



PHILIPS

Healthcare

Lighting systems

The power **of light**

How light can support and transform
healthcare environments



The new challenges facing healthcare

Healthcare is one of the world's largest industries, accounting for almost 10% of global GDP. It's also a sector confronting huge change.

Medicine and technology continue to advance at an impressive rate. At the same time, medical practitioners and administrators are confronted by economic and demographic transformation.

The expectation is that we'll be finding new ways to add value and cut costs, whilst enhancing patient experience and patient satisfaction.



Helping you address these challenges

LED lighting can make a difference in three key ways: sustainability, wellbeing and connectivity.

Sustainability

By switching your lighting to LED, you can reduce your CO₂ emissions by up to 80%, delivering a real gain for the environment. And because lighting represents an average of 22% of hospital energy, you can also reduce costs considerably. It's possible to make significant additional savings by using lighting controls or connected lighting systems.

Increasing patient and staff wellbeing

Lighting technology has been shown to support well-being, enhance patient experience and recovery for patients. By mimicking daylight and aligning lighting to circadian rhythms, it's possible to reduce stress and aid recovery in a calm, relaxing environment.

There are significant benefits for your staff with the latest LED lighting too. You can change settings to aid focus or concentration, illuminate examination spaces brightly and create restful areas for breaks and relaxation.

The added benefits of connected lighting

Through connected lighting, you can harness the power of real-time data analytics. This can help to improve patient care and experience, reduce costs and support decision-making and planning.

Connectivity can also add value beyond illumination in other ways. You can create smart lighting zones, monitor occupancy and introduce remote lighting control. In this way, you can better control costs and further reduce CO₂ emissions.

New financial models

The pressure is on to reduce costs and improve services, regardless of whether healthcare is publicly or privately funded. As a result, this is an era in which healthcare providers are actively exploring new business models to increase efficiency.

Ongoing recruitment pressures

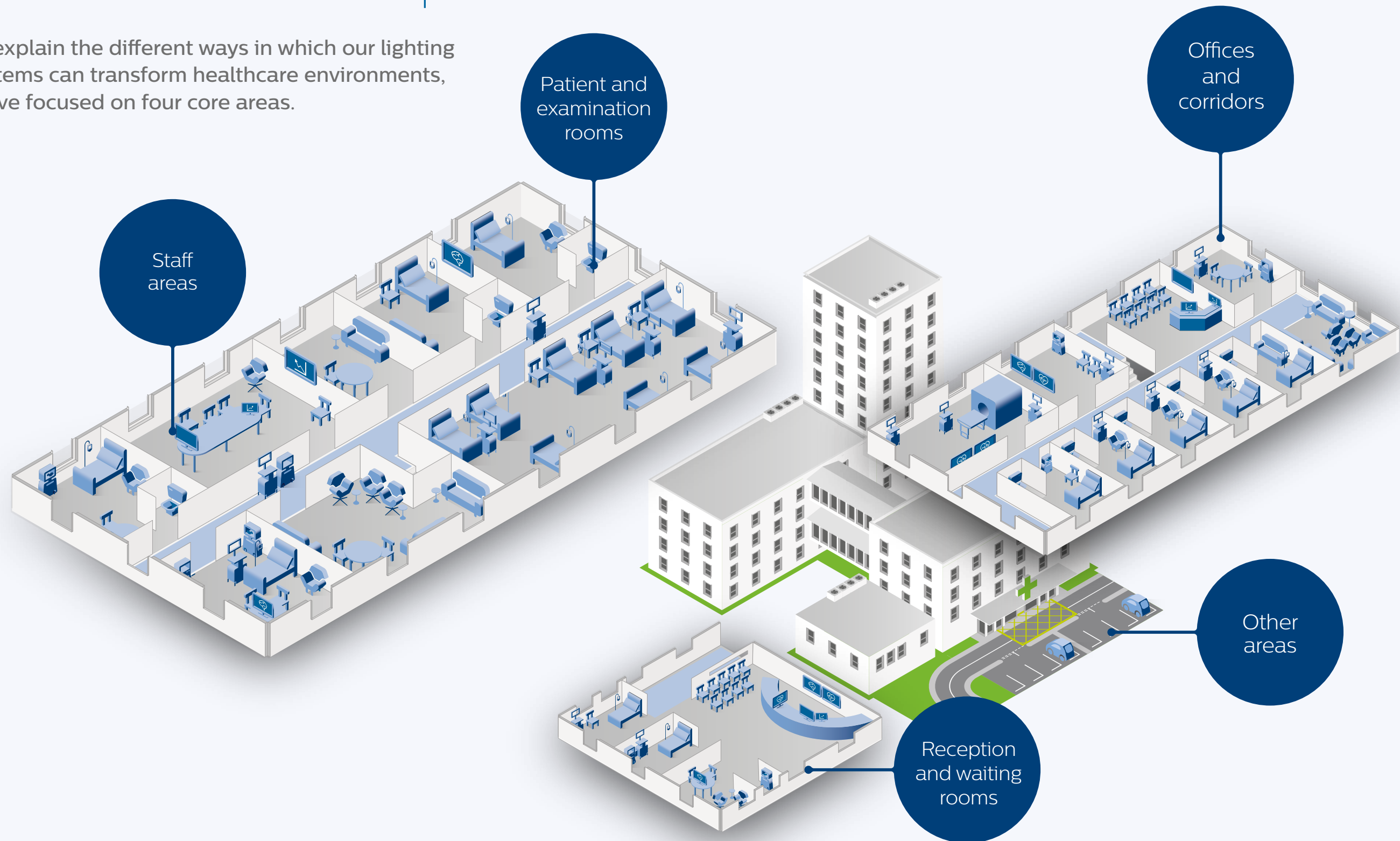
The number of available doctors per head of population remains static around the world, while the populations they care for continue to expand. Competition for experienced and qualified staff is therefore very intense.

Large-scale demographic trends

As the populations of many nations grow more elderly, we're faced with the challenges of chronic illness associated with old age, such as dementia and cardiovascular disease. Meanwhile, there is a continuing growth in chronic conditions such as obesity and diabetes.

Where you can make an impact

To explain the different ways in which our lighting systems can transform healthcare environments, we've focused on four core areas.





Offices and corridors

Your offices and corridors are vital to the operation of any healthcare environment. They may also provide a first impression of your hospital or clinic for patients, relatives and other visitors. **By taking new approaches to lighting in these areas, you can transform your building.**

Create smart lighting zones with SpaceWise

This innovative LED lighting system has embedded wireless controls, which means you can create 'zones' and deliver the level of light that's appropriate for a particular time of day. If an area is unoccupied, you can reduce the illumination to background level, saving significant amounts of energy, while maintaining comfort and a feeling of safety.

Collect valuable data with connected lighting

Your lighting grid in the ceiling can become a connected network, collecting data on usage and providing insights which can help improve your operational efficiency.

Here are just some of the applications that are made possible through wireless connected lighting:



Occupancy mapping

Use your space more effectively. Through occupancy sensors, the connected lighting infrastructure delivers granular insights into the use of your space. By viewing the occupancy data via the software dashboard, you'll be able to track how space is used over time in different areas of your facility; and take data-driven decisions on use and flow – optimizing not only space, but associated costs and experience too.



Energy saving

Data collected via occupancy sensors in your lighting grid can be fed into your heating, ventilation and air conditioning (HVAC) systems, allowing you to regulate and supply heating appropriately for the level of occupancy at any given time.



Increased efficiency

Monitor how energy-efficient your lighting is via the real-time performance data collected from the connected lighting system. Create lighting supply schedules to further save energy and view the status of light points so you can respond to maintenance requirements quickly to ensure safety and comfort.



Indoor navigation

Direct people to different parts of your hospital facility using an app that connects with the lighting grid. Indoor positioning within the individual light points locates the position of the visitor and guides them quickly and easily to their required destination.



People counting

Sensors within the lighting grid can determine how many people are in a particular area at any given time. These insights, shown via the software dashboard, can help with crowd control and can often help in decision making around changes in layout and space optimization.



Personal control apps

Staff can decide on the appropriate level of lighting for their current task or activity.

Patient and examination rooms



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The **time to fall asleep was reduced by 4.3 minutes per hospitalization day** with interventional lighting instead of standard controlled lighting.”*

In a potentially stressful situation, such as a medical examination, lighting can play an important role in keeping people calm and relaxed. It can also help doctors and other healthcare professionals focus more easily on the task at hand.

Improving experience with HealWell

HealWell is a unique evidence-based lighting system specifically developed to improve patient and staff experience in patient rooms. Its lighting design and recipe supports patients' circadian rhythm. Tested and validated, HealWell is based on innovative Tunable White technology, which supports healthy sleep patterns and helps alleviate anxiety.

Simulated daylight sequences facilitate the ideal sleep-wake rhythm for patients. Light that mimics daylight can also improve the daily activity pattern for people receiving short or long-term hospital care.

Cost-effective and simple to commission, install and operate, the system's functionality can be tailored to individual customers. It empowers patients by allowing them to choose appropriate atmospheric light and is ideal for medical practitioners, who can use a wall-mounted control to change lighting for examinations.

Boosting patient satisfaction with Tunable White

This technology produces a range of color temperatures from warm white to cool white. It can improve patient satisfaction scores, support the body's natural circadian rhythm and reduce the time it takes patients to fall asleep.

Tunable White lighting systems can aid staff in specific tasks and activities, as well as support their general well-being in a 24/7 work environment.

Creating a better examination setting with high-color rendering LED light

With optimal light color and high-quality rendering, medical professionals benefit from greater visual clarity in their examinations.

Imaging rooms

Mood is paramount in imaging rooms: the right lighting can help you create an atmosphere that will help to relax patients and act as a sympathetic environment for staff to carry out diagnostic imaging. Use a change in the color of the lighting as a visual signal to a patient, or let patients choose their preferred color to help alleviate tension – which supports patient well-being and relaxation during imaging procedures. Due to the nature of imaging equipment, we have specially designed luminaires that remain unaffected by magnetic fields.



*Time to fall asleep. Giménez, M.C. et al. Patient room lighting influences on sleep appraisal and mood in hospitalized people. Journal of Sleep Research. (2016)



Night and day

Supporting circadian rhythms

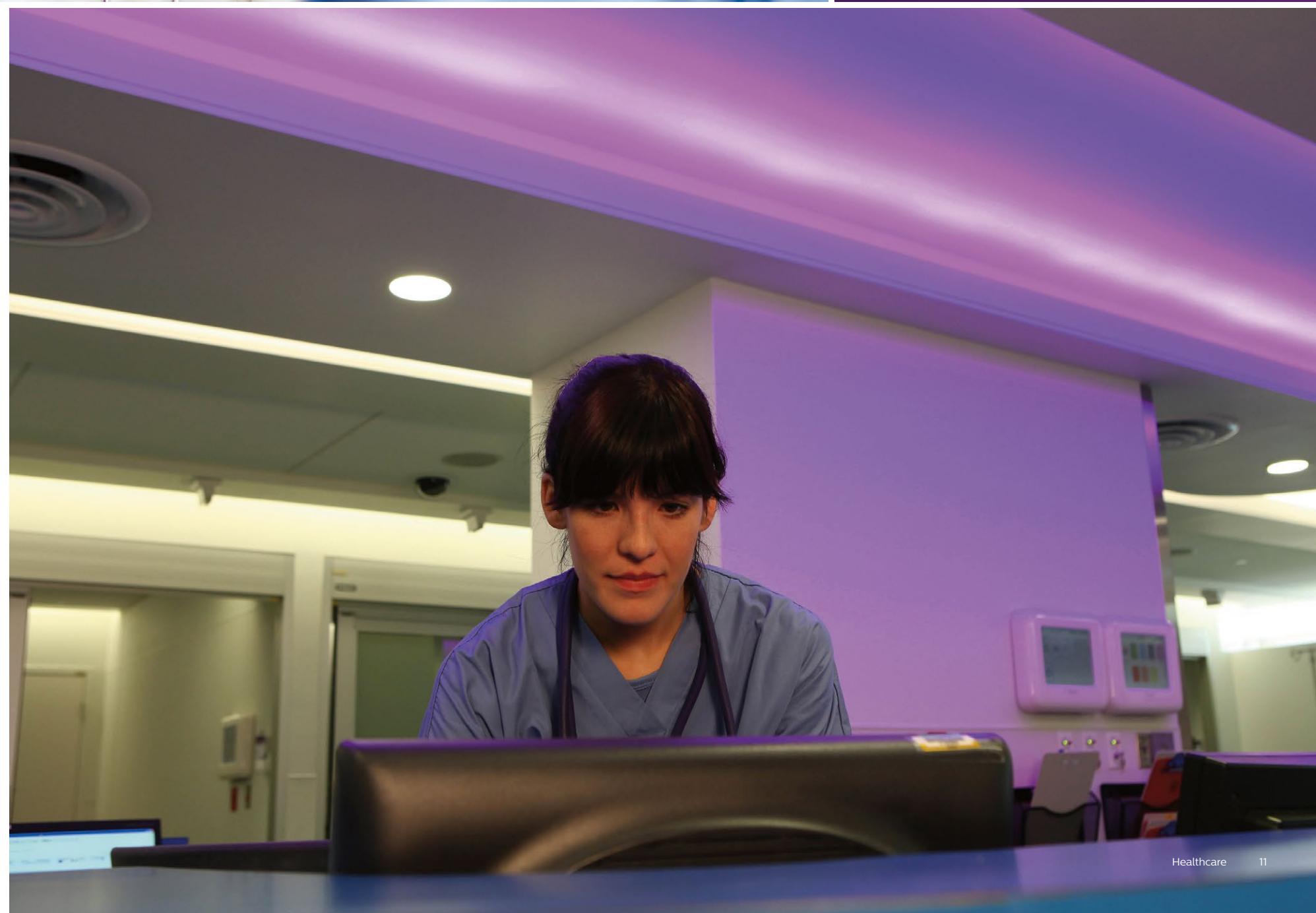
In a 24/7 working environment it's important for staff members to maintain a healthy circadian rhythm, so why not have lighting that can mimic daylight and positively stimulate your employees' moods and emotions. This can support higher concentration levels and performance.

Staff and nurse areas

Your staff areas need the right light for different tasks and for different times of the day and night. Lighting can be used to create zones, providing flexibility and delivering higher light levels for more detailed tasks. Lower, softer light can be introduced for comfort and relaxation.

Personalizing space with Tunable White

If you want to personalize a workspace or make it suitable for a specific task, Tunable White gives you that flexibility. Not only can it differentiate zones of activity, but it can also help employees focus better and support eye comfort through high-quality lighting without flicker or glare.



Reception and waiting rooms

Creating the right impression in a reception area or waiting room is clearly very important. It's also the case that some patients may be feeling worried or anxious. Lighting can play a critical role in helping to create a relaxing atmosphere.

The calming effect of Luminous Textiles

If you want to create a quiet and calm mood, but still want an element of flair or imagination, Luminous Textiles are an excellent option. Multicolored LEDs are seamlessly integrated into fabric to create endless combinations of color, movement, texture and light.

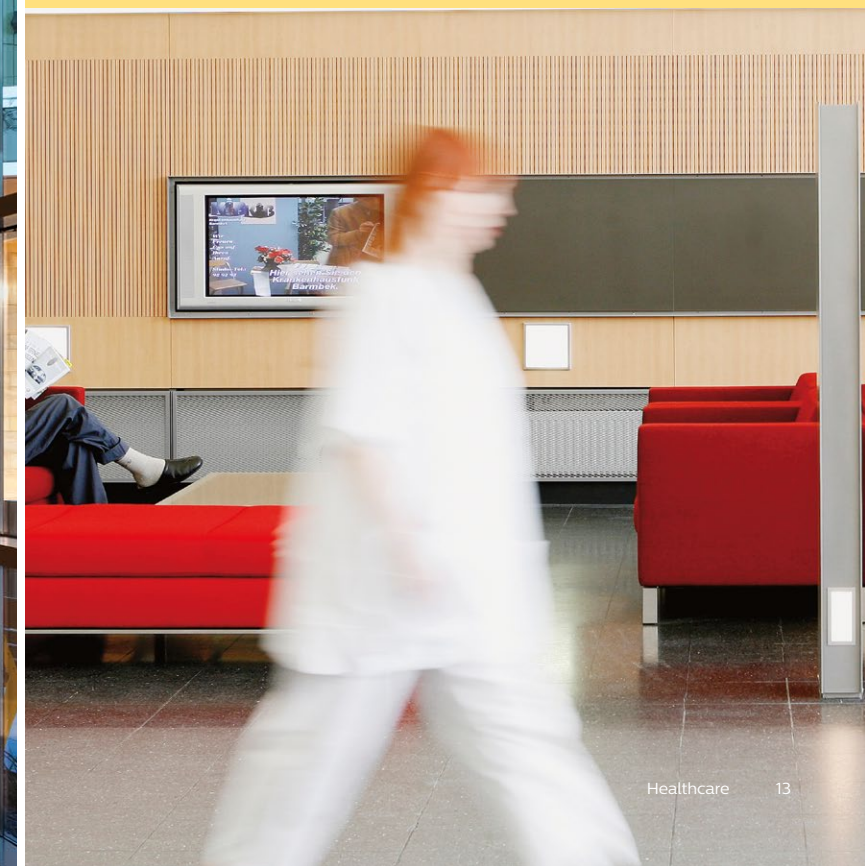
The panels are easy to install and can produce attractive decorative effects, allowing you to mirror a range of moods – from cheery sunlight to soothing twilight. You can even create, edit and upload videos using a content management app.

Relaxation with Tunable White

Create a soft, calming atmosphere with Tunable White or give the impression of greater hygiene and cleanliness to foster a sense of trust with cooler white lighting. Indirect warm and white light, meanwhile, can evoke positive feelings and a relaxed and cozy feeling.

Catching the eye with architectural lighting

Architectural colour-changing LED lighting systems from Color Kinetics can transform interior and exterior environments through dynamic and innovative uses of light. Coloured LED lighting can help to build your brand identity, create atmosphere and support wayfinding and orientation.





Lighting other areas

From the moment someone arrives at your hospital or clinic, you want to create a seamless experience that lasts right through the visit. **It's therefore worth considering the lighting in other key areas of your site.**

A welcoming symbol: your façade

You want your building to be a landmark – a living symbol of care and hospitality. By illuminating your façade with the Philips Color Kinetics system, you have unprecedented design freedom to use color and dynamics that will blend beautifully with your architecture.

Transforming outdoor areas

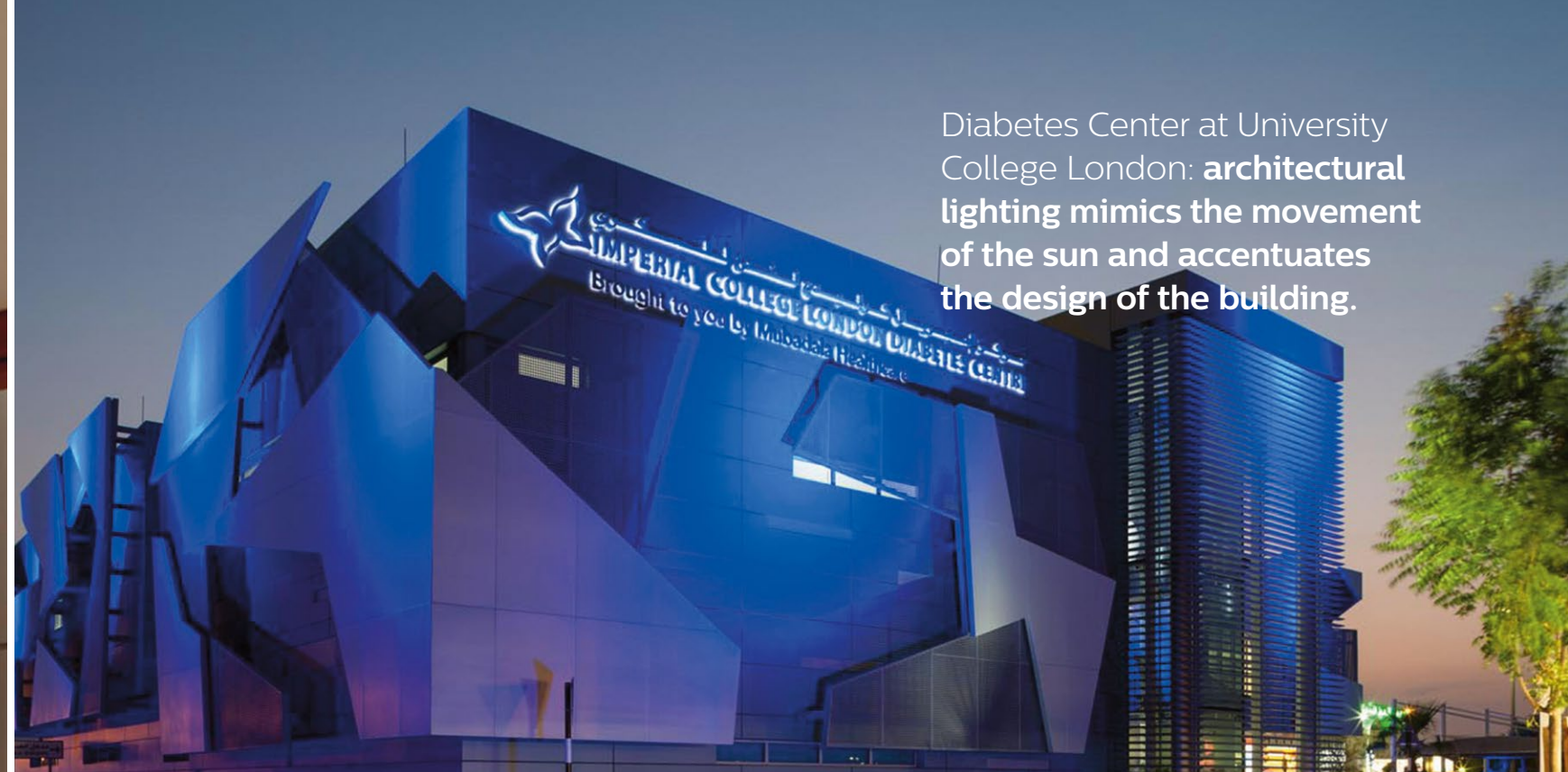
Good-quality lighting in outdoor spaces can make people feel safe and secure. Marker lights, for example, can act as a guide and help provide reassurance. Presence sensors should help you save on energy by bringing up light levels in areas that are occupied and reducing levels when there's no one around.

Lighting for indoor parking

Our special solution for indoor parking areas, GreenParking, allows LED lighting to be put into 'zones' that are illuminated only when there is activity – achieving 80% energy savings compared with a traditional covered parking lighting solution.

Lighting for outdoor parking

When people first visit your facility, the outdoor parking area is often the first thing they see. Good quality outdoor area lighting is therefore crucial in forming a positive first impression for patients and visitors, creating a sense of safety and comfort before they enter the hospital.



Diabetes Center at University College London: **architectural lighting mimics the movement of the sun and accentuates the design of the building.**

Lifecycle services: support from start to finish



Professional services

Audit, solution design

Audit: we are there pre-installation to conduct an audit, which we lead and scope – collecting and analyzing data.

Consulting: we then recommend an appropriate design solution for you, built around a strong business case, before taking responsibility for implementation.

Major benefit: recommendation for improvement.



Lifecycle services

Maintenance, asset management

After installation, you can choose from three options:

- Essential package: help desk, preventive and corrective maintenance, spare parts at a discount
- Premium package: everything in the Essential Package, plus comprehensive maintenance and spare-part kit and replacement for failures
- Premium+ package: everything in the Premium Package, plus documentation in a customer portal and ongoing user training

Major benefit: extension and availability of lighting installation.



Managed services

Operations, performance, commitment

Major benefit: outcome-based performance guaranteed by Philips Lighting

Case studies

Asklepios, Hamburg, Germany

Asklepios is the largest privately held hospital operator in Europe, with 150 facilities across Germany

The challenge

Asklepios' St. Georg clinic needed to completely renovate an existing ward with seven single rooms and six double rooms. The aim was to install top-class facilities, as part of a holistic green hospital concept. As a result of the installation, Asklepios would be able to deliver high-quality hospital care, meet ecological and economic goals, and create a positive environment for patients, doctors and staff.

The solution

The HealWell system was installed to provide simulated daylight sequence, support patients' natural sleep-wake rhythm and improve the recovery process and general wellbeing. The solution can be tailored to patients' individual needs, and provides a pleasant, functional working light for examinations.

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We offer 5-star quality on our special Privata private wards. The HealWell lighting concept is simply a part of this. **It creates a pleasant atmosphere for patients and staff, supports the physiological processes in the body and can be individually adapted at any time. It's great!”**

Dr Karl-Heinz Frosch, Senior Consultant of Orthopaedics,
Asklepios Clinic St. Georg



Centre D’Imagerie
Médical du Chablais
Aigle, Switzerland

This state-of-the-art medical center combines innovative Philips healthcare and lighting technology to offer 360° care for its patients, visitors and staff.

“

My goal is to **communicate our philosophy of friendliness, calm and unassuming competence** to patients and visitors as soon as they enter the clinic lobby.”

Dr. Pierre Chevalley, Director and Chief Radiologist, Centre D’Imagerie Médical du Chablais

The challenge

Centre D’Imagerie Médical (CIM) partnered with Philips as an expert in understanding how light and color can improve people’s mood, relieve mental and emotional distress and aid patient recovery.

The solution

The new design includes a luminous textile that provides ambient lighting in the lounge area and entrance hall. Visitors can see a stunning curvy ceiling alcove with round indentations full of rich colored light and color-changing effects. These create more welcoming and comfortable environments that display a range of dynamic visual programs – from cheery sunlight to soothing twilight – all at the push of a button.



“

I’ve had very positive experiences. I feel sharper and quite simply more alert. **This feels like the office of the future.**”

Emma Loven, Operations Manager at the Innovation Centre

Karolinska University
Stockholm, Sweden

With 15,000 employees and 1.5 million patient visits annually, Karolinska is Sweden’s largest university hospital.

The challenge

There was a need to update the lighting for its new open-plan office, as the existing system wasn’t energy efficient and looked cluttered.

The solution

Soundlight Comfort provides bright, glare-free illumination and softens the room acoustics. The LED solution is more energy efficient. The office now has a clean, modern feel, and employees report feeling more alert and focused.

