THORN
LIGHTING

LIGHT THAT SUPPORTS CARE

HEALTH & CARE

REFERENCE PROJECT - SUNDERLAND CITY HOSPITAL – DURHAM TREATMENT CENTRE, ENGLAND

LIGHT THAT SUPPORTS CARE

DID YOU KNOW?

Good quality light is essential for hospitals to function, however the right lighting can do much more than safely illuminate corridors. It can reduce stress levels amongst patients, visitors and healthcare specialists in emergency units.

Adequate and appropriate exposure to light is critical for the health and wellbeing of both patients and staff within healthcare settings. A combination of natural and artificial light can meet these needs. Daylight and artificial light should be well balanced into the lighting designs of hospitals, hospices and other healthcare venues because of its benefits to patients and staff.

Anjali Joseph, Ph.D. Impact of Light on Outcomes in Healthcare Settings, The Center for Health Design. 2006


WE
MAKE
IT
WORK

REFERENCE PROJECT - SUNDERLAND CITY HOSPITAL – DURHAM TREATMENT CENTRE, ENGLAND

HEALTH & CARE

LIGHTING THAT SUPPORTS CARE

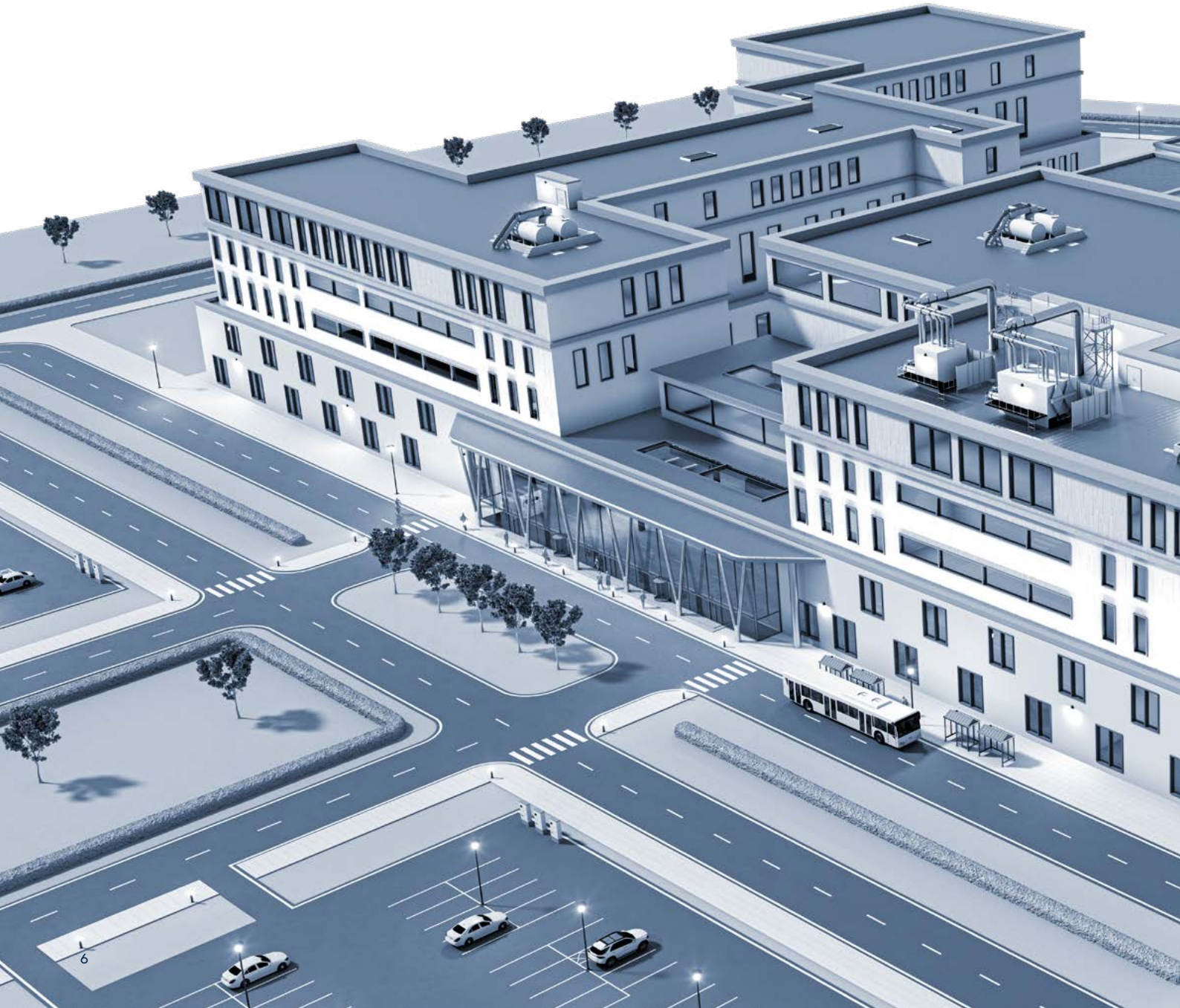
BEST PRACTICE

SUSTAINABLE BUILDINGS

Reducing the energy consumption of our healthcare facilities is a way of supporting a sustainable outcome through reducing operational carbon. Lighting solutions and intelligent controls should work together to ensure both user experience expectations, as well as energy reduction requirements, are met in parallel.

ENHANCED WAYFINDING

Light is a supporting element of any space it illuminates. Its implementation should help to put patients, loved ones and staff at ease. It can help illuminate signage to aid wayfinding at a time when stress levels of the end user may be high. How we all navigate hospital premises can be exponentially improved through a supportive lighting design.



Recommended solutions

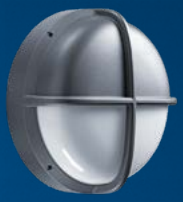
URBA DECO

ISARO PRO

CARAT

THOR BOLLARD

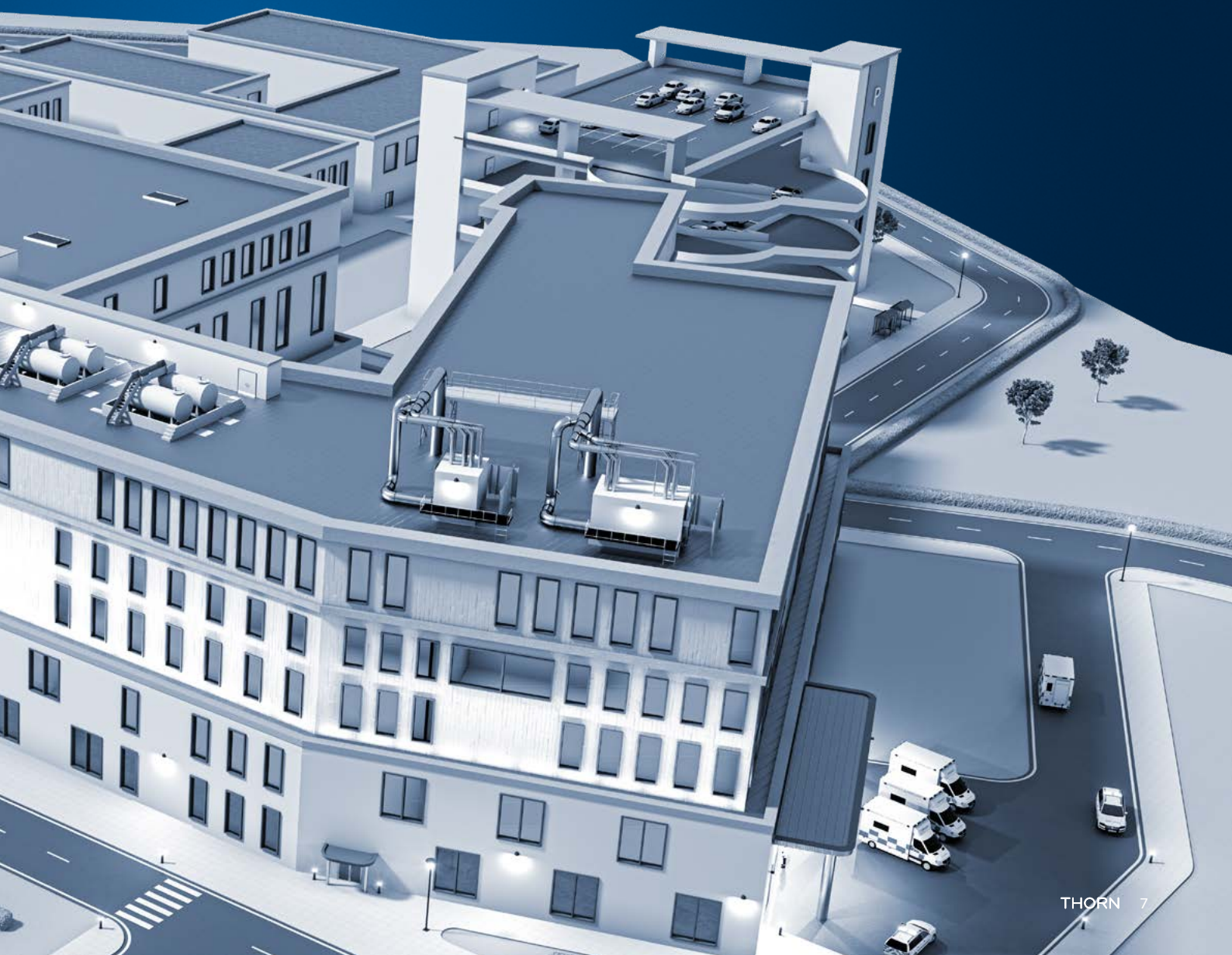
PIAZZA



EYEKON

CONTRAST

PLAZA R



BUILDING SURROUNDS

THE FACE OF THE HOSPITAL

ILLUMINATION

Any space that needs to function effectively, 24 hours a day, seven days a week needs a reliable solution. EN12464-2 provides recommendations to ensure best practice for outdoor illumination. It's important to effectively illuminate all key travel routes for visitors and patients who are entering an unfamiliar environment. Well designed lighting can help make this initial impression less stressful. Technology such as NightTune enables enhanced visitor navigation whilst delivering the right light for the local ecology. The technology also minimises light pollution and excessive light spill whilst lowering the energy consumption of your lighting infrastructure.

Products used in the scene:

VOLUPTO

THOR

PIAZZA

Other recommended products:

BLADE

CONTRAST

CAR PARKS

LIGHTING FROM THE OUTSIDE-IN

COMFORTABLE WELCOME

As well as guiding visitors to the specific areas they're trying to efficiently locate, the hospital is a workplace to the heroes that work there. A nightshift may start or end in darkness. By intelligently illuminating areas such as car parks and the wider building surround you'll be supporting staff, patients and visitors' safety and the CCTV infrastructure through improved facial recognition.

Technology such as Variable Light Distribution (VLD) can also enable your light points to deliver two benefits at once. Through optical innovation the walkways can be lit with a warmer light tone and a lower light output whilst offering a different lit effect for road traffic.

Products used in the scene:

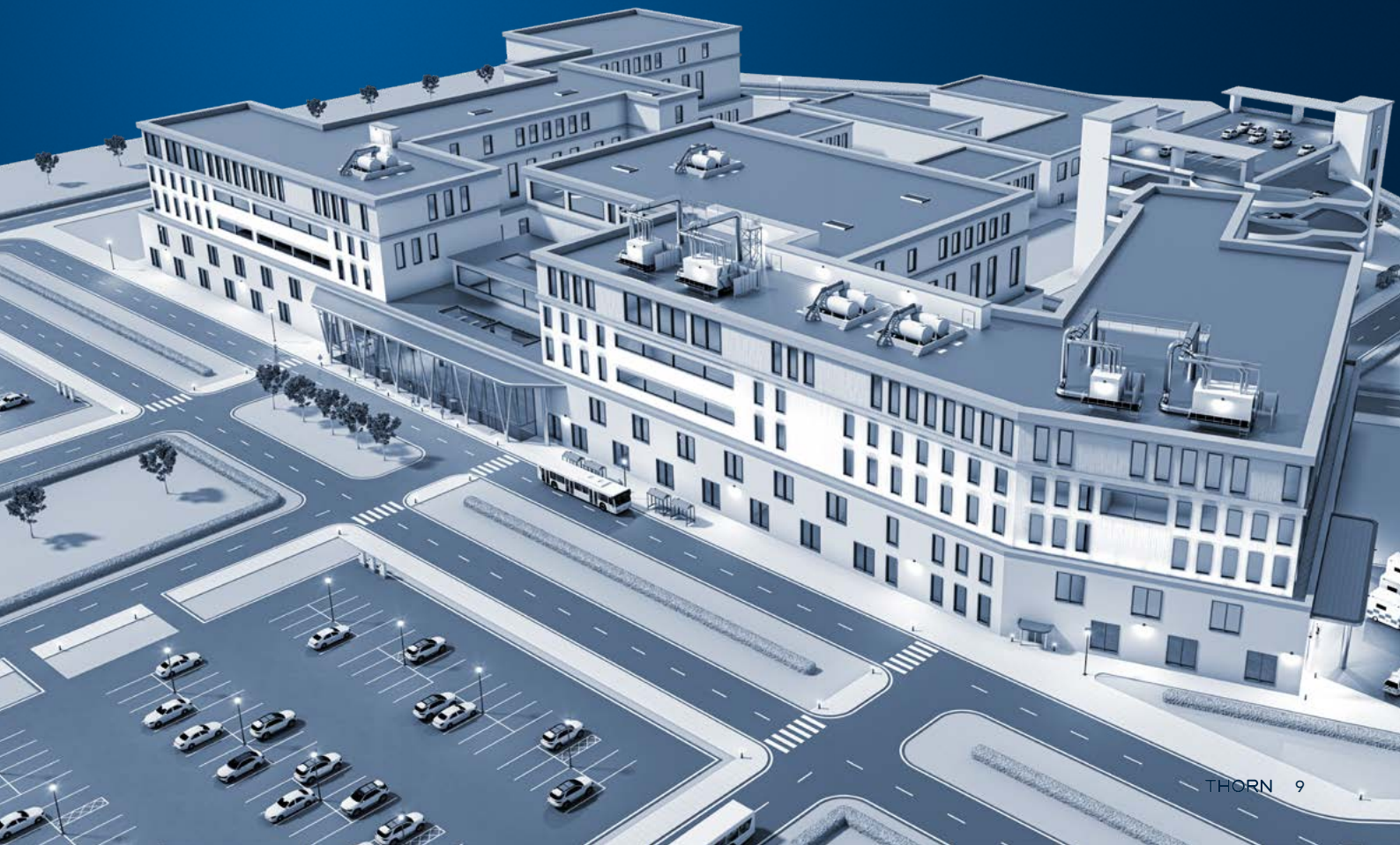
AERIE

AQUAFORCE PRO

Other recommended products:

FLOW

VOLUPTO



A&E ENTRANCE

LIGHTING FOR EMERGENCIES

LIGHTING PERFORMANCE

Good light levels for A&E entrances are essential and EN 12464-2 helps us understand the specificities around best practice for illuminating external environments.

ESSENTIAL GUIDANCE

Providing good lighting in these critical spaces aids support for paramedics at a crucial point in patient care. Good communication is key in these spaces and good light levels can support communication during the transfer of patient care.

Products used in the scene:

THOR BOLLARD

AERIE

LEDFIT

Other recommended products:

D-CO BOLLARD

MAIN RECEPTION

SUPPORT HUB OF THE HOSPITAL

WARM WELCOME

The main entrance doesn't just offer visitors a first impression, it's an opportunity to instill a reaffirmation point for staff. It helps to offer confidence in the service. It aids navigation for both able and disabled members of our society at a time when they may require stress alleviation. The lighting here should aim to remove excessive bright spots. In this space patients, visitors and staff may be present and their first impressions of the facility starts at the main entrance, and their experience of the lighting here will need to be considered.

KEY CONSIDERATIONS

01 Minimise bright spots

02 Consider daylight linked controls where natural light levels are high

03 Clearly highlight the main help points

Products used in the scene:

GLACIER II

NOVALINE STYLE

CHALICE

EQUALINE

Other recommended products:

IQ WAVE SP

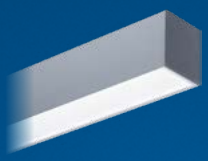
CORRIDORS & STAIRWELLS

THE MAIN ARTERIAL ROUTES

LIGHTING THE WAY

Corridors and stairways are high traffic spaces with an extremely broad range of people frequenting the space. In alliance with EN 124564-1, it's essential we light these spaces mindfully. A uniform lit effect in these areas ensures that recumbent patients don't experience a variant of stroboscopic lighting effects whilst travelling the roadway. Another important element here is cylindrical illumination for security support and facial recognition. Cylindrical illumination helps remove harsh shadowing, which can hinder the recognition of people within this space. Additionally, EN 12464-1 lists two different illumination levels for patient corridors. Generally speaking, we should be targeting between 100-200 lux during the day and 50 lux at night.

Product used in the scene:



EQUALINE

Other recommended products:

COLLEGE

BETA 3

NOVALINE STYLE

MULTI-BED WARD

LIGHTING THE ROAD TO RECOVERY

KEY CONSIDERATIONS

01 **STRONG COLOUR RENDERING**
CRI80 is the minimum requirement, however CRI90 can be necessary for some applications

02 **NIGHTLIGHTING**
Night lights are for patient comfort/safety and discreet ward rounds at night to enable staff to check up on patients who may be asleep

03 **LOW GLARE**
To aid recumbant patient comfort by lowering discomfort glare

04 **CONTROL**
Enabling staff and patients to create the right lighting for the task at hand

05 **EASYCLEAN**
Durable solutions for long term use within wards

Products used in the scene:

CAVELL

OMEGA PRO 2

Other recommended products:

CHALICE

COLLEGE

SINGLE BED WARDS

LIGHTING THE ROAD TO RECOVERY

COMFORT

Lighting in wards should take into account peoples potential unfamiliarity of a new environment as well as reducing visual discomfort. Discomfort glare should be modeled to ensure the value is UGR 19 or less. Lighting control can also help patients and staff manage their personal lighting levels.

NIGHTLIGHTING

Nightlighting has a variety of benefits - patients often require low level lighting (especially psych or childrens wards) as a comforting factor without disturbing others. Where patients are ambulant, light should aid safe passage to/from their bed to a bathroom e.g. with no or minimal disruption to other patients. Staff also benefit from nightlighting as it enables them to discreetly carry out their ward rounds and check up on patients at night as the patient will likely be asleep.

Product used in the scene:

CAVELL

OMEGA PRO 2

Other recommended products:

COLLEGE

CHALICE

EQUALINE

TREATMENT & CONSULTATION AREAS

LIGHTING FOR DIAGNOSIS & CARE

LIGHTING PERFORMANCE

In treatment and consultation areas, both verbal and non-verbal communication takes place between clinicians and patients.

A good quality lighting design supports non-verbal communication through appropriate levels of task illuminance, cylindrical illuminance and discomfort glare control. EN 12464-1 recommends a Colour Rendering Index (CRI) of 90 or above and a lighting control system with luminaire zoning and scene setting can benefit staff and patients by maintaining appropriate light levels at appropriate times.

KEY CONSIDERATIONS

01 A Colour Rendering Index (CRI) of 90 or above is needed for treatment and consultation areas to assist with accurate diagnoses and patient treatment

02 Luminaires in clinical areas should be easy-to-clean and corrosion resistant (which can be caused by some chemical-based cleaning materials)

03 Lighting control systems with scene setting allows clinicians to adapt lighting in response to the needs of patients throughout the day and night

Recommended products:

OMEGA PRO 2

IQ WAVE SP

DUOPROOF 2

COLLEGE

WAITING AREAS

SUPPORTING PATIENT EXPERIENCE

COMFORTABLE ILLUMINATION

The psychology of waiting is always a tricky one to manage – especially when discomfort levels are high. It's important to ensure cylindrical illumination levels are high and enable clear facial recognition so that the staff members supporting patients and family are clearly visible and the points of communication are enhanced as much as possible. Low glare solutions are key here too so that comfort is further enhanced.

KEY CONSIDERATIONS

01 Think facial recognition - lower facial shadows improves communication

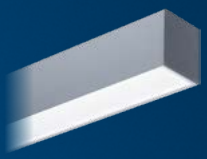
02 Reducing discomfort glare to acceptable limits benefits both patients and staff

03 Simple controls can ensure that energy use is aligned to the utilisation of these spaces

Products used in the scene:

CHALICE

NOVALINE STYLE



EQUALINE

Other recommended products:

OMEGA PRO 2

PLANT SPACES & BACK OF HOUSE

SUPPORTING CORE SPACES

LIGHTING PERFORMANCE

Very often it's the spaces that aren't frequented by patients that enables the resilience of the hospital to be maintained. In these spaces, it's essential for the lighting infrastructure to meet and exceed durability requirements. It's important that light levels here enable tasks to be undertaken safely. Some of these spaces are also infrequently frequented, which means a simple lighting control solution can help maximise energy savings.

Product used in the scene:

AQUAFORCE PRO

Other recommended products:

FORCELED

ESCORT

KATONA

OUTDOOR

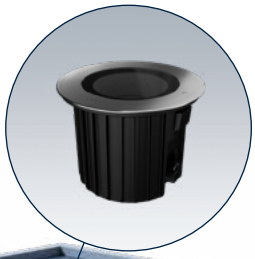
A SUMMARY OF LIGHTING SOLUTIONS

ISARO PRO
Brings comfort and safety to any road

PIAZZA
Lighting with minimal light pollution

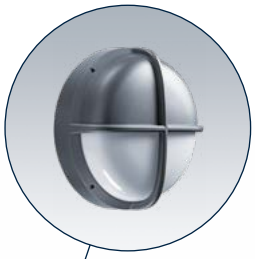
CONTRAST
Emphasises key focal points

PLAZA R
Perfect for illuminating architectural features



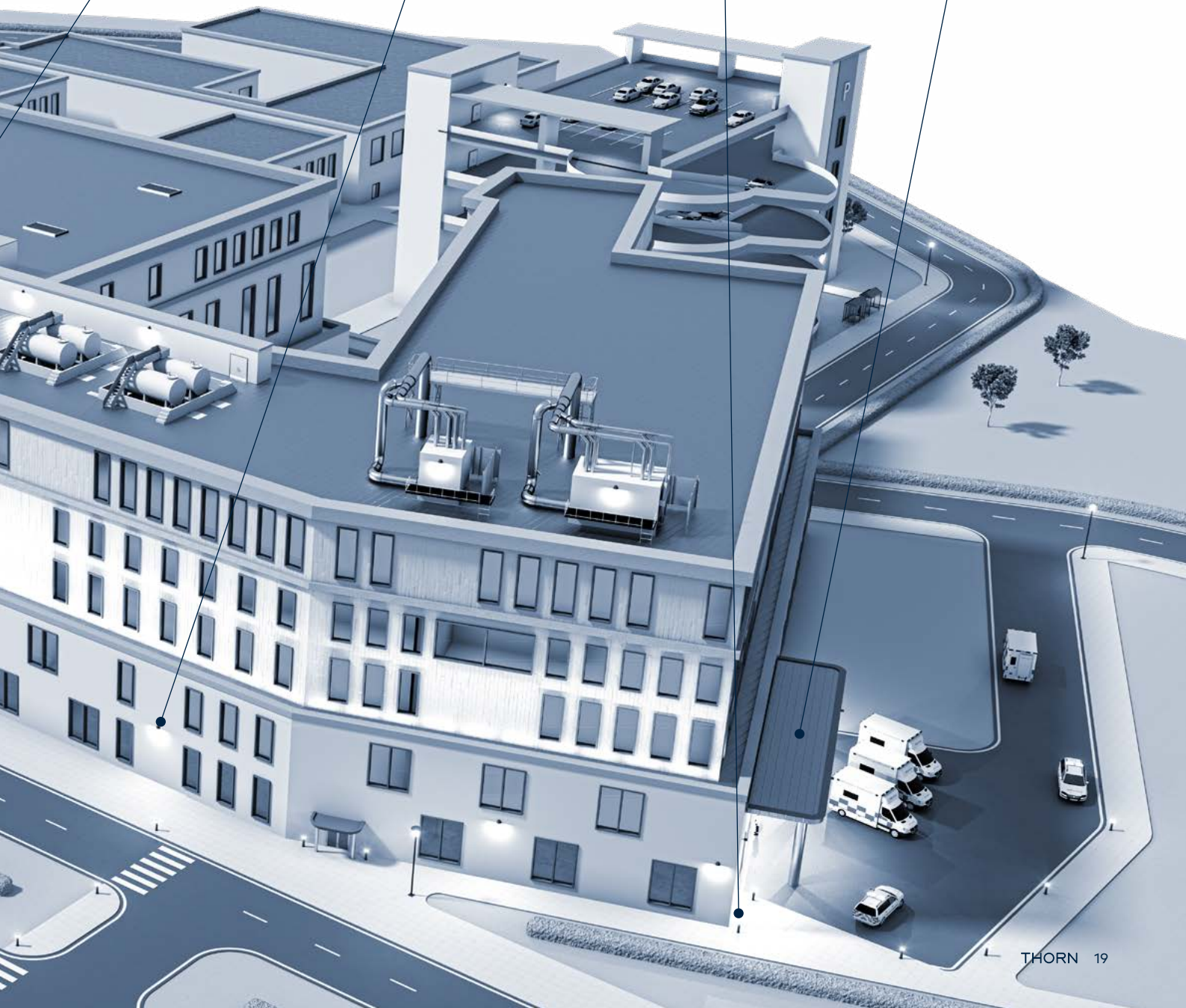
CARAT
Enhancing facial recognition

EYEKON
Robust & energy efficient bulkhead



THOR BOLLARD
Comfortable visual guidance

LEDFIT
Ultra lightweight, reliable and efficient



INDOOR

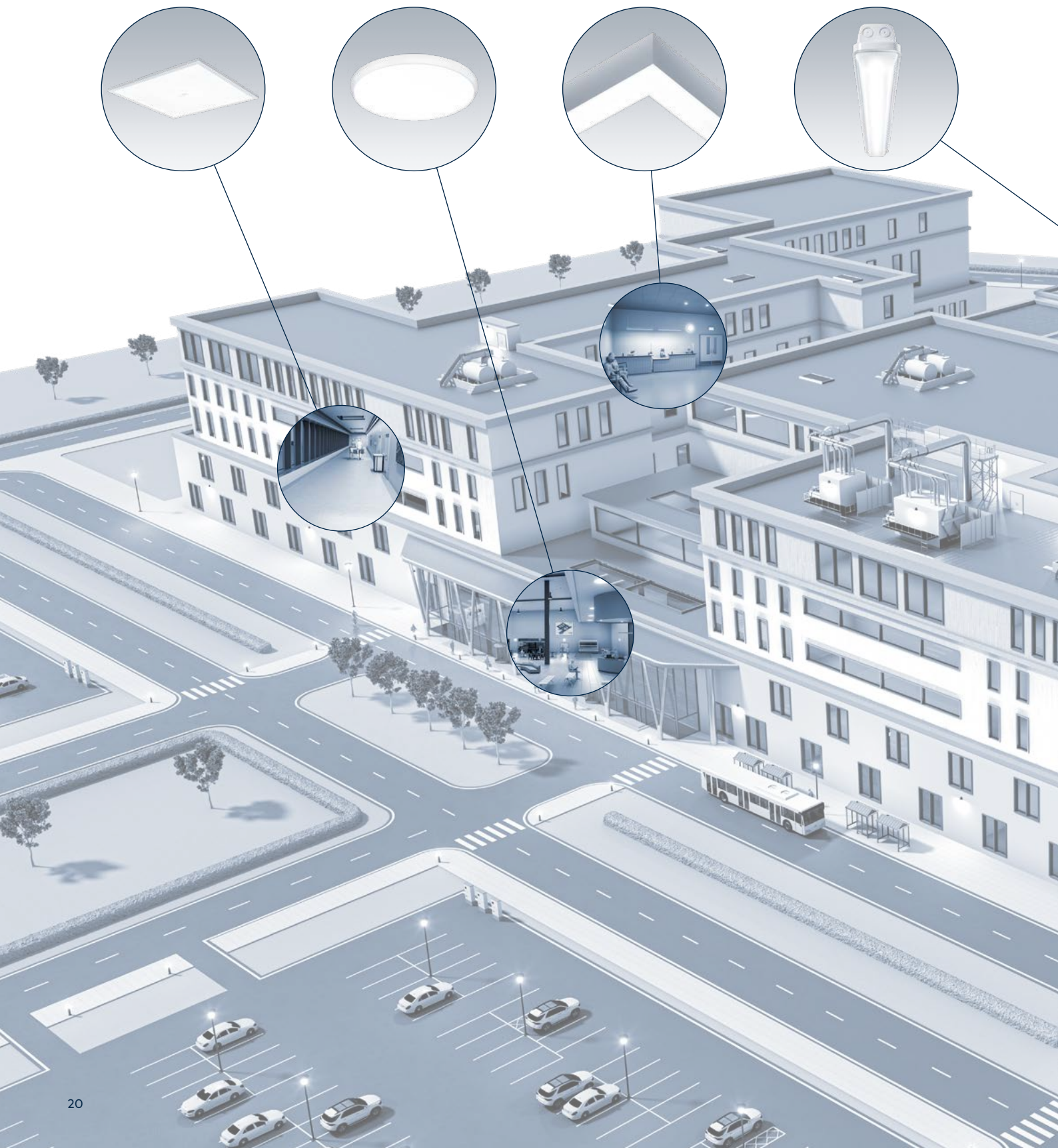
A SUMMARY OF LIGHTING SOLUTIONS

OMEGA PRO 2
Immersive variable light control

NOVALINE STYLE
Contemporary versatility and functionality combined

EQUALINE
The right solution to fit any space

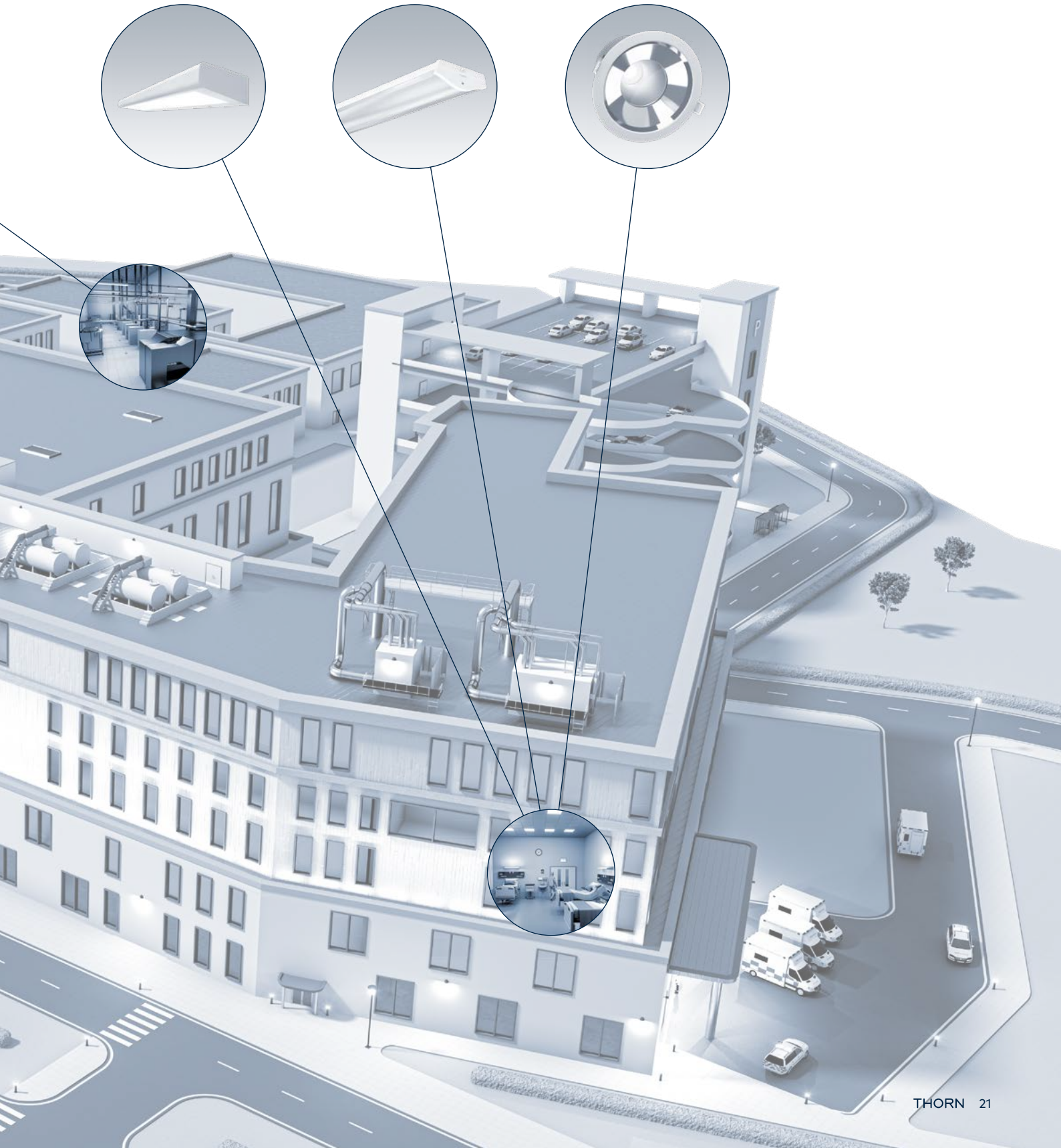
AQUAFORCE PRO
Durability and versatility at its core



CAVELL
Control for both direct and indirect light

COLLEGE
Enhanced light comfort

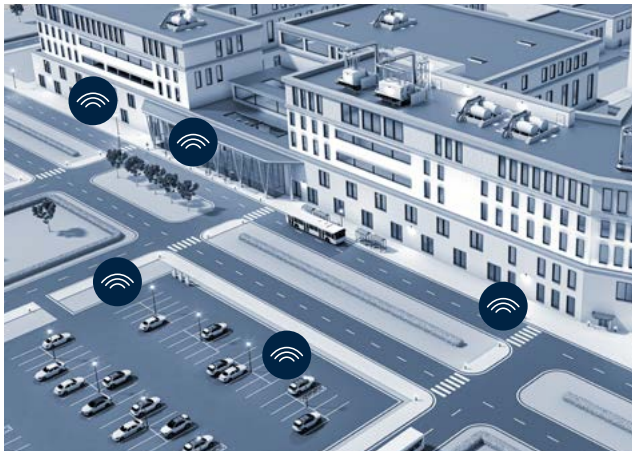
CHALICE
Low glare with exceptional light quality



LIGHTING CONTROL SOLUTIONS

RIGHT LIGHT, RIGHT TIME

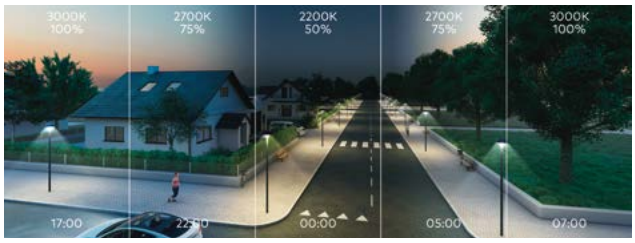
CONTROLS - OUTDOOR



INTELLIGENCE, SIMPLIFIED?

Enhanced energy savings are just one of many benefits to installing affordable lighting controls. However at Thorn we continually aim to deliver the best of both worlds. PIR systems like MovU mean that you can balance your energy saving targets with security illumination. By maintaining a lower level light output through the night, you exponentially lower energy consumption whilst still aiding CCTV through required light levels.

NightTune technology can make automatic adjustments to the level of light emitted by a light fitting, as well as its colour temperature, to suit the exact time of night and level of traffic. Perfectly balancing your need for light with the needs of the local ecology.



CONTROLS - INDOOR

WIRED LIGHTING CONTROLS

If you have a wired control solution in place already, then a simple upgrade can enable a world of features to enhance the experience of patients, visitors and hospital staff. Individualised control empowers individuals to select the right light levels for their needs. Additionally, daylight linking and occupancy detection, where appropriate, maximises energy savings for your general lighting, whilst connecting your lighting infrastructure to simple, localised switches further enables flexible and simple scene switching.

WHY GO WIRELESS?

Simply put, controlling your fixtures should not only be realistically accessible to those with an existing wireless infrastructure in place. Here at Thorn, our controls experts and BasicDIM solution can enable luminaire zoning, Variable Colour Temperature, daylight dimming and intelligent occupancy detection without the need for additional cable runs.

EMERGENCY LIGHTING

A SAFE WAY OUT

Our Voyager range of emergency luminaires are designed, manufactured and tested to meet the latest European standards regarding safety and electromagnetic compatibility.

The purpose of emergency lighting is to allow people to make their way safely out of buildings in the event of an emergency, for example during a black out. Emergency safety lighting and illuminated exit signage ensures able bodied people can safely evacuate a building to a place of safety. In these situations, lighting can save lives and keep people calm. It goes without saying that emergency lighting must comply with all relevant rules and regulations. But the best emergency lighting goes further, incorporating flexible luminaires with ease of installation and maintenance, long life and energy efficiency. Thorn's 90+ years of experience and reputation for quality are your guarantee of an optimal emergency lighting solution.

All emergency lighting should be specified and designed in accordance with local and/or national regulations

EN 60598-1	
EN 60598-2-2	LED emergency luminaires
ISO7010	Graphical symbols. Safety colours and safety signs. Registered safety signs.

VOYAGER FIT

VOYAGER STAR

VOYAGER SIGMA


WE
MAKE
LIGHT
WORK

THE BENEFITS

OF WORKING WITH THORN

01

OVER 90 YEARS' EXPERIENCE

Yes, we really have passed the 90-year mark! Thorn has had nearly a century to develop its unique knowledge and expertise. And the best part is that we can build on this knowhow to make sure that we are always ahead of the game with the latest technology, the most reliable services and a price that works for everyone.

ELECTROMAGNETIC COMPATIBILITY (EMC) TESTING LABORATORY

02

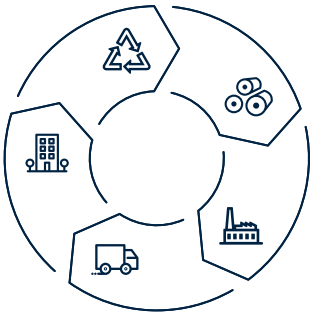
CONSTANT RESEARCH AND INNOVATION

Thorn has been at the forefront of lighting technology for decades, and continues to push the boundaries. Our investment in R&D and innovation aims to bring customers the very best performance, thanks to the latest advanced engineering in light and electronics, with in-house development.

03

EXTENSIVE TESTING AND CERTIFICATION

Thorn's products undergo demanding tests for compliance, safety and performance. With Thorn, you can be sure that your lighting product does what it says it will do, meets all relevant standards and regulations, and comes with a guarantee of quality and safety.



04

ENVIRONMENTAL PRODUCT DECLARATION (EPD)

At Thorn we provide EPDs as a standard service. The EPD for each specific product details its impact on the environment throughout its lifecycle. The EPDs are based on EN ISO 14025 and EN 15804. The information given by an EPD is relevant not only for environmental certifications such as LEED, BREEAM or ÖGNI. EPDs form the data basis for an environmental building assessment.

05

BEST-IN-CLASS OPTICS

Thorn's product range benefits from our class-leading optical systems. They offer several precision light distributions to fulfil various requirements, with excellent uniformity and glare control.

06

QUALITY FROM THORN'S SPENNYMOOR FACTORY

Thorn's products go through intensive quality manufacturing, assuring the best processes to develop better products all the way. In addition, we are one of the first companies in the UK to be certified to ISO 14001 – the standard for environmental management. In addition, we have successfully been recommended for certification to ISO 50001:2018 for energy management. Our factory at Spennymoor in the UK has achieved a reduction of approximately 25% in significant energy uses and 14% in electricity use compared to the previous year.

07

FIVE YEAR GUARANTEE

All Thorn products carry a five year guarantee.

5 YEAR GUARANTEE

08

ZUMTOBEL GROUP MEMBER

The Zumtobel Group is an international lighting group and a leading supplier of innovative lighting solutions, lighting components and associated services. With its core brands, Zumtobel, Thorn and Tridonic, the Group offers its customers around the world a comprehensive portfolio of products and services.

GET IN TOUCH

www.thornlighting.com/contacts

WE MAKE LIGHT WORK

06/2023