



PHILIPS

dynalite 

Stadium lighting

Intelligent control solutions for **large venues**

Sophisticated user friendly lighting control systems for large scale and diverse stadiums and arenas.

Leading the world

in smart lighting control solutions



At Philips, we understand the importance of lighting for sporting activities and large public space venues, at all levels – from local community sports to the world’s biggest sporting events – as well as lighting up stages for intimate performances, grand concerts and conferences.

In order to provide engaging, comfortable and safe environments for spectators, players, performers, guests and delegates, it’s critical that these venues have specialized and sophisticated lighting control systems. For over 20 years, Dynalite controls have been at the forefront of many large venues worldwide, providing lighting configuration flexibility, enhancing the audience experience and giving total lighting control to venue and facility managers.

Our global portfolio of stadiums and arenas include:

- Millennium Dome, England
- AAMI Park, Australia
- Beijing Olympic Site – Shenyang Stadium, Tianjin Olympic Center, China
- Adelaide Entertainment Centre, Australia
- ACC Liverpool, England
- Sydney Olympic Park – Superdome, International Shooting Centre and Dunc Gray Velodrome, Australia
- Singapore Turf Club, Singapore
- Suncorp Stadium, Australia
- Vector Arena, New Zealand
- Skilled Park, Australia

Discover how Philips can design and install a state-of-the-art, energy-efficient and simple to manage lighting control system at your stadium, arena or auditorium.

To read more about these projects, see pages 13-23.

Key benefits of the Dynalite solution

- We deliver simple, smart and easy-to-use lighting control solutions that provide advanced functionality, versatility and operational efficiency.
- Our lighting control systems allow operators to quickly and effortlessly create ambiance, develop innovative and distinctive lighting scenes and transform environments with the touch of a button or a click of a mouse, to complement the events and performances as well as enhance the venue’s atmosphere.
- A dual redundant backbone to mitigate any system failure can be easily incorporated into the lighting control system.
- The Dynalite lighting control solution ensures that all functional, architectural and theatrical lighting integrates seamlessly into a single unified system.
- The advanced lighting control system helps to deliver excellent monitoring, control and operation at all times, significant energy and maintenance benefits.
- The Dynalite system provides a fully customizable user interface with the ability to evolve over time, to meet the changing demands of large-scale and diverse stadiums and arenas.

Philips Arena solutions

Creative lighting for the success
of your stadium

Through the Philips Arena experience, you can harness the amazing power of lighting to create an unforgettable impression outside and inside the stadium before, during and after an event.



As a leading, well established partner for major sporting events and stadiums worldwide, we can help you to provide the optimum lighting solution from start to finish.

To enhance many different aspects of your stadium, we provide everything from consultancy, design and implementation, to service, maintenance and unique insights into emerging new technologies.

We also work closely with other suppliers and partners.

Around the Arena

- The carpark is illuminated by energy-saving Philips LEDs.
- Light the route from the train station to the stadium in the same way.
- When people catch a glimpse of the stadium, they can see something truly iconic.

Inside the Arena

- Once inside, spectators are enticed by efficient and appealing retail outlets, where key merchandise is given extra attention.
- Hospitality suites can easily be illuminated in the sponsor's colors.
- Lighting can be used to change the ambience for conferences, informal get-togethers and parties.

The Pitch

- On the pitch, lighting plays a key role in creating exactly the right setting for sporting events, live music and many other forms of entertainment.
- Beyond lighting, Philips offers LED information display solutions. Multifunctional, multimedia LED displays create never-before-possible opportunities to entertain, inform and advertise.

Benefits in the Philips approach

Experience, Consultancy & Quality

The end result will be about standing quality, regardless of sport, event and unique challenges represented by your venue.

Flexibility

Creative lighting allows your stadium to become multi-functional and increases potential for revenue generation.

Attractiveness

By generating ambience inside and outside the stadium, you inspire people to arrive earlier, stay longer and tell others how much they enjoyed the experience.

Sustainability

Modern energy-efficient lighting helps you save significant amounts of money every year.

Total cost of ownership

With lower running costs, more business through the enhancement of your brand image, and the right kind of lighting has a considerable impact on your bottom line.

“The Philips Arena Experience adds value and boosts your business at every step of the way.”



Philip's energy saving LEDs can be used to light the route from the train station to the stadium.



Lighting can be used to change the ambience for conferences, informal get-togethers and parties.

The control system



A

Stadium lighting

Different field lighting can be selected depending on the event – from team training to big international events.

B

Decorative lighting

Giving a venue a unique look and feel that can match the excitement of the game.

C

Scoreboard

Integrating with any large screens and field level advertising signage / scoreboard messaging. The push of a button selects a lighting scene, from training to live game action.

D

Spectator lighting

Enhancing the live game experience by lighting up the spectator area. Controls allow lighting to be managed and tailored for the event type and size.

E

Public facilities

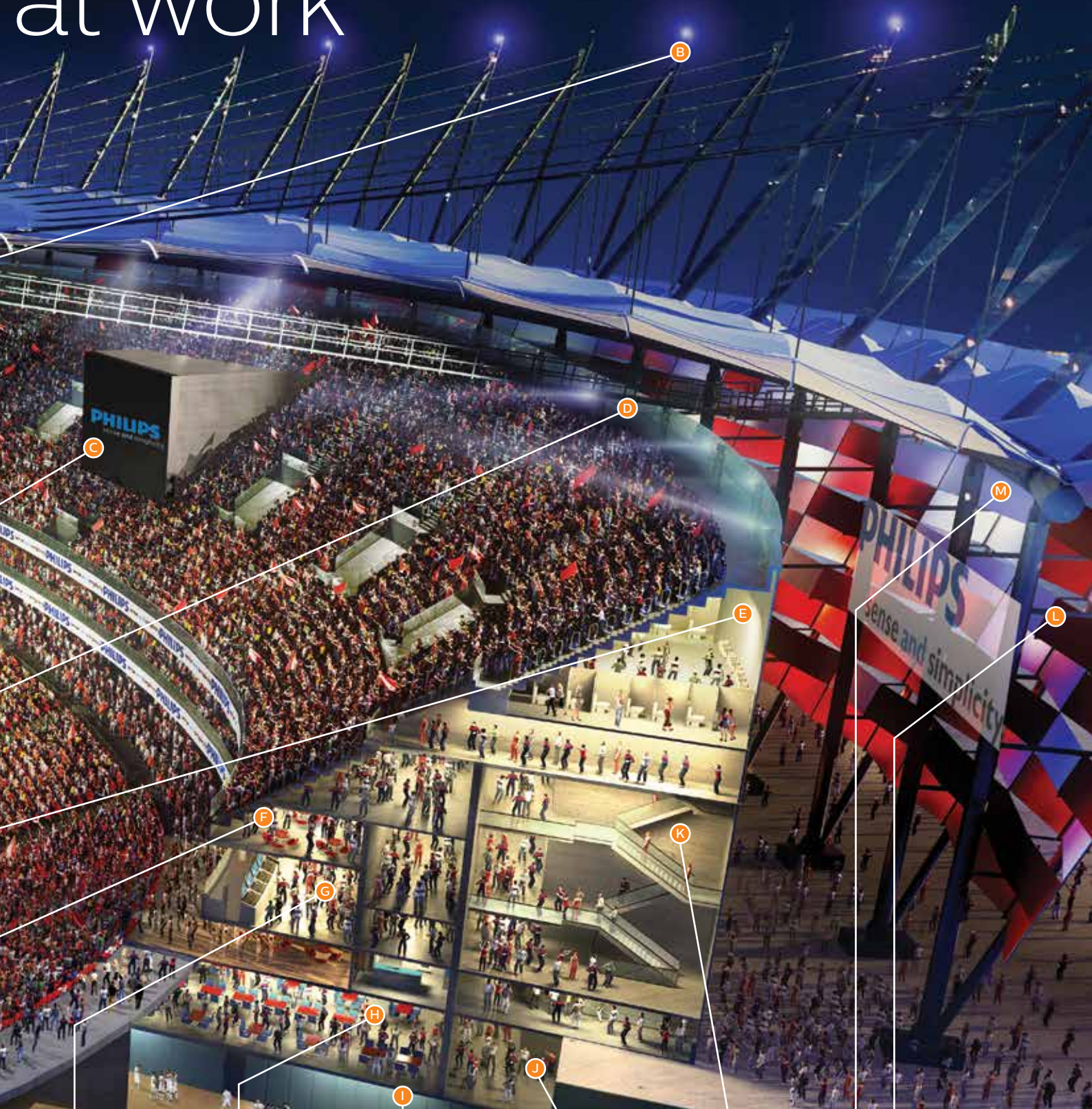
Energy management of facilities areas ensure lighting is turned off after the event.

F

Control box

Bringing all the lighting elements together, regardless of the event.

at work



G

Corporate box seating

The next level of entertainment – allowing for dimming control to create the right atmosphere during the event.

H

Food and drinks

Coordinating eateries and other outlets lighting during the event.

I

Change rooms

Change rooms are equipped with motion detectors so that the lights are on when they are occupied and are off when they aren't.

J

Behind the scenes

The lighting for storage areas is on only when required.

K

Public access areas

Control over the access lighting for more efficient use of the venue's power consumption.

L

External signage

Communicates to those outside about current and upcoming events.

M

External lighting

Attracting the audience into the venue.

Creating effective lighting controls

for public access areas

With a Philips Dynalite control system managing all the arena's public areas, you can be confident that the lighting will be flawless for every event. Staged 'switch-ons' sequentially turn on lighting from the car parks through to the rest rooms and can change by time of day and type of event, to give you the perfect set-up every time.

'After hours' and 'clean up' modes can be used to reduce unnecessary energy consumption after the crowds depart but still keep the areas manageable while staff finish up. Once you are ready to close the venue, a whole building 'shutdown' mode can be selected by the single click-of-a-button, activating a staged switch off while allowing adequate egress lighting for staff.





The controls can be tailored to suit the needs of each operator, to present a simple, effective, error-free user interface, making every user's job just that little bit easier.



Controlling the eateries, storage areas, toilets, change rooms and function areas, the environmentally conscious Dynalite system provides a lighting management tool that implements energy saving modes for lighting when areas are unoccupied, without compromising safety or the guest experience.

Our comprehensive controls product range

User interfaces

Revolution Series

The Philips Dynalite Revolution series of user interfaces connects directly to the DyNet network. The devices can communicate directly with each other, with lighting load controllers and with other integration devices, offering a simple user interface capable of complex automation system functions.

Multifunction Sensors

The multifunction sensor combines passive infrared (PIR) motion detection, ambient light level detection and infrared remote-control reception. The PIR capability is used to adjust lighting based on the presence or absence of motion. Light level detection reads ambient lux levels and regulates lighting accordingly to support daylight harvesting strategies. The infrared receive function allows users to manually adjust light levels using a hand-held remote control.

Relay Controllers

A range of cost effective relay controllers offer simple and effective on/off switching control of lighting groups. Used in conjunction with scheduled events and sensors, Dynalite relay controllers offer significant energy saving potential, as the most energy-efficient light is simply one that is off when not needed.



DR2PA Revolution Series
User Interface



DR2PE Revolution Series
User Interface



DUS704C
Universal Sensor



Integration

Dynalite lighting control systems also integrate with third-party building management equipment such as HVAC, security and audio-visual devices, which means multi-purpose stadium operators can take control of every event and easily manage lighting schemes while minimizing energy demands.

Most stadiums have high intensity sports lighting, which is switched off most of the time. Other areas are usually lit by halogen or fluorescent lighting, which may be switched or dimmed. Usually, each of these areas has to be separately planned and programmed for each activity, but not with a Dynalite lighting control system.

Philips Dynalite integrates sophisticated lighting controls enabling venue managers to tailor lighting schemes to individual sporting events, musical performances and exhibitions to provide visitors with a memorable event experience.



DDNG485
Network Gateway

“ Philips specializes in the provision of end-to-end intelligent lighting control solutions rather than just products and systems.

Envision Software

EnvisionManager

In buildings where central control and management of lighting is important, EnvisionManager provides the ideal support tool for large and small sites. EnvisionManager monitors hardware and energy performance in real time, with an alert function to send customized notifications in the event of component failure or malfunction.

EnvisionManager enables the entire lighting system to be managed from a single location – including scheduling, reporting, DALI emergency testing, preset scenes and specific events such as Earth Hour. Occupant comfort is supported by EnvisionManager’s ability to monitor occupancy and fine-tune lighting levels to meet the exact needs of each end-user for the tasks in which they are engaged. Furthermore, the EnvisionManager macro builder allows end-users to tailor the operation of the system to their own needs.

EnvisionManager is inherently scalable, able to manage more than 65,000 areas within a building as well as cross campus monitoring for multi-building projects. EnvisionManager also supports remote access/control of the system via a web browser, creating options for control through any web-enabled device.

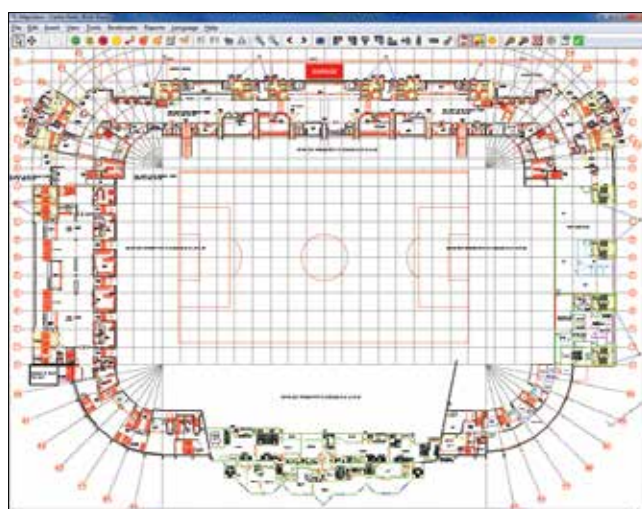


EnvisionDashboard

EnvisionManager promotes energy efficiency through its energy dashboard that is displayed on monitors or Dynalite touchscreens within the building. This promotes green building measures to all occupants by demonstrating the current energy saving performance of the system.

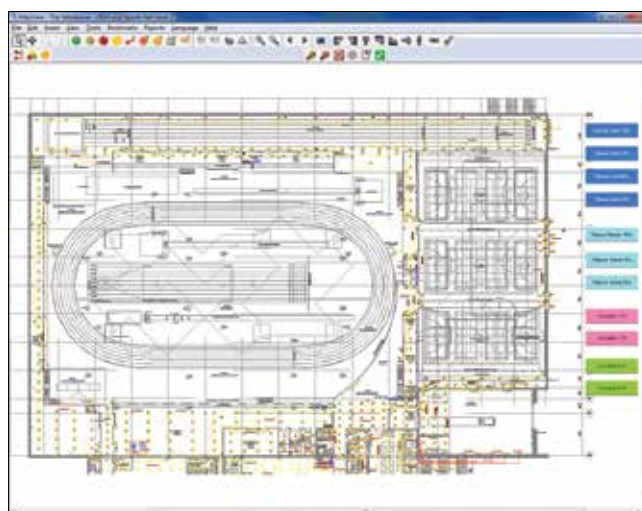
EnvisionDashboard provides key insights and analysis into when and where lighting is used in a facility. It exposes information already captured by the system and presents it in a readily understandable and accessible fashion so facility users can take an active involvement in the energy efficiency of lighting.

EnvisionDashboard displays information as a webpage, and is accessible via any device with an internet connection, both onsite and remotely. It provides a choice of timeframes over which users can view lighting energy performance. It also compares current energy consumption with past performance, displaying instant and year-to-date energy savings.



Luminaires

Philips can offer a turn-key package through our extensive line of fixture offerings throughout the world that will seamlessly work within a Dynalite control system. Additionally, Dynalite easily integrates with Philips Color Kinetics fixtures, allowing dynamic architectural lighting options both indoors and outdoors. Please contact your local Philips sales representative to discuss your vision.



Custom pages allow each set-up to be unique to both the user and the site while maximizing the power of the whole system.

THE MILLENNIUM DOME – LONDON, ENGLAND

A new millennium in lighting control

Philips Dyalite joined with lighting designers Speirs + Major to light one of London's internationally recognized architectural landmarks, the Millennium Dome (now known as the O2 Arena).

With an extensive network of extravagant theatrical and entertainment lighting, the brief called for sophisticated dimming, switching and control equipment.

The Philips Dyalite solution was to install 3,000 channels of dimming, switching and DMX512 control all connected to one smart and integrated network for foolproof operation.

While the lighting was visually elaborate and intricate, a PC running EnvisionManager software provided simple-to-use site-wide graphical interface. Additionally, LCD touchscreens

and local scene selection user interfaces were used. Smart interface units were provided to the entertainment lighting control systems and the whole system was linked via modem back to the Philips Dyalite office, for remote maintenance and programming.

To ensure superior reliability and security, the system was wired as several networks, interconnected with DTK932 network bridges; a main network ring inside the Dome, local networks for each of the six core buildings, two external networks, the central show network and connections to and from the show system.

The theatrical and entertainment lighting of the dome is controlled by the Dyalite solution.



“ Philips Dyalite was chosen to install a control system to meet the demands of an extensive network of theatrical and entertainment lighting.”

An iconic sporting venue lights up

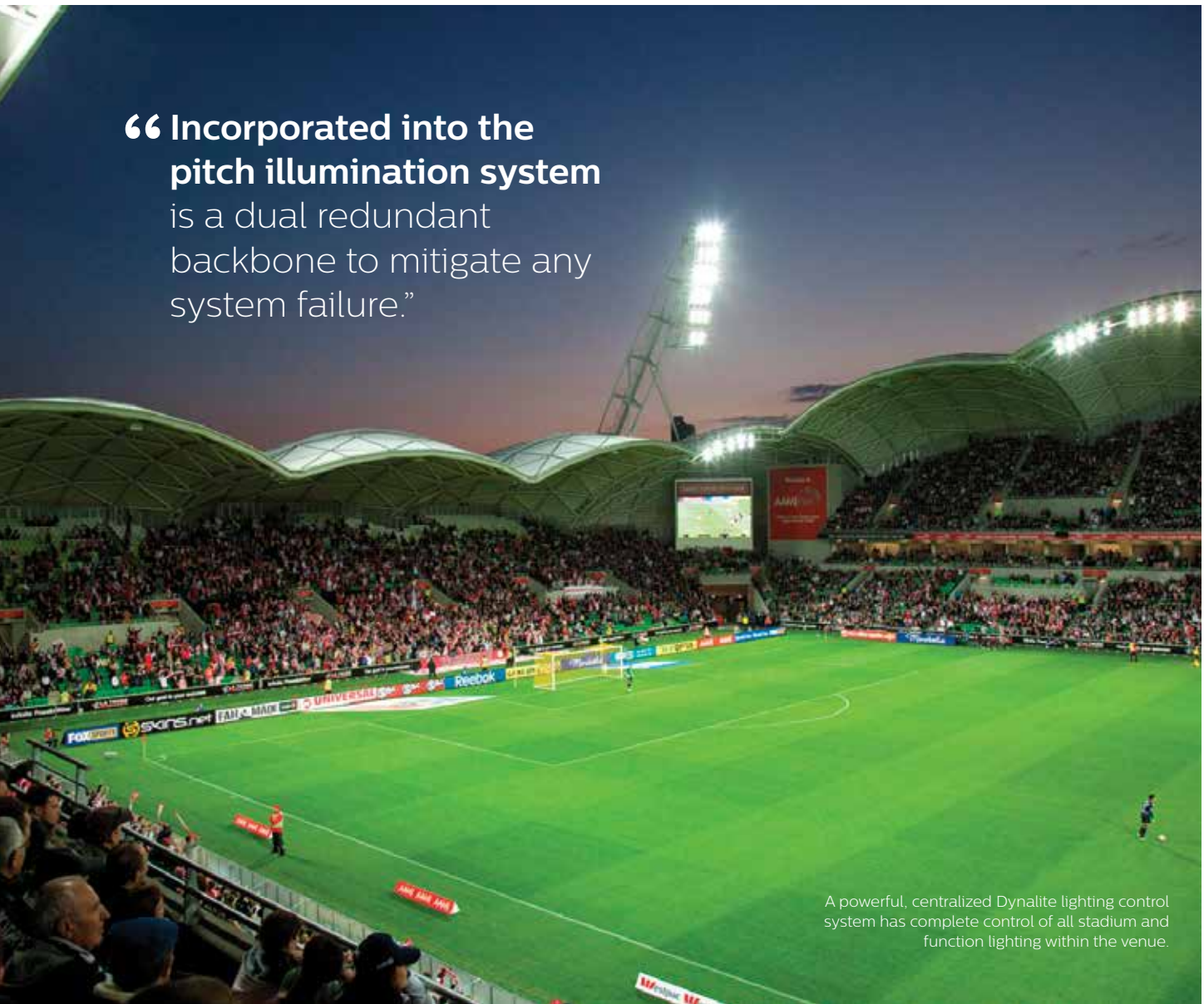
AAMI Park, an iconic 31,000 seat purpose-built rectangular pitch stadium, is an elite sporting venue that's home to the Melbourne Victory and Melbourne Heart soccer teams, the Melbourne Storm rugby league team and the Melbourne Rebels Super 15 rugby union team.

Lighting AAMI Park required careful planning and the most advanced lighting control equipment to ensure suitable lighting throughout the public and corporate areas and to provide international pitch illumination.

A powerful centralized Dynalite lighting control system has complete control of all stadium and function lighting within the venue and also complements the energy-efficient design of the stadium.

The system monitors and adjusts lighting for the entire stadium, ensuring adequate lighting levels for players and spectators. Importantly, the system is flexible, easy to program for different events, user-friendly and controlled with a click of a mouse.

“Incorporated into the pitch illumination system is a dual redundant backbone to mitigate any system failure.”



A powerful, centralized Dynalite lighting control system has complete control of all stadium and function lighting within the venue.



BEIJING OLYMPIC SITES – BEIJING, CHINA

Technologically advanced lighting wins at Beijing Olympics

The Beijing 2008 Olympic Games was not only a platform for sporting excellence but also an opportunity for the Chinese government to showcase its commitment to conserving energy. And that's where Philips Dynalite entered the Games.

Philips Dynalite's involvement with the Beijing Olympics began in 2001 when they were asked to deliver lighting control systems that would help to reduce energy costs in ten purpose-built Olympic venues as well as at the Olympic Press and Convention Center.

The solution was simple. All ten venues were controlled by Dynalite intelligent switching technology – simple on/off control of lighting – to provide maximum energy savings. The larger venues – Shenyang Olympics Sport Center Stadium and Tianjin Olympic Center – also incorporated a mix of network gateways and interfaces to seamlessly connect to audio-visual and building management systems.

A mix of relay controllers across all of the venues effectively controlled any type of switched load. The relay controllers were DIN-rail mountable and installed into a switchboard next to the circuit breakers feeding the circuits to be controlled.

Using a 'feed-through' design for the power circuits, electrically equivalent to a 4, 6, 8 or 12-pole contactor, provided the additional advantage of each pole being separately controlled via the Dynalite network.

“With a proven track record, Philips Dynalite won the right to deliver innovative and advanced control solutions for Beijing 2008 Olympic venues.”

Lighting control takes center stage at Adelaide's entertainment hub



An impressive \$52 million redevelopment of the Adelaide Entertainment Centre in South Australia included a Dynalite bespoke lighting control system that has helped to put the venue back on the map as a premier concert and theater destination.

The lighting control system incorporates innovative technology that allows functional and revolutionary new architectural and theatrical lighting to work side-by-side in the new theater and Orb. It also integrates with the lighting control installations in the existing complex to ensure ease of operation and to avoid having to re-train staff.

The system operates and manages both functional and feature lighting circuits and controls specific architectural and theatrical lighting effects in the Orb.

Importantly, the system allows all venue lighting to be easily controlled from a single interface.

A redevelopment of the Adelaide entertainment Centre has helped to put the venue back on the map as a premier concert and theater destination.

“The Dynalite lighting control system has ensured all functional, architectural and theatrical lighting have come together in a coordinated way.”



ACC LIVERPOOL – LIVERPOOL, ENGLAND

Lighting control is the main event at ACC Liverpool

ACC Liverpool is one of the United Kingdom's most flexible entertainment, sports and business facilities, and now it has a lighting control system to match.

Philips Dynalite designed and installed a single integrated lighting control and automation system that supports the entire facility and delivers a high degree of adaptability, configurability and integration to the lighting.

Lighting schemes can be quickly and easily reconfigured to meet the needs of the different events and performances held at the venue.

An extremely complex system has been made easy to operate and manage, giving staff real operational flexibility.

With staff able to control lighting from any one of seven computers throughout the complex or from a series of user interfaces, the day-to-day management of the complex's lighting is a simple task.

The system has also delivered powerful energy management, saving running costs.

“**The Dynalite lighting control system** has brought excellent operational flexibility and energy optimization to ACC Liverpool.”

Olympic sporting facilities shine with Dyalite lighting control solutions

With the world's eyes on the Sydney Olympics in 2000, it was crucial that the lighting control system at every venue was energy-efficient, simple to operate and above all, reliable.

Philips Dyalite's involvement in the Olympic project began in 1998, with planning for lighting control at the Sydney SuperDome, Australia's largest indoor sports and entertainment center, which hosted the artistic gymnastics and basketball.

Super reliable dimming and switching controls on show

Critical to the design of the Superdome, was that the lighting controls catered to media coverage of events. To ensure the lighting was appropriate for both still photography and broadcast coverage, Philips Dyalite installed Sinwave Voltage Convertors, to overcome the problem of color shift when dimming metal halide lamps.

The Dyalite lighting control system also ensured simple and uninterrupted reconfiguration of lighting scenes via a PC located in the media control room.

Shooting for winning lighting control

At the International Shooting Centre, the brief called for constant lighting levels that could be easily adjusted and programmed.

Dyalite DTK934 relay controllers were installed to effortlessly switch and dim metal halide lamps using constant wattage ballasts.

Using the Dyalite lighting control configuration software EnvisionProject, the system was monitored remotely by Philips Dyalite's engineers to ensure there were no interruptions to lighting and no technical hitches.

The right lighting for every lap

The fully-enclosed Dunc Gray Velodrome was designed with light control louvres to maximize natural lighting and to reduce the need for artificial lighting.

With different cycling events requiring different lighting levels – from 500 lux for practice sessions to a minimum of 1000 lux for broadcast events – it was critical that the lighting levels could be easily set and adjusted.

The Dyalite solution was to install a flexible and simple control system that allowed the operators to use the existing Building Management System (BMS) to control the venue lighting without any complicated add-on equipment or expensive re-wiring.



Right: Dunc Grey Velodrome



Flexible control made possible

The International Broadcasting Centre (IBC) was the central hub for the all-important television coverage of the games and housed up to 11,000 journalists and media correspondents at peak periods.

The IBC was housed in a refurbished warehouse with a footprint of 57,000 square meters and required over 1,250 miles of cabling for lighting, power and communications.

Both architectural fittings for day-to-day use and theatrical fittings for television broadcast, had to be controlled from one lighting desk. The control system could handle both fitting types and interface with the DMX protocol.

“**Dynalite relay controllers, leading edge dimmers, sinewave converters and LED controllers** were installed in three venues to ensure all lighting could be integrated into one system.”

Image by Adam J. W. C.



High performance lighting a winner at Kranji

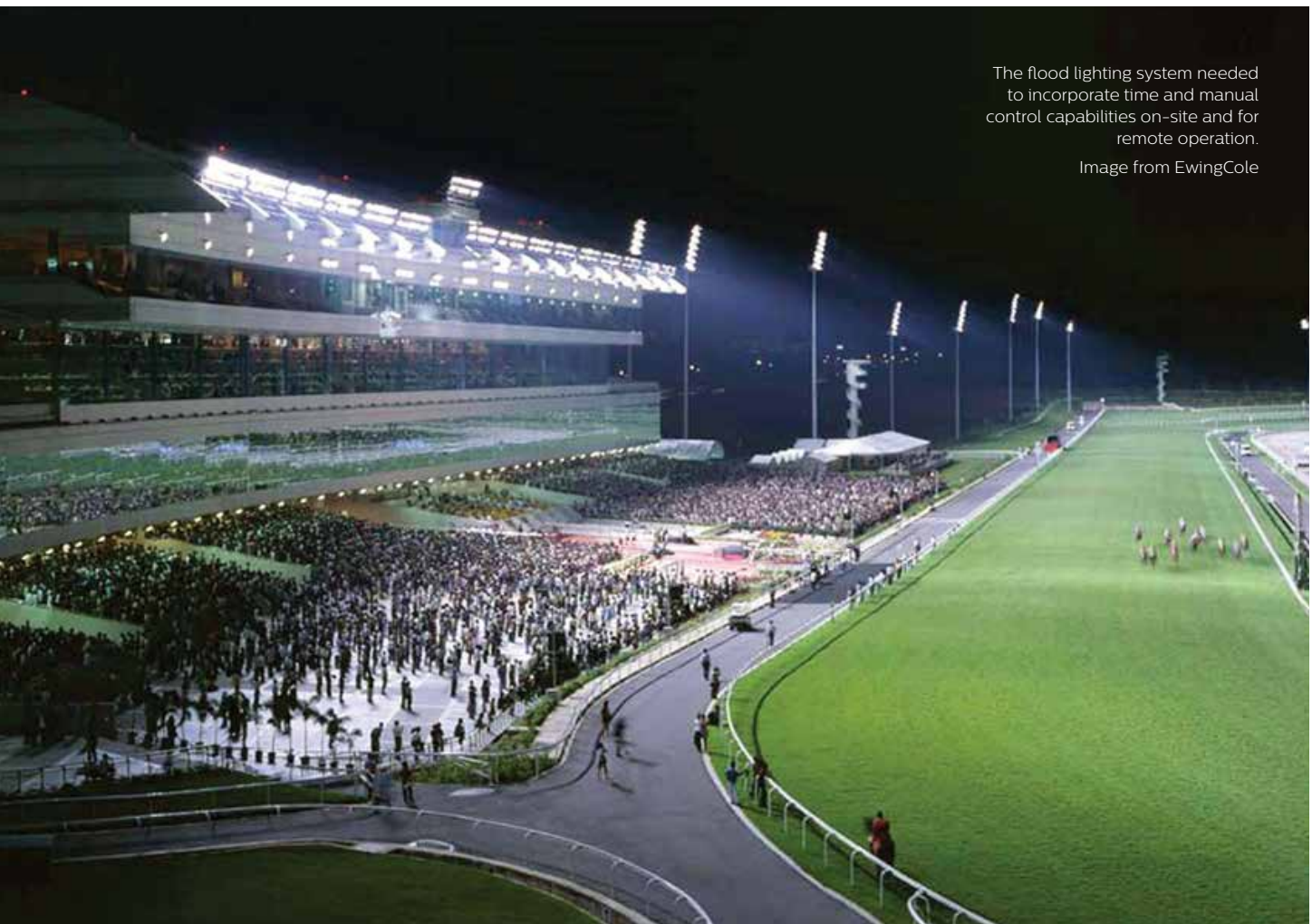
When the world-class Kranji racecourse complex in Singapore was recently upgraded, a key component of the project was ensuring that the lighting was reliable and always available for training and race meetings. It also needed to provide excellent visibility and visual comfort for race goers.

In addition, the flood lighting system needed to incorporate time and manual control capabilities on-site and for remote operation.

Monitoring the energy consumption of each lighting tower was also critical for energy savings.

Philips Dynalite responded with a tailored system that is intelligent enough to deliver excellent monitoring and control management, is flexible enough to integrate and optimize existing systems and delivers significant energy savings.

“The advanced Dynalite lighting control system has not only delivered excellent monitoring and control management for the racecourse’s lighting, but has also achieved significant energy savings.”



The flood lighting system needed to incorporate time and manual control capabilities on-site and for remote operation.

Image from EwingCole

Suncorp sports **intelligent lighting controls**

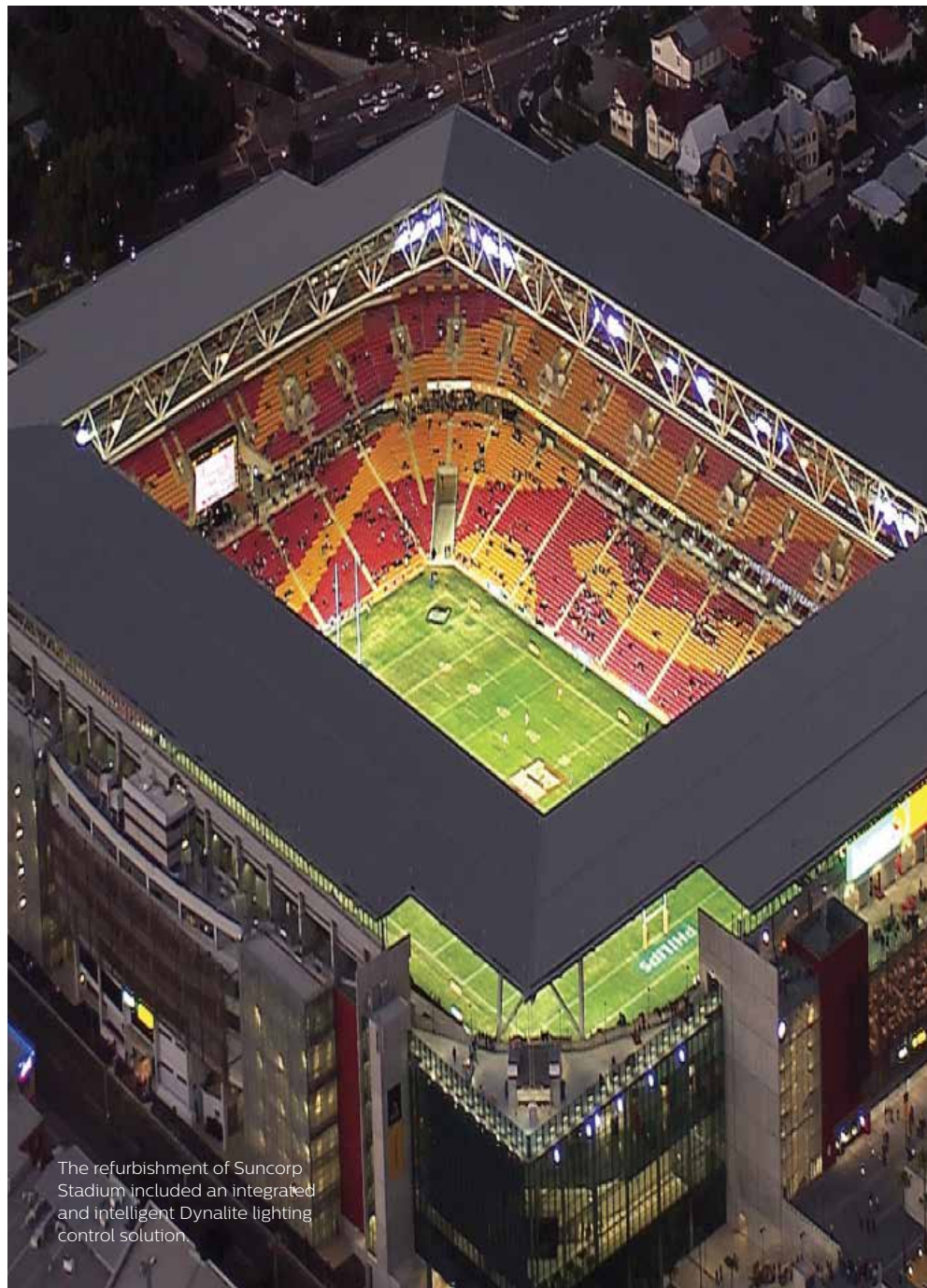
Queensland's major sporting stadium, Suncorp Stadium, has a special place in the heart of Queenslanders as a site with a colorful history.

So when it came time to refurbish the venue, it was critical that the design included an integrated and intelligent lighting control system that would ensure that Suncorp would continue to shine as a sporting venue.

The Dyalite solution ensures one touch integrated operation for all lighting in the stadium – from sports field lights mounted 37 meters high to in-ground decorative lighting on public walkways.

The system is reliable, adaptable and simple to use and delivers operational and programming flexibility.

“Dyalite’s lighting control systems are user friendly, easily programmable and can meet the changing demands of large-scale and diverse stadiums and arenas.”



The refurbishment of Suncorp Stadium included an integrated and intelligent Dyalite lighting control solution.

Dazzling audiences all made possible with Dynalite lighting control

Vector Arena in Auckland is New Zealand's largest multi-purpose indoor stadium and provides an all-weather venue for a dynamic range of events including sports, concerts, exhibitions, classical performances and banquets.

At Vector, Philips Dynalite integrated entertainment with intelligent lighting control. The color, excitement and visual impact of the venue's performances and events are all made possible with an intuitive lighting control system.

Operators have the flexibility to recall preset lighting scenes with the touch of a button and to create fixed or changing ambient lighting.

“The Dynalite system delivers cost effective and intelligent lighting control that allows operators to quickly and effortlessly deliver sophisticated lighting scenes that complement the events and performances.”

Vector Arena is
New Zealand's largest
multi-purpose indoor
stadium.





The 27,000-seat Skilled Park Stadium, is a world-class stadium on Australia's Gold Coast.

SKILLED PARK – GOLD COAST, AUSTRALIA

Skilled solution for stadium lighting

“The Dyalite lighting control system effectively complements the energy-efficiency and sustainability of the stadium as well as providing simple, flexible and easy-to-use control.”

The 27,000-seat stadium at Skilled Park, Robina on the Gold Coast is a world-class stadium that's home to the Titans NRL team and also hosts rugby union and football.

With 100 corporate boxes, 28 closed corporate suites, a 500-seat function hall, 16 food and beverage outlets and management offices and facilities, it was important to have a stable and reliable lighting control system on a grand scale.

The lighting project required stadium and external lighting control at four illumination levels: match play/broadcast television, training, patron exit and safe working level presence detection in hallways, amenities and other low-traffic areas, to reduce energy costs.

The Philips Dyalite intelligent lighting control system gives the client reliability and flexibility to control lighting at every level. The control of stadium and exterior lighting incorporates programmable relay switching to achieve necessary lighting levels, while sensors in low traffic areas ensure that lights are only turned on when needed.

Preset lighting levels and scenes can be controlled simply via an intuitive user interface.



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Cover Image: Wroclaw Stadium, Poland

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