise with an MSc in Business Psychology and a degree in Light Application from the Ilmenau University of Technology. She looks at the effect of light on people at three levels (visual, emotional and biological) and in combination with architecture – underpinned by interdisciplinary research findings.

Since 2022, Carina Buchholz has been responsible for **sustainability** for the Zumtobel brand. In this context, she looks closely at the issue of how contemporary New Work architecture can contribute to the sustainable use of buildings – and the central role of lighting in this vision.

# THE OFFICE – SOON A THING OF THE PAST?



EXPERIENCES OF HYBRID WORKING DURING THE COVID-19 PANDEMIC HAVE GIVEN NEW MOMENTUM TO DISCUSSIONS ON NEW WORK. HOW MUCH OFFICE SPACE DO TODAY'S EMPLOYEES NEED – AND TO WHAT EXTENT MUST THIS SPACE BE REIMAGINED TO REFLECT THE CHANGING WORLD OF WORK?

*“No space without light.”***Hans-Jörg Fankhauser**

Our experience has shown that a modern, innovation-driven company needs around 30 per cent of its space to be reserved for collaboration. Together with our investor, we have implemented this concept on a floor in uptownBasel with a whole 50 per cent of the space reserved for collaboration – an open floor with lots of seating options and coffee stations. The popularity of this floor vindicates our decision: if colleagues aren't holding their meetings outside, they meet here. Nevertheless, we also need to provide closed rooms, in order to meet data security requirements, for example.

We can use light to enhance the space – or even to create it. Thanks to the lighting, we can accommodate a variety of scenes and working situations in the same room. A retreat space needs a different lighting mood than a place for creativity, for example. I'm delighted that we have succeeded in doing this using simple means through our partnership with Zumtobel.

*“The office needs to become a chameleon.”***Johanna Trüstedt**

Going to the office every day is no longer a given. Today, people come to the office because of other people, not because of work. Offices suddenly have to fulfil new functions. Some people are able to concentrate better in the office, others only come in when they have meetings and do the rest of their work at home.

Many of our customers are currently occupying just 60 per cent of their workspace. We're seeing a plethora of computer workstations with too few areas for collaboration. The reaction of many companies to hybrid working is to downsize their office spaces by implementing a hot-desking system. However, hot-desking doesn't automatically mean that the office space should be reduced at will. Often the more sensible approach is to enhance the existing office space – with learning landscapes, seating areas and open spaces for collaboration. In short, a different mix of rooms is required. Large companies are aiming for a 20 – 30 per cent reduction in office space. This is possible for corporations with several locations, but for SMEs it is more important to differentiate what is really needed, i.e. the right space mix, rather than automatically reducing space. Basically, however, the motto is quality instead of quantity!

When digitalisation or the culture advances or if requirements change, the office always has to adapt. In other words, the office needs to become a adaptable. Change becomes more temporary. We build buildings to last for decades, while at the same time the rental contracts for many office spaces last for just two years. Buildings and the lighting in them must therefore be flexible. Circularity – especially indoors – is also becoming increasingly important.



*“Not just a meeting place, but a place of effectiveness.”*

**Birgit Gebhardt**

Many employees have spent their working lives in offices that centred around computer workstations. Now, hybrid working concepts are offering them completely new levels of flexibility in terms of space and time. This leads to the question: why go to the office at all? For many people, the benefits of working in an office are no longer clearly defined.

When employees “migrate” to their home office, many employers respond by downsizing their office space and implementing a hot-desking system, for example. But you don’t win back employees with the simple formula of space through heads. They are increasingly asking themselves why they have to commute to the office. There are better places to meet. So if the office wants to retain its claim as a special professional property, it must move from the B2B to the end-user perspective and prove its effectiveness anew: As a stage for interpersonal collaboration, fruitful creation and virtual simulation, – where people can try out themselves and something new like nowhere else.

*“The right light for every task.”*

**Jan Schrottenholzer**

We want to ensure that employees, wherever they are within an office, have the kind of lighting they need to perform their tasks to the best of their ability. Light in offices must be well distributed on both the walls and the ceiling in order to create a friendlier room atmosphere for the employees.

Thanks to our comprehensive installation, in addition to light as a solution for lighting tasks, we can also use sensors to monitor the space to understand how exactly it is used by employees. With this information, we can create the right lighting for every task: whether it’s for a workstation, learning areas or collaboration zones.

When room occupancy changes dynamically, flexible continuous rows and track systems come into their own. Within an infrastructure like this, the lighting can be easily adapted if new learning zones or retreat spaces are required in the office.



*“How does space affect our emotions?”*

**Carina Buchholz**

Light, i. e. daylight and artificial light, affects people on three levels: visual, emotional and biological. The emotional effect of lighting in particular has been somewhat neglected in the last 20 years. For engineers, soft facts and psychological findings are more difficult to implement than facts, figures and data relating to the lighting design. Emotions determine our behaviour, which is why these questions are key: how does space affect our emotions? How can we open and

close rooms with light? How do we offer retreat and recuperation? Promoting creativity is also extremely important. There is scientific evidence to support this, which unfortunately isn't given enough attention, due to a lack of interdisciplinary thinking. In our understanding of sustainability, the holistic consideration of light – the interaction of daylight and artificial light, the three levels on which light has an impact on people – plays an important role.



**ACTIVE LIGHT: LIGHT FOR PEOPLE**

Research shows that light makes an impact on people in a total of three ways: visually, emotionally and biologically. Lighting specialist Zumtobel addresses these three aspects of the lighting effect within the scope of its **Active Light** approach.

This is perfect for New Work environments because both approaches are people-centred. Active Light supports people's health and experiences through dynamic lighting that adapts to daylight and to the occasion. The interplay with other factors that influence people in the room is taken into account by the corresponding lighting systems.

**THE VISUAL ASPECT**

The main goal is to offer the best possible support for the respective visual tasks through perfect visibility of the work materials. The functional aspects of the lighting, such as avoiding glare, are regulated by standards.

**THE EMOTIONAL ASPECT**

The lighting influences people's spatial perception and mood via the body's limbic system. If the symbiosis of light, architecture and furnishings is perceived as harmonious, this triggers positive emotions. Surprise effects using dynamic light changes also increase the sense of well-being, as well as stimulating creativity and discussion.

**THE BIOLOGICAL ASPECT**

Light-sensitive ganglion cells in the human eye react to the wavelength of the blue component of light, controlling hormones and the circadian rhythm. The right lighting can therefore support people's ability to concentrate and perform, their quality of sleep and thus their general well-being.

# THE PATH TO A MORE SUSTAINABLE FUTURE

WHEN IT COMES TO OFFICE BUILDINGS, SUSTAINABILITY INVOLVES A COMPLEX INTERPLAY OF VARIOUS BUILDING SERVICES. HOW CAN BUILDING OPERATIONS COMBINE COMFORT AND SUSTAINABILITY? ARE SUSTAINABILITY CERTIFICATIONS REALLY A GUARANTEE THAT A BUILDING IS HEALTHY AND SUSTAINABLE?

*“Grey emissions can only be offset if a building is used successfully for several decades.”*

## **Carina Buchholz**

I was particularly struck by the fifth of Werner Sobek’s **17 theses of sustainability**, which says that it is wrong to focus on energy efficiency only during the utilisation phase. The energy efficiency of lighting is very easy to measure, quantify and forecast. However, we need to take sustainability further. According to Sobek, a drastic reduction in grey emissions – emissions created before a building becomes operational – must be a priority.

At Zumtobel, we use the phrase **Creating light creates timelessness** to describe our vision for the timeless use of resources. Instead of products that will only last for a short time, we want to create luminaires with a sturdy design that will last for decades – because grey emissions can only be offset if a building is used successfully for several decades.

In addition to product design, this also affects the choice of materials, because high-quality materials significantly increase product life time. Take the example of aluminium: 20 years ago, we launched an aluminium channel in our **SLOTLIGHT** luminaire. In Europe, 75 per

cent of aluminium can be recycled several times without any loss of quality. At a time when many office buildings need to have their lighting upgraded, this decision benefits us: we can continue to use the kilometres of installed aluminium channels and equip them with LEDs, allowing us to keep raw materials in the building in the long term, in line with the principles of the circular economy.

In another example, we are increasingly using **acoustic luminaires** made from sustainable materials in office buildings. These not only reduce noise pollution, but also reduce the need for additional materials for suspended ceilings in the building or other insulating elements.

For us, sustainability and digitalisation go hand in hand as part of a **connected architecture** approach. Digitalisation helps to bring together the various building services and to connect the human senses. Through digitalisation, buildings become learning ecosystems that serve people and the environment better every day. We’re integrating this aspect in our human sustainability goals, which is how we are able to create buildings that will last for many years to come.





*“Develop lighting infrastructure with little effort.”*

**Jan Schrottenholzer**

The flexibility of a comprehensive installation network with lighting tracks also has a positive effect on the sustainability of office buildings. When creating new learning zones or retreat areas within an office space, parts of the existing lighting can continue to be used. We can also easily integrate other form factors of luminaires into the same lighting infrastructure. This allows the infrastructure to be retained, without it all needing to be fed into a costly recycling process.

As the framework for smart components such as sensors, the lighting infrastructure increases the sustainability of networked buildings. Room occupancy analyses are an important lever for greater efficiency: if rooms or entire floors are not used during a day, no cleaning staff are required to work in this area, for example. Every kilometre not travelled saves not only costs, but also CO<sub>2</sub> emissions.

When we talk about the sustainability of buildings, we shouldn't forget about light emissions either. It's a balancing act: on the one hand, the light in the office spaces must be generously distributed to create a positive room atmosphere for the employees, while on the other, we need to ensure that the flora and fauna in the building's surroundings are not negatively affected by light emissions in the evenings.

**THE 17 THESES OF SUSTAINABILITY**

The famous architect and engineer **Werner Sobek** has developed **17 theses** to help pave the way to a sustainable future. The theses serve as guidelines for shaping an environmentally conscious and resource-conserving society.

In today's society, many buildings are demolished and replaced by new structures within a short period of time. This is not a sustainable way of treating resources that can be used throughout the entire life cycle of a building. Material production, logistics costs in the supply chain, the construction process itself and finally the demolition process and the disposal of the rubble all generate grey emissions.

In light of this, in his **fifth thesis** Werner Sobek emphasises the importance of the circular economy for sustainable building. The aim is to use recyclable materials, extend the life cycle of buildings and minimise waste. During a building's project design and construction phases, the removal and reuse of materials should be taken into consideration right from the start.

In addition, Sobek suggests that buildings should be designed to be flexible enough that they can always be adapted to new usage scenarios, which in turn increases their time of use.

## A MILESTONE FOR THE CIRCULAR ECONOMY

Ensuring a successful transition from a linear economy to a circular economy requires companies to fundamentally rethink their processes. As an innovation leader in the lighting sector, Zumtobel takes its responsibility in terms of sustainability goals very seriously.

That's why it incorporates **circular economy** principles into its product design and management processes right from the start. The **Circular Design Rules (CDR)**, which Zumtobel developed in close collaboration with **design studio EOOS** and **consultancy EPEA**.

The certification of the **free-standing luminaire ARTELEA** according to **Cradle to Cradle Certified®** in Bronze represents a milestone for Zumtobel that supports the establishment of the circular economy at both company and product level.

*"We have to be more sustainable than the standards."*

### Johanna Trüstedt

Sustainability certifications are a strong selling point for real estate properties, but they can't be used to prove beyond doubt whether a building is sustainable or healthy. That's why we always ask customers where exactly their focus lies when it comes to sustainability: Do you want to reduce the CO<sub>2</sub> footprint in particular? Do you focus on health or social fairness?

The trend is moving from pure sustainability towards healthy buildings. This involves continually measuring the room air and other attributes – even if the relevant norms and standards don't currently stipulate any limit values. After all, buildings are also continuously evolving. We have to be more sustainable than the standards.



*“If a building is only used two days out of seven, it cannot be sustainable.”*

**Birgit Gebhardt**

We need a new understanding of how people use office buildings. After all, if a building is only used two days out of seven, it cannot be sustainable – regardless of any certifications it may have. For most businesses, you can assume that on several days, there won't be anyone on site. The fact that the cleaning staff also don't need to come in on those days is not enough to make the building more sustainable.

*“We are also monitoring fine dust levels.”*

**Hans-Jörg Fankhauser**

When I was shown the light tracking system in Zumtobel's showroom in Zurich, after just twenty minutes I was sure that this was the right system for our entire site. The concept of hanging or re-hanging new lighting elements is very well thought out and aligns with the principles of the circular economy.

At uptownBasel, sustainability also means a healthy atmosphere. With the nature-based support of the start-up Oxygen to Work at ETH Zurich, we are monitoring the fine dust levels in the air on the basis of the office plants: if there is a layer of dust on the leaves, this means that the air quality is decreasing.





# **DIGITALISATION – BRIDGING THE GAP BETWEEN STANDARDS AND INDIVIDUALS**

THE HUMAN ASPECT OF SUSTAINABILITY IN PARTICULAR BENEFITS FROM THE ANALYSIS AND DESIGN POSSIBILITIES OF CONNECTED ARCHITECTURE. THE LATEST DATA CAN BE USED TO INDIVIDUALISE A SPATIAL EXPERIENCE – FOR IMPROVED WELL-BEING AND A MORE PERSONAL CONNECTION TO THE OFFICE WORKPLACE. BUT HOW CAN PERSONALISED WORKING ENVIRONMENTS BE RECONCILED WITH OVERARCHING STANDARDS, GUIDELINES AND CERTIFICATIONS?

*“The office must also offer a wow effect when it comes to technology.”*

**Jan Schrottenholzer**

Just 20 years ago, the office offered employees a technological advantage over the home. It wasn't only the attractive office premises or interaction with colleagues that created the wow effect in the office, but also the technical infrastructure. Nowadays, often home offices are better equipped than an office workplace. That's why I think that the office has to offer added value in terms not only of atmosphere, but also of technology. The generation of post-millennials now entering the labour market attaches great importance to this.. According to studies, more than 50 per cent of post-millennials will be part of the workforce by 2025 – and will expect workplaces with the wow effect.

Thanks to our area-wide installation of lighting infrastructure, in addition to the lighting, we can monitor the space with sensors to understand exactly how it is used by employees.

We can then provide the appropriate light for the respective tasks, whether that's a learning situation or lighting for a VDU workstation or collaboration zone.

In some pilot projects, we are already testing the use of temperature sensors and air quality sensors in the lighting infrastructure to detect particular properties in the room. This is the exact scenario that seems to be the next stage of development on this campus.

The mobile phone that employees carry with them at all times could host their digital avatar, through which they can connect to the smart infrastructure. For example, individual lighting preferences could be stored in this digital avatar so that the lighting adapts even more precisely to personal needs – and also takes into account the weather and time of day thanks to daylight controls.



**ALWAYS REINVENTING LIGHT: SLOTLIGHT INFINITY II**

Both sustainable and user-friendly, the **SLOTLIGHT infinity II** light line family from Zumtobel ensures buildings can be used with enjoyment and success for many generations to come. This is made possible by the sustainable design based on Zumtobel's **Circular Design Rules** as well as the flexibility of the modular lighting system.

SLOTLIGHT infinity II can be used to create not just parallel lines, but also louvre or cross-shaped lighting installations adapted to the architectural language of a wide range of offices. The light line forms the basis for a smart **lighting infrastructure** in which downlights, spotlights or sensors for **digital services** can be integrated. The system is also

easy to retrofit: thanks to conversion kits, the electronics and optics can be easily adapted to new conditions.

A total of five different optics are available for SLOTLIGHT infinity II. New and innovative is the **Drop down diffuser**, which emits light both directly and laterally and thus ensures more effective illumination of walls and ceilings and offers up to 15 percent more light efficiency. For even more ceiling illumination, indirect lighting is available as an option, which structures and opens up the room with an additional 10 percent light component.

SLOTLIGHT infinity II is available both with **stableWhite** (3,000 K, 4,000 K) and **tunableWhite** (2,700 – 6,500 K).

*“The precise qualities that suit our individual working style.”*

**Birgit Gebhardt**

Due to the ESG requirements, everyone is operating in a very standards-fixated way right now. It is not so much a matter of falling into new standards, but of making the offer more useful. That would mean more user-centred and individual. But most developers are still concerned with the building and its flexibility, energy or resource efficiency and not with that of its users. Yet what happens in the space is much more crucial to the office's offer, frequency and raison d'être. In addition, every user will soon be able to call up his or her own measurements of the quality of the spaces via smartwatch and find out in a more differentiated way what individual added value which environment provides.



*“Standards are a means of comparison.”*

**Hans-Jörg Fankhauser**

Home working is probably the best example of the gulf between standards and practice. The occupational safety and health guidelines stipulate that office chairs must have five legs. At home, I sit on my three-legged stool at the kitchen table. The guidelines aren't about restricting people, but instead about creating a positive working environment.

Standards are used as a means of comparison. They're the language spoken by specialist designers and planners. In my sector, I need them in order to communicate with the specialist designers and planners. Comparable values also allow different building services personnel to work together.



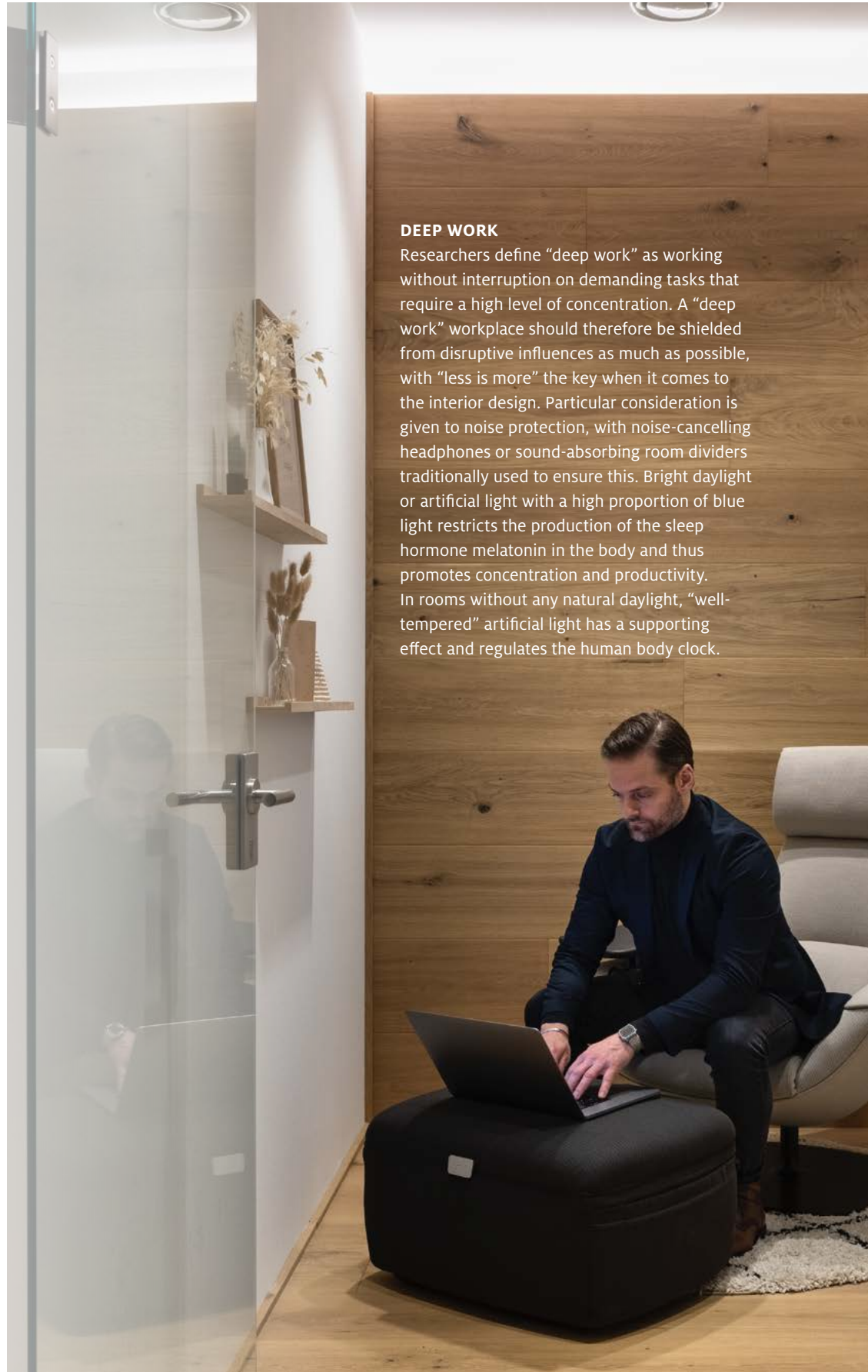
*„The desire to look to other disciplines has been lacking.“*

**Carina Buchholz**

Standards are being pushed by the engineering sector, among others, because people there like to be guided by numbers. What has been lacking is a feel for the soft facts and a desire to look to other disciplines such as the human and social sciences, where there are interesting research findings on light that are rarely given any attention in the lighting sector. In my opinion, the willingness of engineering sciences such as lighting technology to be open to other disciplines is still lacking in certain areas. An interdisciplinary approach can make a significant contribution to improving people's well-being in buildings.

# THE RIGHT SETTING FOR EVERY TASK

Debates about New Work show that office work involves so much more than just working at a screen. Learning, discussion and brainstorming, and even retreat and recuperation are also part of the modern working day. These different “work modes” require fundamentally different states in the human body and mind. It quickly becomes clear that a series of uniformly illuminated standard computer workstations cannot accommodate this wide range of tasks. Office spaces must provide suitable “settings” for the various scenarios and situations. Dynamic lighting helps people to differentiate between distinct workspaces within the office.



## DEEP WORK

Researchers define “deep work” as working without interruption on demanding tasks that require a high level of concentration. A “deep work” workplace should therefore be shielded from disruptive influences as much as possible, with “less is more” the key when it comes to the interior design. Particular consideration is given to noise protection, with noise-cancelling headphones or sound-absorbing room dividers traditionally used to ensure this. Bright daylight or artificial light with a high proportion of blue light restricts the production of the sleep hormone melatonin in the body and thus promotes concentration and productivity. In rooms without any natural daylight, “well-tempered” artificial light has a supporting effect and regulates the human body clock.



### CREATIVE EXCHANGE

Creativity requires a balance of relaxation and dynamism to flourish. The flickering flames of the fires around which our ancestors gathered to tell stories created a cosy yet ever-changing atmosphere.

When transferred to the office, the same kind of atmosphere in a lounge area encourages brainstorming. A striking luminaire such as **AMBITUS** replaces the fireside as a place to gather. In general, low lighting in the reddish colour range ensures cosiness, with downlights reinforcing this effect. An informal environment – a marketplace, a coffee station – encourages informal discussion. As has been shown many

times, this informal communication holds the greatest potential for inspiring ideas.

The balance between relaxation and dynamism is also reflected in the choice of furniture: cosy areas with sofas are just as suitable as movable stools or beanbags.

Whether in a face-to-face discussion or in a video call, to prevent the communication from descending into cacophony, acoustic elements can now be integrated directly into the luminaires – for example in the **TRAMAO pendant luminaire** by Zumtobel.





### **PERFECT LIGHT – AROUND THE CLOCK**

The New Work approach relaxes the restrictions of the 9-to-5 working day and allows employees to work at their own pace. This means that a few night owls may use the office later at night for concentrated work.

If light at your own desk and the emergency lighting are the only light sources in the office, you are unlikely to feel comfortable. To ensure a subjective feeling of safety, the surrounding workstations should also have a basic level of illumination. Balanced luminance levels in the surrounding area help the eyes' adaptation process.

That's why Zumtobel has equipped the **ARTELEA** and **EPURIA** free-standing luminaire families with a new intelligent swarm control system. They communicate with the adjacent free-standing luminaires to create an extended island of light – a sustainable way to improve well-being and visual performance, even during evening hours.

### RECUPERATION

Relaxation is just as much a part of the dynamics of a working day as stimulation. The principle of **biophilic design** shows how such an “oasis” can be created: natural elements such as indoor plants as well as calming colour tones create a tranquil backdrop for mindful moments. “Evening light” with a high proportion of red light supports melatonin production and thus the transition into rest mode. Low illuminance levels with a minimal amount of blue light allow body and mind to wind down.



# HARTUNG BRINGS A TOUCH OF HOME TO THE OFFICE



Family-run company Hartung GmbH & Co. KG in Neumünster, Schleswig-Holstein believe in having an office that's comfortable as your home. It has succeeded in creating this with the help of Zumtobel.

At its new premises, the photo art and luxury stationery specialists celebrate "connection" in all its forms: on the one hand, the connection between the outside and inside world with the help of extensive glass façades, an open riser staircase and a large skylight, and on the other, a room layout designed to connect people and activities. Zones for individual

work, communicative exchange and breaks for refreshments are not separate; instead they merge, blending together and enriching one another.

Various elements, including a back wall made of moss, an espresso bar that feels like a coffee shop, a phone booth that can be used as a retreat space and a wooden staircase with seating that transforms into a mini arena, all reflect the dynamics of a New Work environment. People can work not only in an individual office or at a desk, but anywhere within the entire space.



Zumtobel's LED lighting solutions combine functionality with aesthetics to create a versatile, stimulating working environment at Hartung. A round **ONDARIA** luminaire in white adds a decorative touch to the space above the free-standing staircase (on the left), providing harmonious, homogeneous surface light on the ground and upper floors.

**SUPERSYSTEM** spotlights provide directional lighting and lively accents, with the uniform linearity of the 3-phase track creating an intuitive layout. The spotlights can be adjusted as required, providing optimal lighting for individual wall and work surfaces as well as entire corridors and circulation areas, while 3,000 K warm white light enhances the cosy ambience.

Used as task lighting in the retreat areas, the round **PANOS infinity** downlight creates a delightful contrast to the rectangular desks. LED light strips are also installed in the retreat alcoves. If the individual workplaces are unoccupied, a dimmed light strip provides background brightness. When they are occupied, the LEDs illuminate the area with maximum light output to signal that "this office is currently in use".

The example of Hartung GmbH shows that a New Work environment requires light to create separate zones and provide specific illumination for different activities – light that supports people not just visually but also emotionally as they work.





# USING LIGHT TO CREATE SPORTING WORLDS AT SUPEROLOGY

Visitors to the new **Superology** headquarters in Zagreb will instantly see that sport is the life and soul of the company. The premises of the sports software experts are a prime example of how a brand identity can consistently shape office spaces – without compromising on functionality or employee comfort.

The unique atmosphere is the result of an interdisciplinary collaboration, with both psychologists' findings

and architects' analyses being incorporated into the spatial concept.

From an athletics track at the reception to a basketball net made of light on a meeting room ceiling, the clever interplay of architecture, design and Zumtobel's custom lighting brings the essence of different sports to the gamification experts' premises.



In the basketball room, Zumtobel's **LINARIA** uses dynamic lines to draw the pattern of a basketball net on the ceiling. In the football room, **SLOTLIGHT infinity slim** LED continuous rows and round **ONDARIA** pendant luminaires recreate the outline of a football pitch, right down to the penalty area and centre line, while in the foyer, a 3-phase track and the **LINARIA** light line are used to create an athletics track.



In the employees' offices, **LIGHT FIELDS III** pendant luminaires and **SLOTLIGHT infinity slim** combine excellent glare control with attractive design for optimum visual comfort when working at computer screens. Like sport, having the freedom to deliver, Superology offers its employees maximum freedom to design their work lighting. Zumtobel's **LITECOM infinity** daylight linking lighting management system gives the team in Zagreb autonomous control of the dimmable luminaires and privacy systems and allows them to create unique lighting scenarios, while the lighting controls use **tunableWhite** to bring the dynamics of daylight and its changing colour temperatures to this unique office space.

**PANOS infinity** downlights provide high-quality general lighting at Superology, while individual meeting rooms are equipped with unobtrusive **VAERO** pendant luminaires and design accents are created by minimalist **LINETIK** free-standing luminaires in the management offices. Like a stadium's floodlighting system, **VIVO M** spotlights on 3-phase tracks illuminate the office corridors.

The Superology office in Zagreb shows that branding and functionality don't have to be mutually exclusive if well-thought-out lighting design is used to create coherent worlds. To ensure these worlds will still delight employees in future, the interdisciplinary team is continuing its consultation work. An office in constant flux – and a slam dunk for New Work.

# SEVEN TIPS FOR AN ATTRACTIVE OFFICE



The Covid-19 pandemic has ushered in the era of the “office exodus”. Alongside working from home, coworking spaces in the city centre, a favourite café around the corner or even a sun lounge are all becoming established alternatives to the office. However, the flexibility of mobile working does have its downsides: firstly the lack of face-to-face contact, particularly in fully remote jobs, can lead to isolation. Secondly, creativity and innovation may also suffer when communication takes place on a purely virtual level.

When it comes to working from home versus working in the office, job standardisation competes with relaxed individualisation, community with privacy. But through a well-thought-out combination of architecture, furnishings, interior design and lighting, offices are becoming more attractive once again – even without mandatory attendance.

## 1. USE THE EXISTING SPACE TO MEET YOUR WORKFORCE’S NEEDS

If the office is only half occupied, the office space doesn’t necessarily have to be reduced. The reduced requirement for computer workstations is an opportunity to redesign the extra space. Think about zones and scenarios instead of just square metres. Analyse tasks as well as presence: how much of the working day is taken up by meetings, team work and creativity sessions? This will enable you to understand how much space is actually required.

## 2. CREATE SPACE FOR COLLABORATION

People come to the office because of other people. But what happens when the meeting rooms are booked up, the coffee station is tiny and the corridors are narrow? You don’t always have to meet in a traditional conference room. Cosy areas with sofas, market squares, stimulating outdoor areas or café-like settings can also inspire discussion and collaboration.

## 3. OFFER POSSIBILITIES FOR RETREAT

Do employees revert to working from home when they need to do intensive work because their desk in a noisy open-plan office doesn’t offer enough peace and quiet? Help employees find focus with retreat zones such as separated alcoves, pods or work cubicles within the office. In addition to good acoustic insulation and low-key design, a dimmed light scene can also create an oasis of calm with a feeling of privacy.

## 4. ENABLE DYNAMISM

According to the standards, you should sit up straight and have both feet on the floor, with a viewing distance of 40° from your screen. Creativity, on the other hand, thrives on dynamism. With modular furniture, movable seating elements or portable free-standing luminaires, you can ensure that the furnishings adapt to how your employees think. Dynamic lighting with changing light scenes creates effects of surprise that boost creativity. Since nothing can beat the stimulating effect of natural daylight, how about taking your meetings outside? Steve Jobs knew that the best ideas often come to you while you’re taking a walk.



# STANDARDS FOR THE OFFICE – IN THE SPOTLIGHT

STANDARD	FULL NAME	KEY MESSAGE / GUIDELINES
<b>EN 12464-1</b>	Lighting of work places – Part 1: Indoor work places	This standard specifies minimum illuminance levels for various indoor work areas to ensure good visibility and visual perception and to guarantee the safety and well-being of employees. The focus is on aspects such as illuminance, uniformity, glare limitation and colour rendering.
<b>EN ISO 7730</b>	Ergonomics of the thermal environment – Analytical determination and interpretation of thermal comfort by means of the calculation of the PMV and the PPD index and criteria for local comfort	This standard defines methods for assessing the thermal comfort of a workplace and specifies guide values for temperature, air velocity, relative humidity and thermal radiation for a pleasant indoor climate.
<b>EN 527-1</b>	Office furniture – Work tables and desks – Part 1: Dimensions	This standard specifies dimensions and requirements for work tables and desks to enable the ergonomic design of workplaces, e.g. height adjustability (desk height of 68 cm to 76 cm), sufficient work space (at least 160 cm x 80 cm) and legroom (height of at least 65 cm).
<b>DIN 1946-6</b>	Ventilation and air conditioning – Part 6: Ventilation of residential buildings – General requirements, requirements for the dimensioning, design and marking of ventilation systems, classification of ventilation points and ventilation units – Supplement 1: Residential buildings	This standard specifies requirements for the ventilation of office and residential spaces, such as minimum air exchange rates, sound insulation, moisture protection and filtering of the supply air, in order to ensure good air quality and a healthy indoor climate.
<b>ArbStättV</b>	Arbeitsstättenverordnung (German Workplaces Ordinance)	The ArbStättV contains general requirements for workplaces, including office buildings, with regard to room size, room height, window area, ventilation, lighting, health and safety measures and ergonomic workplace design.
<b>EN ISO 9241-5</b>	Ergonomic requirements for office work with visual display terminals (VDTs) – Part 5: Workstation layout and postural requirements	This standard specifies ergonomic requirements for the design of office workplaces with visual display terminals, including the positioning of screens, keyboards, mice and other input devices to create a healthy and comfortable working environment.
<b>DIN 18041</b>	Acoustic quality in rooms – Specifications and instructions for the room acoustic design	This standard provides recommendations for the acoustic design of office buildings, including room acoustics, sound absorption, sound insulation, room geometry and placement of sound sources to ensure a comfortable and productive working environment.



##### **5. CREATE SPACE FOR INDIVIDUALISATION**

Individualisation is one of the biggest plus points of working from home. Their favourite colours, furniture and custom lighting create a mini domain in which everything matches the individual's vision. Offices, on the other hand, must balance the needs of many different people – but there is still room for individualisation. This begins with the ability to choose a workstation depending on the tasks to be performed. Ergonomically adjustable furniture or lighting that can be dimmed as required at the individual workstation are not just factors in improving well-being, but also support employee health and performance.

For example, as employees get older, they will need higher illuminances than those specified by the standards.

##### **6. BRING NATURE INTO THE OFFICE**

**Biophilic design** brings people's love of nature indoors. Indoor plants, office furniture made of natural materials such as wood, linen or bamboo, earth tones in the interior design, aquariums, a view onto a green space or outdoor work areas help to break down the boundary between nature and the office. Even images of landscapes can provide emotional support, according to neuroscientist Colin Ellard. Plenty of daylight and dynamic artificial light that imitates the rhythms of daylight create a natural framework for healthy, motivated working.



## 7. CONTINUALLY OBSERVE AND ANALYSE YOUR OFFICE DESIGN

New Work thrives on processes. The office isn't static either; it's a living working space. The bad news is that even state-of-the-art office designs can quickly become obsolete. That's why it is crucial to continually compare the design with the reality: are the rooms and zones really being used as intended? Is too much being invested in limited used areas, in terms of interior design, resources and electricity? Always be open to feedback from your employees. For example, smart sensors can also help monitor various aspects of the office, from CO<sub>2</sub> sensors that show when it's time to ventilate, to presence sensors that show which rooms are being used and which

spaces are unpopular. In addition, with the help of smart lighting controls, light scenes can also quickly adapt to changing room situations.

### THE MOST IMPORTANT TIP:

Take a holistic view of your office design. Various factors and building services contribute to the attractiveness of the office. When you make intelligent use of data from different sources, you turn your property into a learning building that will continue to become a better place for people and for the environment. When working with partners, make sure that they also understand the complex interplay of the various factors and can translate this into solutions that are as dynamic as today's world of work.

# T H E L I G H T



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