

Travelling Light

At Thorn we realise the difficulty faced by many of our customers when trying to find the time to visit fairs and exhibitions. We decided to help by bringing the exhibition to you!

Immediately following Thorn's successful appearance at the Light + Building Fair 2006 in Frankfurt, work commenced on replicating the product displays in a custom-built mobile showroom. The 16m long trailer, complete with expanding awning, presents product ranges from Thorn's indoor and outdoor lighting portfolio.

In 2006 the tour kicked off in Innsbruck, Austria before moving on to the UK and Ireland followed by a total of 28 towns and cities in France. Some locations have attracted well over 100 customers who were able to take advantage of product demonstrations, information and advice from Thorn sales people.

After visiting the Czech Republic, Italy, Baltic States and Russia, the roadshow is spending May and June in Denmark, Norway and Sweden before returning to the UK for a further seven dates.

The aim is to reach more than 5,000 European lighting customers!



In this edition:

- 2 - 3 Lighting for Offices
- 4 - 5 Lighting for Education
- 6 Lighting for Healthcare
- 7 LumExpress - Our Contractor Range
- 8 - 9 Lighting for Industry
- 10 - 11 Lighting for Roads
- 12 - 13 Lighting for Urban areas
- 14 - 15 Lighting for Sports
- 16 Thorn Website

THORN
www.thornlighting.com



Space and Light

All too often a place of work is something employees endure rather than enjoy. Yet a carefully planned lighting scheme can transform an uninspiring environment into a pleasant working atmosphere.

There is no doubt that good lighting has a positive effect upon workers' morale and productivity. It demonstrates an interest in the well-being of employees and can improve their status and attitudes. As providers of lighting for people and places Thorn invites you to study the examples chosen and ask yourself whether lighting that delivers performance, efficiency and comfort (PEC) couldn't make the world of difference to your business.

Westpac bank on Thorn

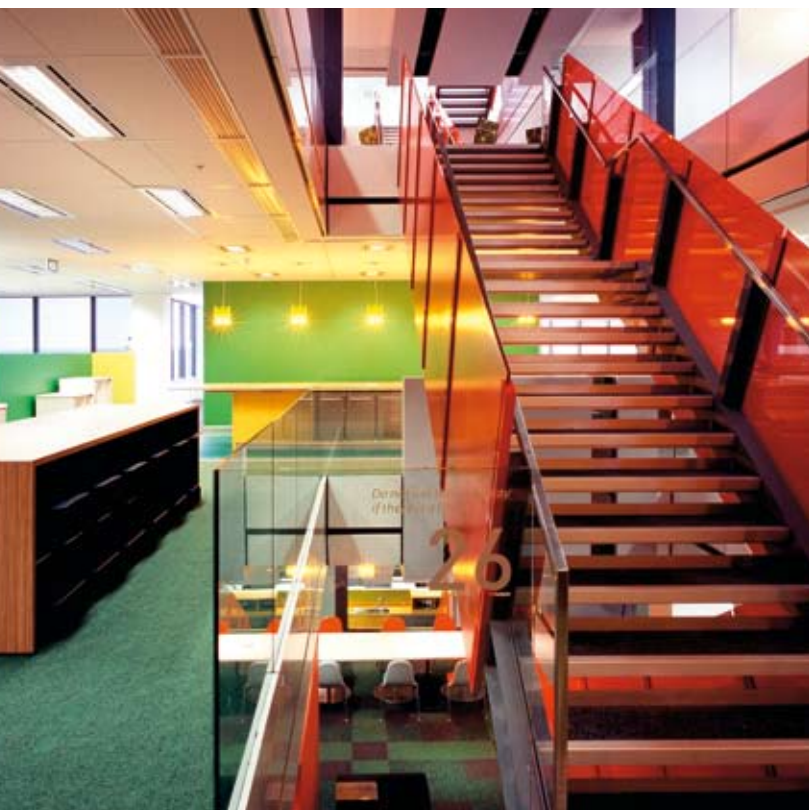
The recently opened Westpac Place in Sydney is one of the most modern corporate headquarters in Australia – not least in its main lighting. More than 8,500 fluorescent luminaires illuminate the 53 floors of themed office areas, providing a refreshing environment for the Westpac Banking Corporation's 5,000 employees. The building has been designed to create a more interactive working environment. The use of strong markers, such as light and colour, denotes work and circulation areas, promoting social interaction and informal meetings.

High quality control of the light distribution was required to ensure good viewing conditions.

The modular luminaires provide a high light output with low glare at wide 2.7m spacings. Using T16 lamps to achieve excellent colour rendering with an LOR of 77 per cent, the scheme achieves excellent visual performance and enhances the colour patterns. DALI controls ensure efficiency is high.

The architect was Johnson, Pilton, Walker, and for tenancy fit out, the interior designers were Geyer Design and Hassall. Electrical consultants and lighting designers were Webb Australia and installation was undertaken by Stowe Australia.

Photos: Tyrone Branigan





On show in China

Pictured above is the newly opened Guangzhou Baiyun International Convention Centre in southern China where a package of customised modulars, indoor commercial and amenity luminaires has earned Thorn a 'Quality Supplier' rating. The building is being compared to the Great Hall of the People in Beijing and recently played host to the Guangdong NPC (National People's Congress) and CPPCC (Chinese People's Political Consultative Conference) conventions.



Sienna lights up

The demand for a slim, stylish fluorescent pendant with close-ceiling mounting abilities for offices and educational establishments is fully met by Sienna.

For all its compact size, the Sienna packs a punch. Two custom miniaturised reflectors deliver a LOR of 80 per cent. Moreover, the balanced indirect/direct lighting meets EN12464-1, eliminates sharp shadows from the working surface, enhances the volume of the space, models human features and reduces the dependence on viewing direction. The result is a more uplifting and stimulating atmosphere, which increases visual comfort. And it has efficiency as well – twin T16 lamps and digital dimmable or intelligent lighting control options.

In an emergency the call is for Explorer

Explorer Vision is a control, test, and monitoring system, which automates the often onerous and expensive task of manually checking the integrity of numerous self-contained emergency lighting luminaires. It is designed specifically to enable large building operators to check and test their emergency lighting installations, in accordance with the requirements of EN 62034.

Using the system's monitoring software, control configuration is programmed through the customer's existing computer network, via an interface unit (XP128 controller) into local 'intelligent' inverters, which are either contained within each emergency lighting luminaire or mounted remotely. The system is capable of linking XP128 controllers and thus handling up to 5,000 addressable luminaires over a 1,000m distance.

A comprehensive solution

When it comes to schools and study areas, lighting's a key subject. Educational users require adequate levels of illumination on horizontal surfaces such as reading desks and study areas.

They also need good coverage on vertical surfaces, particularly when viewing PCs or whiteboards or browsing through titles in the library. Illuminating both planes from the same source while reducing glare is an interesting challenge, but not an insurmountable one, as the case studies here readily demonstrate.

Transforming the learning environment

Egå Secondary School, Denmark, has been designed to bring about a change in learning culture by placing greater emphasis on individual study and project work. An outstanding feature of the building is its large circular atrium - Denmark's largest skylight - known as the Forum or common room. A basic idea behind the building design is that each room should have several functions, each supported by appropriate lighting.

This demanding set of requirements was addressed using a variety of solutions. In the Forum, for example, general lighting is provided by

large suspended pendants, augmented by dimmable recessed wall lights (Mica S) and linear T16 luminaires to create social and teaching zones within it. Throughout the school, luminaires are adapted to the design of each space, while the lighting pattern accentuates the architecture, often combining circular and square shapes.

The scheme was designed by architects Cubo in association with the client's consultant, Årstiderne Arkitekter, installer Lindpro and Thorn.





Lessons for the future

Good lighting control, attractive appearance and economical operation were what the City of Sunderland College wanted for their new £10 million Usworth Sixth Form College project in Washington, northeast England. Built around a central atrium or 'street', the three-story college can cater for 1,000 students. Natural light is used in all the main

spaces - the building houses a learning resource centre, a computer learning unit and science laboratories - while the artificial lighting, the suspended Jupiter range, gives glare-free lighting with controlled luminance to upper walls and ceiling. Employing T16 lamps energy consumption is kept to a minimum.

Expertise wins

Nowhere is the need for even, high quality light more apparent than in healthcare. The lighting must satisfy the requirements of both the patient and the nursing staff throughout the day and night.

In addition to providing the right lighting levels the balance of brightness and colour of the surroundings should help to minimise glare and provide a visually pleasing environment. To reap the full benefits from a lighting installation you must select the right equipment and design taking performance, efficiency and comfort (PEC) into consideration.

Simply Invincible

Invincible II, that's the name of Thorn's new range of sealed luminaires for healthcare and industrial cleanrooms. And Invincible they really are...in more ways than one.

Perhaps the most appealing feature of the Invincible II is its low frame profile and lack of external fasteners, which makes it delightfully easy to clean. The smooth, extruded aluminium frame with toughened safety glass shields either a prismatic diffuser or louvre for accurate lighting control. It has an

IP65 protection classification (IP54 from above) and a 'self regulating breather' which prevents any air and moisture ingress in and around the seals.

Available in standard modular sizes the range employs T16 or TC-L lamps and is available with integrated emergency or digital dimmable gear. Maintenance is quick and easy thanks to the front frame's internal locking mechanism that is simply opened by a suction cup.



Danish hospital breaks from convention

Designed by the architects PLOT, the new psychiatric hospital in Elsinore (Helsingør) breaks with tradition, both in its architecture and lighting.

The hospital's characteristic star shape with long corridors, lit by windows, and open communal rooms, meets the need for supervision and overview without the patients being made to feel watched and shut in. There are green views from all 48 single rooms.

The lighting supports the appearance and needs of the various rooms, creating a bright, secure environment for the patients - anything but a sterile, institutional atmosphere. At the same

time, functionality, comfort and security are still top of the agenda.

"In order to underline the movement in the architecture, we chose oblong fittings for the whole upper floor, which is characterised by numerous corridors in various directions. The fittings provide direction themselves and follow the building's movements," explains architect David Zahle.

On the lower floor, the classic glass fittings are there to focus on the directionless openness of the large rooms. Built-in wall lights with LEDs at skirting board level function as night lights.



LumExpress

For when the going gets tough

Fighting the elements is something that AquaForce has been doing well for a long time. With its water and dust resistance it goes to battle in the harshest of environments.

The new all polycarbonate model, Aquaforce II, has a number of improved features. A seamless gasket set into a deeper channel in the canopy forms a highly effective, IP65, seal against dust and moisture.

It is supplied with quick-fix brackets and is available with tamper resistant toggles and 'Connect' versions for rapid electrical connection.

Coupled with competitive pricing, it's a 'value for money' solution for when the going gets really tough.



Alu-Bay comes all in one box

Contractors and distributors alike will welcome the Thorn Alu-Bay - a high bay discharge luminaire packed complete with housing and reflector to facilitate ordering, stocking and customer convenience. Now, instead of two or more items, they can order one box containing everything. This means no more mistakes selling the wrong combinations, no more dissatisfied customers and fewer boxes to stock.

The robust aluminium housing comes in 250W and 400W wattages (HSE, HME or HIE). Complimented with either an aluminium reflector or polycarbonate prismatic refractor (giving direct/indirect light). The Alu-Bay is also available with IP65 protection.

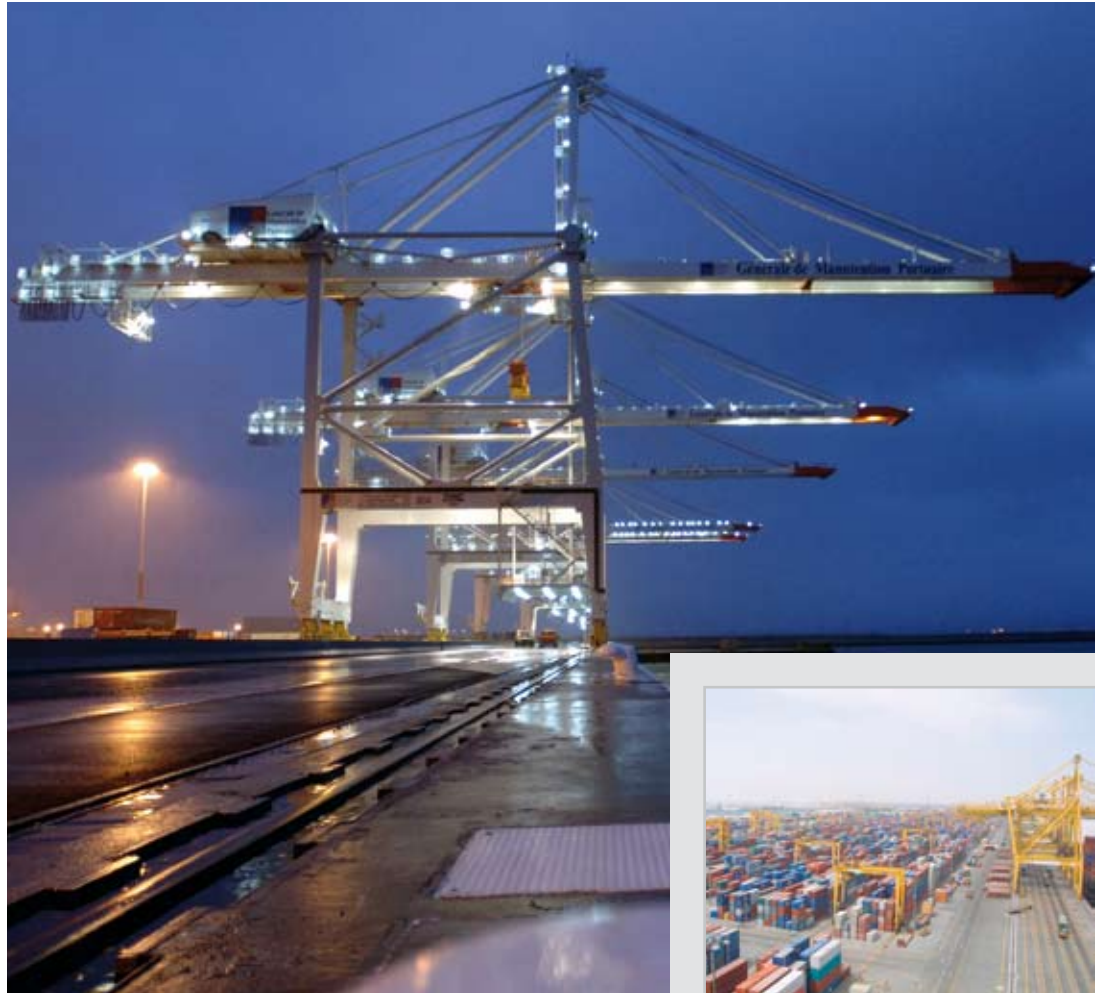


On the move

It is essential that freight and transport services are kept moving. There must be sufficient light to ensure worker safety and security in movement handling areas. Thus good lighting of container ports, workshops and yards, dry docks and aircraft stands is vital.

In outdoor work areas efficiency can be maintained and obtrusive light minimised through the night with good floodlighting. Freight can be loaded or unloaded; car and lorry parks and car sales areas are much more secure against theft and vandalism.

Over the years Thorn has designed and developed luminaires to provide light so that almost any activity may be continued after daylight fades. It's true to say that now this facility is taken for granted, but in this energy and light spill conscious age the right luminaire must be used for the job. Four case histories on this page show how to reap the benefits of choosing the right equipment.



Speeding the containers

Few container ports are as big as Port 2000 at Le Havre, France. In Europe's largest construction project for 30 years, this facility aims to double its container trade between Asia and North America.

As part of the project, a new lighting scheme was developed that provided high levels of safety and security while minimising stray light. Nearly 200 Champion floodlights have created a near-daytime environment that gives clear, even illumination over the 4.2km long quayside and 500m wide container yard.

Dock workers and operators report no disturbing glare, light trespass or direct upward light, and the high pressure sodium lamps reduce energy costs by as much as 50 per cent when compared with metal halide equivalents. The site, at the mouth of the Seine, is of particular environmental significance and obtrusive light has been kept to a minimum thanks to the use of low-glare asymmetrical optics.

Installation was by Ineo.
Photo: Eric Hourii.

Champion show in Dubai

DP World, one of the largest marine terminal operators in the world, first proved the benefits of new floodlighting technology when deciding to replace 900 floodlights with Champions at its container terminal operations at the Jebel Ali Port in Dubai. A mix of high pressure and metal halide floodlights on 25m, 36m and 50m high masts improved lighting performance and limited spill light.

DP World and its consultant were so satisfied with the installation that they ordered another 300 Champions for its new terminal, being reclaimed from the sea by South Korea's Hyundai Engineering and Construction Ltd.

Located about 35km southwest of Dubai, Jebel Ali is the largest port in the Middle East and has been voted 'Best Seaport in the Middle East' for 12 consecutive years.



Troika has it covered

Whatever the size of your plant, floodlighting can play an important part in improving efficiency, increasing productivity and raising the standards of amenity and safety. The Siat-Braun sawmill at Urmatt in western France specialises in producing sawn timber. A safe, reliable and efficient operation has been achieved using 72 asymmetric Troika floodlights on 16m masts. The 'flat glass' floodlights, designed for 250 - 600W discharge lamps, are ideal for lighting wide areas. Their

innovative reflector combines with a variable position lampholder to provide three different light distributions for each lamp option. These vary not only in their degree of asymmetry, but also in their intensity and beam width. By mixing and matching them, the lighting objectives can be achieved while still retaining the 'flat glass' in a horizontal position, thus minimising light spill in the picturesque village.

Installation: Sovec.
Photo: Alain-Marc Oberlé



Flying start for Concavia

Concavia high bay luminaires are living up to their aesthetic image by finding their way into the smart world of interiors. The latest installation, within the AirSpace exhibition at Imperial War Museum Duxford in east England is of particular interest.

Some 276 fittings are used in the main hangar using 400W metal halide elliptical lamps to give as near a level of natural daylight as possible for the unique aviation collection. Built at a cost of £25 million, the Museum accommodates almost 30 classic aircraft, a number of which are suspended.



The lighting scheme was designed by Connell Mott MacDonald. As well as high lighting levels with low glare and running costs, consistency in colour of the lighting was of prime importance - the aircraft colours had to be authentic. Prismatic reflectors balance up, side and down lighting to illuminate the task, walls and roof, thus creating visual interest in the wider space.

AirSpace was constructed by Laing O'Rourke Ltd with electrical installation by Aqua Group.

Photo: Richard Seymour

Lighting the way

There isn't a motorist to be found who wouldn't like to see a reduction in two alarming statistics - the number of accidents that happen at night and the ever increasing incidence of crime. Happily, there's one simple measure that can help them achieve both these objectives - good lighting

Safety

Historically, road lighting was introduced to combat the high crime rate, but justification for modern traffic route lighting is based on the reduction in the number of night-time accidents which is likely to occur. There is reliable and authoritative evidence of a reduction of personal injury accidents of the order of 30 per cent when a road formerly poorly lit is relit to good modern standards.

Security

There is little doubt that road lighting contributes to the prevention and detection of crime. It is accepted that it is one of the best deterrents to the potential criminal.

Design by day, light by night

Design by day, light by night - An important aspect of any road lighting scheme is the positive contribution it can make to the improvement of the daytime environment. Much can be done in lantern design (and the columns that support them) to ensure that the lighting directly helps to create a pleasant and attractive atmosphere, especially for urban areas of civic importance and amenity.

Here we illustrate some of the ways Thorn is helping motorists and local authorities to achieve their objectives.

What links the number seven and road lighting, a tree, and the colour gold?

An artist-designed exterior lightwork, which makes up the seventh and final stage of the Roe Highway development - a major freeway running through the southern suburbs of Perth, Western Australia.

The seven Entry Statement Poles each incorporate a lantern with an 'Optibloc' lamp compartment (250W HST), making not only a public artwork depicting the number 7 in shape, but providing a functional part of the lighting scheme. The landmark elements are painted a gold colour - inspired by the native WA Christmas Tree, *Nuytsia floribunda* - and signal the location of the on/off ramps.

Overall some 750 standard aluminium lanterns were used for the highway and shared paths. "The Thorn lantern was selected because of its excellent photometrics," says Ivan Semmler, lighting designer at Maunsells. "Also the ability to adjust the lamp holder to suit different situations such as varying road widths and still give maximum spacings is a great advantage."

The project was by the Roe7 Alliance, a collaboration between Main Roads Western Australia, designers Maunsell and constructors Clough.





Dyana gives streets a new look

Designed with a landscape architect's eye for line, contour and colour, Dyana is a unique urban lantern that combines style with advanced performance. The slim lantern, fashioned in aluminium and finished in cool, textured grey, is set to add positive design to the modern environment by day - and warm, friendly light by night. A selection of complementary brackets enables a wider design statement to be made.

Dyana's optical secret lies in its separate 'Optibloc' lamp compartment, sealed to IP66. Specially designed to accommodate HIT (including CosmoWhite) or HST lamps, from 60W to 250W, the unit gives improved visibility without glare. Integrated electronic gear and dimmable options provide further energy saving opportunities.

Orus bridges the gap

First major installation using the award winning low level road lantern - Orus - has been completed at the Grenoble bridge in Nice, southern France. A total of 61 luminaires, arranged in a twin opposite layout, light the 400m long structure, stirrup mounted to inconspicuously merge into the bridge.

Employing a compact metal halide lamp - in 70W rating - in a unique bi-directional optic they not only make driving

safer for the thousands of tourists visiting the French Riviera's leading resort but, thanks to the extremely low mounting height (0.9m), they achieve considerable savings in maintenance. With good uniformity, low glare and white light (5200K), Orus is ideal for tough and demanding applications of this sort.



Matching the mood...

These examples - from the small and local to the well-known and international - are fine illustrations of some of the ways in which urban lighting can benefit our towns, cities and communities at night.

It is increasingly recognised that lighting design for an area can be approached in a co-ordinated way. A lighting strategy can transform towns and cities and contribute to economic regeneration and social development.

Here we publish pictures of installations in Austria, France and Poland. By adopting lighting designs a comprehensive and controlled night time statement has been made to the benefit of all.

Lighting strategy gives town new look

Four different forms of urban lighting in the recently modernised main square of the Austrian town Siegendorf achieve a flexible design to match the functions - and their particular moods - taking place in the space.

Designers Ernst Karl PlanungsgesmbH, have achieved a co-ordinated lighting strategy that easily matches the variety of activities carried out - concerts, and markets, as well as traffic and pedestrian movement and the demands of the nearby City Hall and Registry Office.

The daytime visitor will almost certainly note the striking Aviso lanterns. The luminaires are tailored very much with the needs of

the residents in mind. The lanterns use rectangular light projectors and special reflectors to produce 100 per cent indirect lighting. Light is directed downwards, not into adjacent windows.

Supplementing the area lanterns are recessed E/fact fittings - some fitted with intensive reflectors for illuminating the façade of the City Hall and others employing LEDs for use on the pavements. To the latter are added elegant Avenue Deco bollards, while Mini Dauphins highlight the fountain - each fitted with red filters.

Electrical contractors for the lighting scheme were Gemeinde Siegendorf. Photos: Christian Novak.



Revelations at Reims

Notre-Dame Cathedral, Reims - arguably the finest example of Gothic church architecture - can now be revealed in a new light, thanks to spotlighting by Roger Narboni of Concepto Agency.

The west front of the coronation cathedral of France is an elegant design of great unity and volume - there are 2,203 statues alone. The lighting had to realise the division of the façade, without overlighting, yet still give special emphasis to focal points. This was achieved by a carefully thought out design strategy and illuminance

hierarchy. The light gradually intensifies in succeeding stages so that the eye moves easily and smoothly upwards. The result is a sensitive scheme which has unity, beauty and economy.

The project has used 150 circular symmetrical Contrast floodlights, of which 60 were small 35W 'pinpoint' units. These were augmented by fibre optics, chosen to light details and statues. Metal halide was the selected light source.

Photo: Alain Tricot



And now the Aviso lantern makes its debut indoors

The indirect Aviso lantern, originally designed for urban lighting, has made its debut indoors at The Oil Pipeline Operating Company's (PERN) new offices at Plock, central Poland. The lanterns are arranged on both sides of the entrance area to give comfortable glare free light, outstanding visual appeal and to make a strong link between the internal and external environments.

Outside, the façade is brilliantly lit by fluorescents, which change dramatically, both vertically and horizontally.

An advanced Sensa lighting control system, operating in DSI and DALI protocol, addresses all the luminaires. The building was designed by Poznan ARCHI-LINE under the direction of architect Wojciech Ryżyński.



Sports lighting can be one of your best supporters

The demand for sports facilities is increasing, born of a desire by more and more people for recreation and the free time to devote to it. Because of the necessity to protect players and facilities from the weather some sports must be played indoors but the majority may be played outdoors providing that there is a suitable surface to play on and sufficient light to see by.

Regardless of whether a sport is being played as a leisure activity or as a world championship event, the lighting principles remain the same. Professional floodlighting can really help by being there on the sidelines projecting the right amount of light onto the playing surface, from the most economical sources just where and when you need it.

Choosing the right floodlights

Because of the wide range of sporting activities it is necessary to analyse the visual requirements of each and choose the floodlights carefully in order to produce the best results. Meet Thorn's silent supporters:



Champion

Number one solution to floodlighting small sports stadia where the control of obtrusive light is critical



Mundial

Highly efficient floodlight for major sports stadia with excellent white light suitable for colour TV



Troika

A popular 'flat-glass' floodlight giving a good quality of light for smaller sports grounds. Troika uses discharge lamps and the range is from 250 to 600W

A bright future for Croke Park

Home to the Gaelic Athletic Association (GAA), Croke Park, Dublin, has been at the heart of Irish sporting life for over a hundred years, most notably hosting the annual finals of the All-Ireland Gaelic football and hurling championships. Following its recent redevelopment, it now has capacity for 82,300 people and is the fourth largest stadium in Europe. Around 460 Mundial floodlights employing 2kW metal halide lamps were installed by Crowe Engineering of Dublin. The new lighting was officially launched at a ceremony

preceding the Allianz Football League meeting between Dublin and Tyrone (pictured above). It will also be used during the Irish rugby and football games as the GAA has allowed games to proceed while Lansdowne Road is being rebuilt. The equipment was specified by architects Shane Santry & Associates and consulting engineers J.V. Tierney & Co.

Photo: INPHO/Lorraine O'Sullivan



Due Pini Stadium gets the green light

Above is the new floodlighting system installed at the multi-purpose Due Pini Stadium in Salò, northern Italy. Both functional and community-focused it satisfies the requirements of the athletic and football governing bodies, and prevents the escape of stray light in order to respect the quality of life of nearby local residents. The 52 Champion floodlights mounted on four 25m high masts provide an excellent solution.

The use of precision optics ensures that all running track markings and the entire area of play are precisely illuminated without emitting any stray light. The floodlights also score highly in terms of economic efficiency. Compared with conventional projectors the scheme uses eight fewer 2kW luminaires - a 13 per cent saving in power load. The design included three switching levels to meet the needs of different sporting events.

Mundial beams in on Parken

As digital TV technology with its ever increasing demands for close-up photography becomes commonplace in sports stadiums, many users find they are having problems with the original lighting system. The lighting specifications are becoming more onerous requiring increased illuminance levels, better uniformity and control of glare and spill light.

These were typical of the issues suffered by Parken, the home ground of F.C. Copenhagen and Denmark's national stadium. When it



issued the brief for a lighting system to replace its 15 year old scheme it was for the use of precision optics in high performance floodlights.

A total of 212 Mundial floodlights with 2kW metal halide lamps were installed. They provide the required higher standards of lighting. Furthermore, they are easily upgraded.

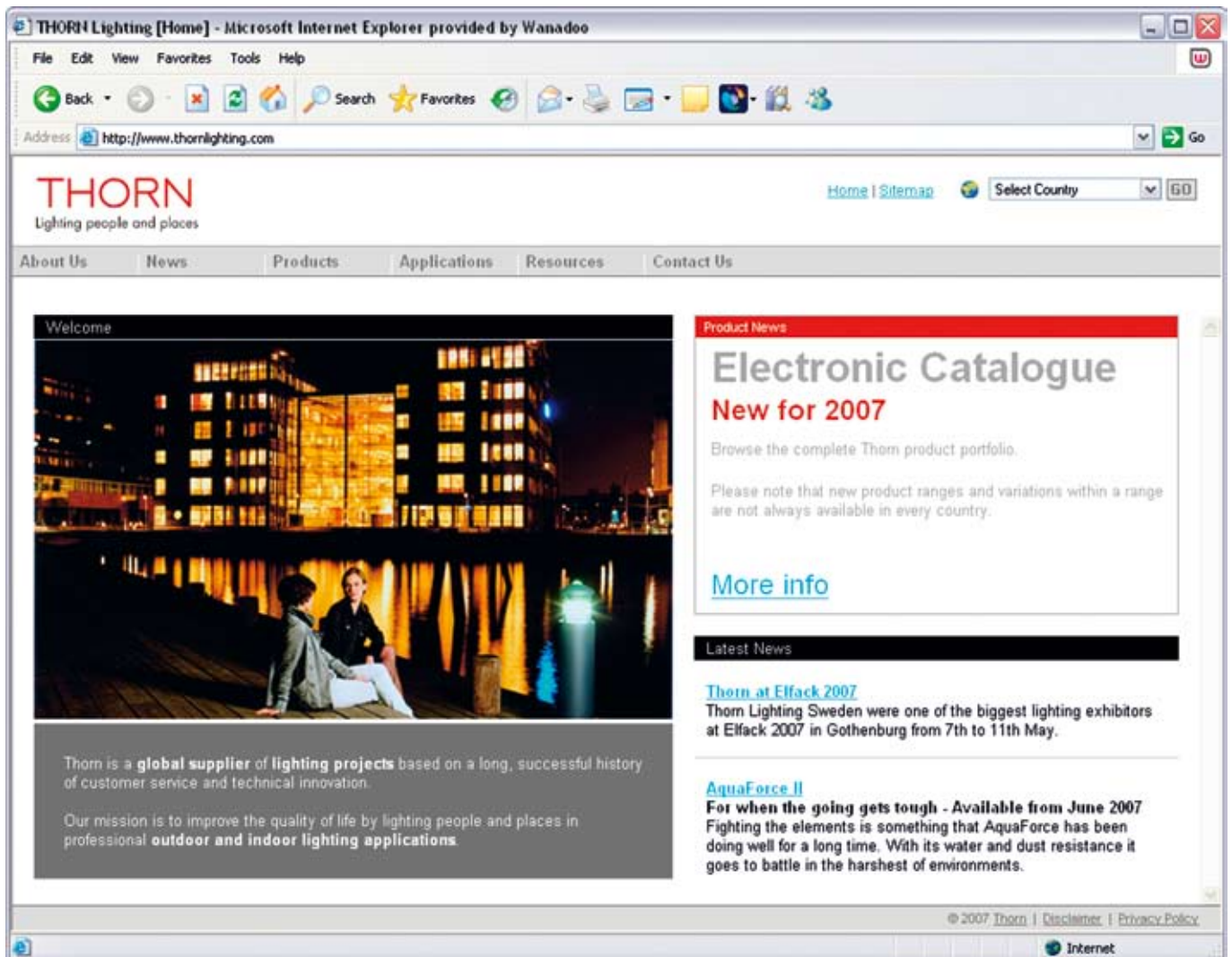
Client: Per Mortensen, Parken
Photo: Philippe Merie

A general view of Parken



Product information at the speed of light

The new Thorn website will bring you more news in an easier to use format - and online product information to ensure you have the most up-to-date information at your fingertips



Following up on the research that showed that lighting customers require two things from a website - speed of use and accuracy of product information - we have invested in the creation of an online product catalogue and redesigned our websites to take full advantage of it.

Customers will now have instant access to Thorn's extensive product database with the ability to download product information, photometric data and photos. The new site can be seen at www.thornlighting.com from the end of April and will be rolled out in the country sites throughout 2007.

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