



People-centric lighting solutions

Inspiration for healthcare environments



PHILIPS

Better environments for patients and staff

Today's consumers of healthcare are well informed and expect better choices. They want hospitals to be welcoming and efficient places to go for treatment, to be offered customized care and high levels of service. As patients now expect a better experience, hospitals find themselves tasked with making continuous improvements to meet patient expectations and increased demand for services.

Healthcare as a sector needs to change and adapt, but the challenges are significant. Controlling costs and improving operational efficiency are essential – to maintain both access to healthcare and the level of care that is required. With more hospitals adopting a patient-centric model, it's important to have partners who understand this and can work with you to fulfill your specific needs.



“I am involved in quality improvement; researching, reading up on and stimulating new developments. In this we generate best practices which go beyond protocol.”

Nurse practitioner

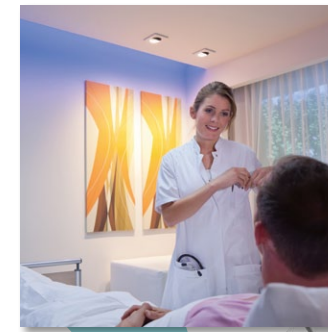
Used effectively in healthcare facilities, lighting can enhance the patients' experience and play a key role in promoting the wellbeing of patients. Our people-centric lighting solutions can really make a difference – creating an enhanced healing environment, that combines effective, functional light with a more pleasant ambience.

There are challenges around hospital staff – we are facing a growing global deficit of healthcare professionals, so the need to create pleasant and efficient working environments is essential, especially for staff who may work for long periods without access to natural daylight. Lighting solutions that mimic the effect of daylight are effective and proven ways to increase feelings of wellbeing, improve efficiency and help with staff retention.

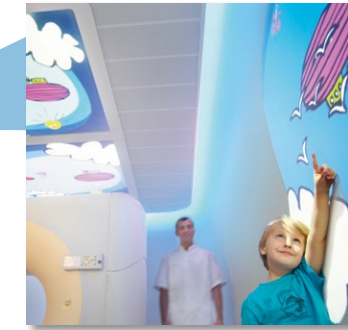
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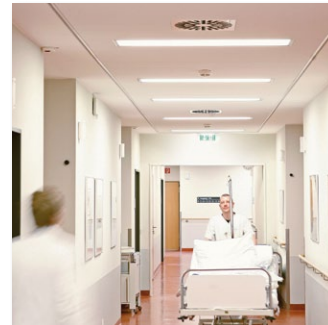
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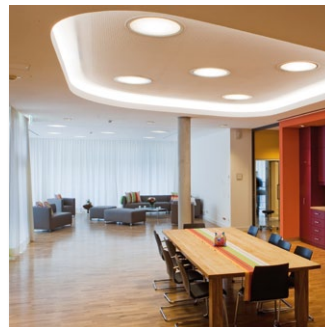
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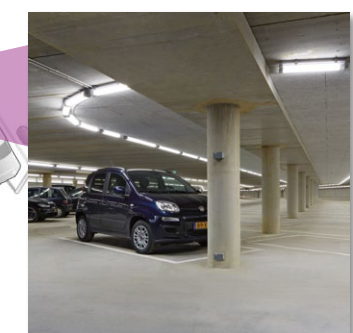
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“Philips Lighting provided exceptional design and sustainable solutions enabling us to achieve the desired effect for the project.

Engineer, Baraa Ali
Imperial College of London Diabetic Center Al Ain,
United Arab Emirates

Lighting up your brand

When visitors approach your building you have a unique opportunity to make a statement through lighting – one that can impress, welcome and promote confidence in your brand, reassuring patients that they've made the right choice. Factors like service, atmosphere and accessibility play an increasingly important role, but there is also the general image and reputation of a healthcare facility to consider too. You can make your mark with the look and feel of the building that you design, and even create an architectural icon.



Phoenix Children's Hospital



Swiss Medical, Buenos Aires

LED lighting offers unprecedented design freedom in terms of color, dynamics, miniaturization, architectural integration and energy efficiency – opening up new possibilities in brand building and ambience creation, for instance by dynamically changing the lighting, using various highlighting and color effects. Architectural outdoor lighting can effectively turn your building into a prominent landmark, a living symbol of care and hospitality.

Our two examples featured on this page show how lighting can make a statement while also respecting human needs.

Phoenix Children's Hospital in Phoenix, Arizona, USA uses lighting to enhance the 3-dimensional outlines of the building and create a welcoming and distinctive impression, without disturbing light pollution affecting the interior.

Swiss Medical in Buenos Aires, Argentina selected dramatic and colorful exterior lighting to accentuate the outline of the building and enhance their brand.

A warm welcome

First impressions count, so here's the perfect opportunity to create a great first impression with a welcoming ambience. Attractive lighting in the entrance area can make a hospital more inviting. Before continuing their journey further into the hospital, you have an opportunity to convey your hospital's personality to visitors in entrance spaces and shops. Lighting can reassure and calm patients, help them feel more at home and less anxious.



Asklepios, Barmbek, Hamburg, Germany



Klinika Dr. Pirka, Czech Republic

A harmonious lighting atmosphere makes people less apprehensive, inspires confidence and makes the surroundings appear friendlier. What's more, patients and visitors are less likely to feel intimidated if they can find their way around easily. This is where lighting can support wayfinding and orientation.

Entrance halls generally consist of four distinct zones – the entrance area, the reception desk, the waiting area and the area that leads people into the rest of the building. The entrance hall almost always connects to a restaurant and a shop. The reception desk also needs to be the 'eye catcher' in the space, so that visitors will be drawn to it straight away.

Combining functionality and decorative aspects, solutions could include local task lighting for desk work and more creative light settings using slow dynamics and soft colors, to provide a harmonious lighting atmosphere that makes people feel more at ease, as seen above right at Klinika Dr. Pirka.

A typical lighting scheme may use fixed and adjustable downlighting in combination with accent lighting to illuminate the back wall in the entrance space, with suspended luminaires above the reception desk. In areas that benefit from natural light from outside, daylight regulation can be used to save energy, by using a daylight sensor.

“We gave the children and their families something unique, vibrant, entertaining, and full of life to distract them from the challenges they face entering the building.”

Scott Oldner, Lighting Design
Phoenix Children's Hospital, Phoenix, Arizona, USA





Asklepios Klinik, Barmbek, Hamburg, Germany

“Our aim is to create an environment that relaxes patients and wins their trust. Simultaneously, it should support the staff in their physiological processes and consequently also our medical care. Light plays a decisive role here.

Andreas Janzen, Anesthesiologist, Managing Director of Lumaris GmbH – South Operating Centre, Germany

Well connected, smart and gently lit

For a hospital, which may be open 24 hours a day, corridors and circulation areas are the arteries of the building. Patients and visitors on their way to a doctor or specific department will naturally appreciate a brightly illuminated corridor rather than a dark one and specific lighting can be used to optimize guidance. Take a patients-eye view, for example someone lying down while travelling from one area of the hospital to another, possibly feeling anxious – here is a place where soft, glare-free lighting will be especially welcome.

In areas where patients and visitors circulate, factors of key importance are guidance, safety and re-assurance, which can be supported by using diffused homogeneous lighting and avoiding dark spots. For corridors where patients are wheeled along on trolleys, it must be taken into consideration that sharp contrasts can be extremely uncomfortable when they are looking upwards.

Through the use of lighting controls, corridors can become 'smarter' and provide a perfect opportunity for energy saving. During the day, when corridors are in full use, artificial lighting can be complemented by

daylight integration, using sensing technology, saving energy while maintaining a comfortable ambience. After-hours, when corridors are less frequently used, the lighting can be dimmed to a lower, but comfortable level for orientation, and when movement is detected it will instantly switch to normal levels for safety and guidance.

For internal corridors that are part of patient wards, matching daylight rhythms through lighting can improve the perception and wellbeing of users, by using dynamic lighting to bring in the positive effects of natural daylight, and create a sense of wellbeing.



Oberhausen psychiatry, Germany



“A colorful and calming environment really makes all the difference for critically ill children and young people as it helps to alleviate anxiety.”

Sven Höpfner, Assistant Managing Director,
Altona Children's Hospital (AKK), Hamburg

Helping people to feel at ease

Waiting always seems to take longer than we expect. Especially when you are in a waiting room in hospital, where you may feel anxious, be in pain, or feel insecure about what will happen next. Our solutions can help to create a relaxed environment where patients feel more comfortable and at ease.

The patient waiting experience can be improved in different ways. In many cases, the waiting room could offer patients and visitors a far more pleasant experience. A soft, homely atmosphere has a welcoming, calming effect, while the impression of hygiene and cleanliness fosters a sense of trust.

Lighting solutions for waiting rooms can be designed to encourage relaxation, to create a more familiar feeling, for example dimmable wall lighting and table luminaires will radiate a relaxing, domestic ambience. A positive feeling can be created with indirect lighting in warm white light, illuminating each area of the room differently.

Dynamic lighting that mimics the course of natural daylight can connect people to the outside world,

and support their wellbeing by reflecting natural rhythms.

Contrast can be created to stimulate interaction between people and to give the waiting area a friendly dynamic. This can be achieved by the use of downlights. Where the luminaires are placed near the wall, a pleasing play of light beams is visible.

Our approach is to create less of a 'hospital' and more of a 'homely' experience. The tuned home-like lighting ambience that can be created has a settling, calming effect on waiting patients. Soft, diffused lighting can be used to create this homely effect, whilst brighter indirect lighting can be used to bring the feeling of natural daylight inside, to make the area feel more spacious.



Greifswald Radiology, Rostock, Germany

Creating the best setting for examinations

Examinations are often one of the hardest things for patients to face, so creating an environment where they feel cared for and respected, while also allowing medical professionals to do their jobs effectively can be a delicate balance. To support both patients and staff, our solutions make it possible to switch lighting to different presets that create a variety of atmospheres, using light to suit the relevant patient engagements and medical procedures.

University Medical Centre, Groningen, the Netherlands



Ruber Dental Clinic, Madrid, Spain

“The LED lighting is a very creative solution which will help alleviate some of the stressful emotions associated when receiving treatment at the centre.

Andreas Janzen, Anesthesiologist,
Managing Director of Lumaris GmbH
– South Operating Centre, Germany

Creating a pleasant atmosphere is essential. Before and after treatment, the general lighting can be switched to a soothing and reassuring warm light, to create a comfortable environment for the patient. This makes the patient feel more at ease and allows staff to work more efficiently. Optimal light color and high quality color rendering assist in examinations and diagnosis, helping staff perform better.

In an examination room accurate color rendering in the lighting is of vital importance. Our lighting system can be adjusted to suit the activity – whether calming, to assist with patient conversations or brighter task lighting for examinations. Different presets for different lighting levels can be pre-programmed and our scheme can include an additional LED examination light, featuring high color rendering with no heat output.

More comfortable patient experiences

Going to hospital is something people often find unsettling – it's a time when they feel concerned and vulnerable. Lighting can help to create a calming environment. Solutions range from simple and effective white light to colored lighting and even projections selected by the patient during examination and diagnosis, which can help them to feel more in control, more at ease and create a positive distraction.



Interlaken fmi Hospital Unterseen, Switzerland



“The AmbiScene lighting system has definitely contributed to the overall improvement in patient experience. This in turn leads to improving throughput time at the Centre.”

David Corrigan of Paul Moy Associates, consultants for the Trust states. Leighton Hospital – Crewe UK

To help create a better patient experience, Philips imaging room options range from our AmbiScene lighting system, which uses effective white light and soft colored ambient light, up to multi sensory experiences with Ambient Experience. This solution adds the possibility of a soft-colored ambient glow created through indirect cove lighting, with music as an option. Ambient Experience solutions allow you to further enhance the mood of the imaging room in different ways using multi-media.

Whatever option you choose, you can be sure of creating an atmosphere that will help to relax patients and act as a sympathetic environment for staff to carry out diagnostic imaging. Due to the nature of imaging equipment, we have especially designed luminaires that remain unaffected by magnetic fields.

Your MRI room can now have best in class LED downlights that provide effective general white light with very low energy consumption. In addition, the

system is fully dimmable using DALI controls and this solution provides a very comfortable feeling in the imaging room.

Philips AmbiScene lighting brightens the lives of patients and staff alike. By offering a dynamic lighting environment, AmbiScene lighting neutralizes the harsh glare of institutional lighting while encouraging a sense of wellbeing. The whole experience is friendly and accessible, helping your patients feel less intimidated and your staff to achieve their tasks efficiently. Dynamic LED lights along the ceiling perimeter wash the walls in inviting colors. Intensity and color choice are controlled via a simple wall dimmer or touchscreen.

Ambient Experience is a purposefully designed healthcare environment. With a refreshingly creative eye, Ambient Experience integrates technology, spatial design, and personalized themes to create a comfortable, stress-reducing environment. Patients and staff experience a renewed sense of wellbeing.



CVC, Best, the Netherlands

Better patient outcomes

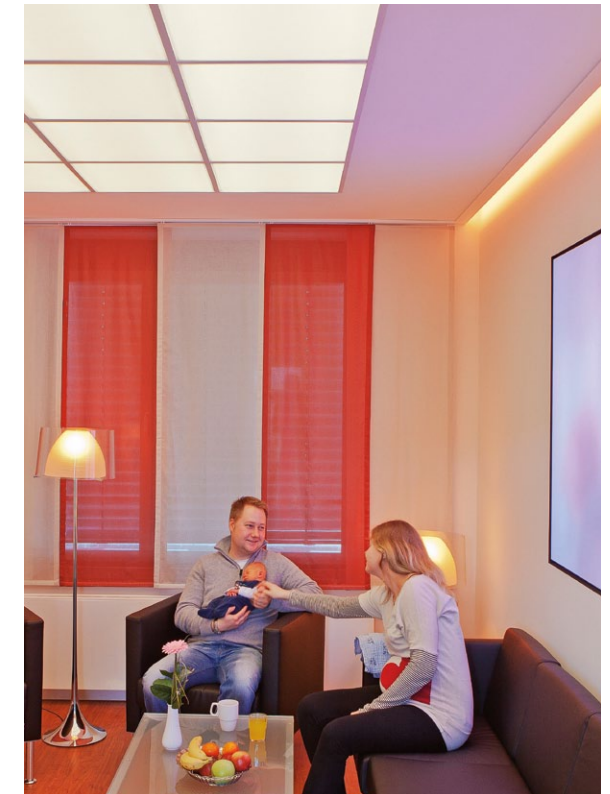
A stay in hospital is never pleasant, especially if you are worried or in pain. There is often little privacy. But what if we could make the patient feel more at home? The challenge for hospital designers is to create flexible rooms that accommodate patients needs, but also make them work for staff.

Light influences our health and wellbeing much more than we realize. Independent research has shown that there is a clear and positive relation between patients' exposure to sufficient light during the day and their health and wellbeing. Light can improve parameters like sleep, mood, depression and length of stay in a hospital environment. The right lighting can help create a pleasant ambience for patients and visitors, and in addition it can support the biological clock, thereby supporting the healing environment

Developed specifically to contribute to people's visual, emotional and biological response to light, our HealWell patient room concept creates a unique environment that supports patient wellbeing. In a field study we tested this solution, and the result was that patients in HealWell rooms actually sleep 8% longer; and need a shorter time to fall asleep. In addition, the ambient light is personalized through the use of predefined settings that can be controlled by the patient themselves.

We take a similar approach to family waiting rooms – for example, the one shown here on the right at the Asklepios Klinik Barmbeck. Soundlight Comfort Ceiling creates a glare-free, comfortable ambience, the system contributes to good room acoustics and healthy indoor spaces. A pleasant ambience is created by the use of a table lamp and alcove lighting which can be programmed in different colors.

Asklepios Klinik Barmbek, Brücke Neonatologie, Germany



Bradford Royal Infirmary, UK

“There's definitely a change in how patients feel about their environment; they report feeling more relaxed and calmer.”

Debbie Beaumont, Ward Manager,
Bradford Royal Infirmary, UK



University Medical Centre, Groningen, the Netherlands

“It is exceptional to see what a difference light can make; it really has enhanced the visual experience. Overall, staff emphasized that their working environment was now far more pleasant, especially because they can control the level of lighting.

Henk Timmerman Director of Buildings and Infrastructure,
University Medical Centre Groningen, the Netherlands

Support to achieve tasks

Good office and workstation lighting design addresses different aspects of light, to help staff stay focused and productive. Artificial lighting can play a significant role in improving the work environment by creating a relaxed or uplifting ambience and providing more 'natural' light, plus emphasis where and when it's needed.

Daylight is never constant. It changes in intensity over the course of the day and the seasons, affecting our emotions, moods, perception and performance. Most of these changes are gradual transitions that we only perceive at a subconscious level, but they influence our biological rhythms and the patterns of our daily lives. Bringing these dynamics indoors creates 'natural' lighting that stimulates and inspires those working there.

Rooms with windows can be designed to have two dimmable zones, one close to the windows and the second one inside. This provides flexibility for multiple desks and daylight harvesting.

In offices and staff rooms, the light settings can be tuned – for example by providing higher light levels for more difficult tasks, and lower, softer light for personal comfort or relaxation, providing you and

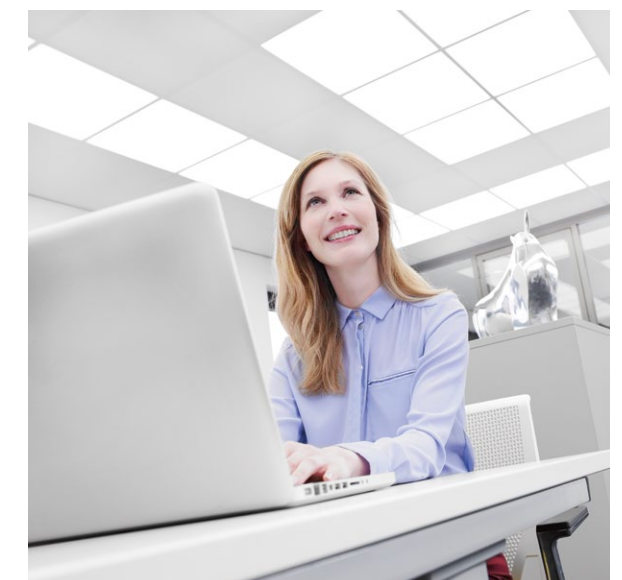
your staff with a valuable sense of control of the office environment.

Our office solutions feature the PowerBalance luminaire, to provide light with a high level of visual comfort. Or, to enhance your space further, Soundlight Comfort Ceiling offers visual and aural comfort through softened acoustics.

Our nurse station luminaires provide good task lighting and a welcoming ambience, to ensure people feel at ease. We can also add extra task lighting through suspended luminaires, which are controllable and can be set to meet the personal needs of staff. This, in combination with a bright back wall, creates a pleasant working atmosphere. Integration of light into the counter makes the entire area feel more spacious and accessible.



Asklepios St George, Hamburg, Germany

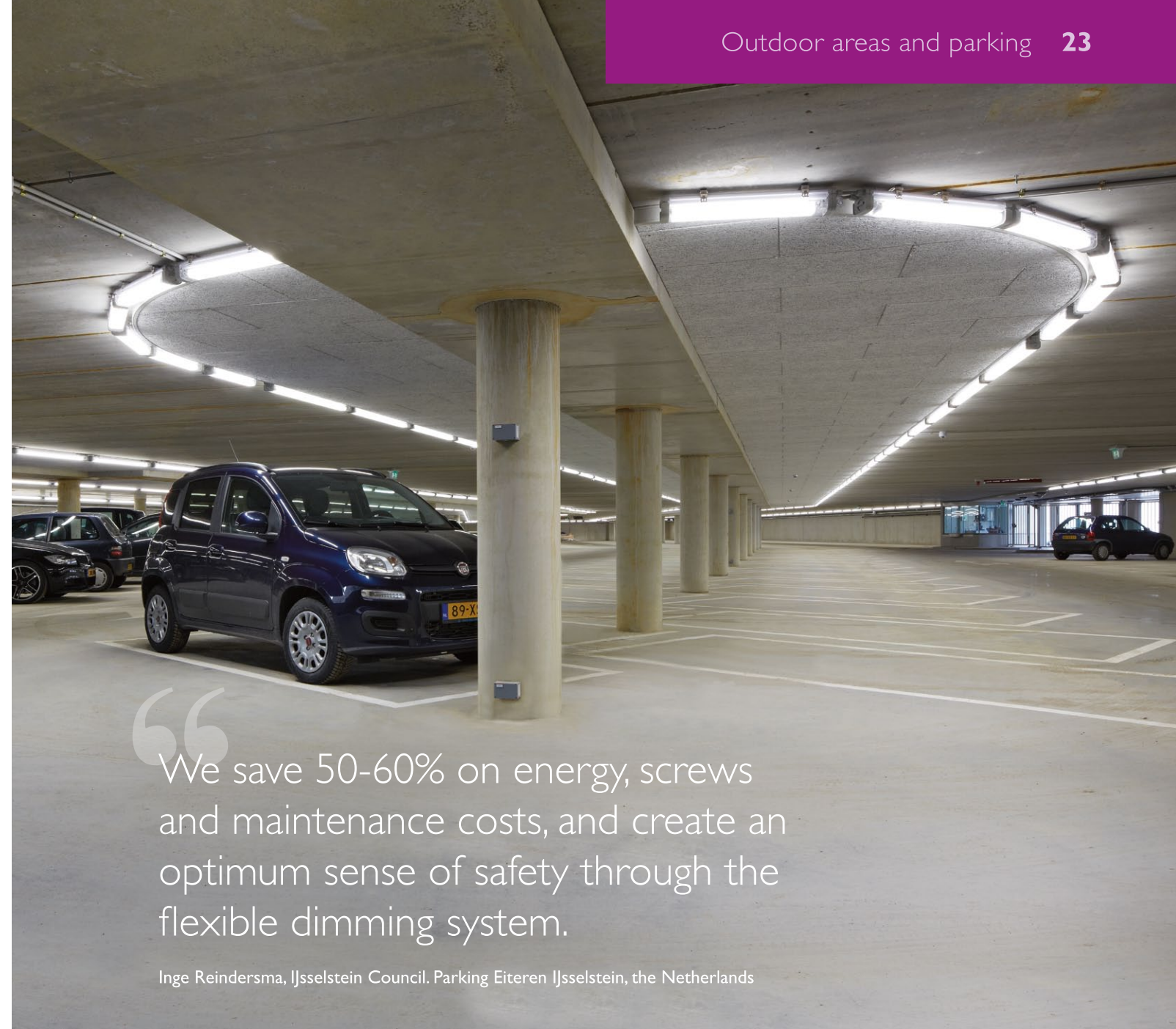


Haworth Vianen, the Netherlands

Safety, reassurance and energy saving

The walk from the car park to the hospital entrance often takes visitors along a path or walkway across a piece of open ground such as a small park or garden. Good quality lighting can help to make people feel safe and comfortable. Additionally, marker lights can provide guidance, while subtle illumination of trees and other features can help to create a pleasant and inviting ambience. In covered parking areas, good illumination is especially important for the safety and reassurance of pedestrians and to give drivers a clear view.

Montpellier Hospital, Montpellier, France



“We save 50-60% on energy, screws and maintenance costs, and create an optimum sense of safety through the flexible dimming system.”

Inge Reindersma, IJsselstein Council. Parking Eiteren IJsselstein, the Netherlands

Outside the hospital post-top lighting placed in the pedestrian area can provide general illumination during darker moments of the day, creating a safe feeling for staff and visitors. Various designs are available, which can be used to integrate with the corporate identity of your hospital. The latest LED technology substantially reduces energy consumption.

For parking areas sufficient light is needed for both drivers and pedestrians. Light levels should be functionally high enough to allow easy tracking of the parked vehicle and bright enough to allow pedestrians to feel safe in their nearby surroundings.

In outside parking areas and especially during hours of reduced daylight or at night, good lighting is key. Through the use of a smart motion sensing technology control system, more energy can be saved without compromising on safety.

In indoor parking places, good visibility is key to avoid accidents involving both vehicles and pedestrians. Light levels should also be functionally high enough to allow easy tracking of a parked vehicle and give good facial recognition to help pedestrians feel secure. Our robust, low maintenance solutions combined with presence detection offer a complete solution for indoor spaces.

Zoning can reduce energy use and also provide safety. Your parking space can be broken down into specified 'zones of light' by carefully siting presence detectors that are wirelessly linked to the luminaires nearby, so your lighting is effectively 'one step ahead' of pedestrian and vehicle traffic. As sensors detect movement and increase lighting only where it's needed, visitors are always 'moving into the light' and can feel safe and certain whilst travelling to and from their cars.



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