

PHILIPS

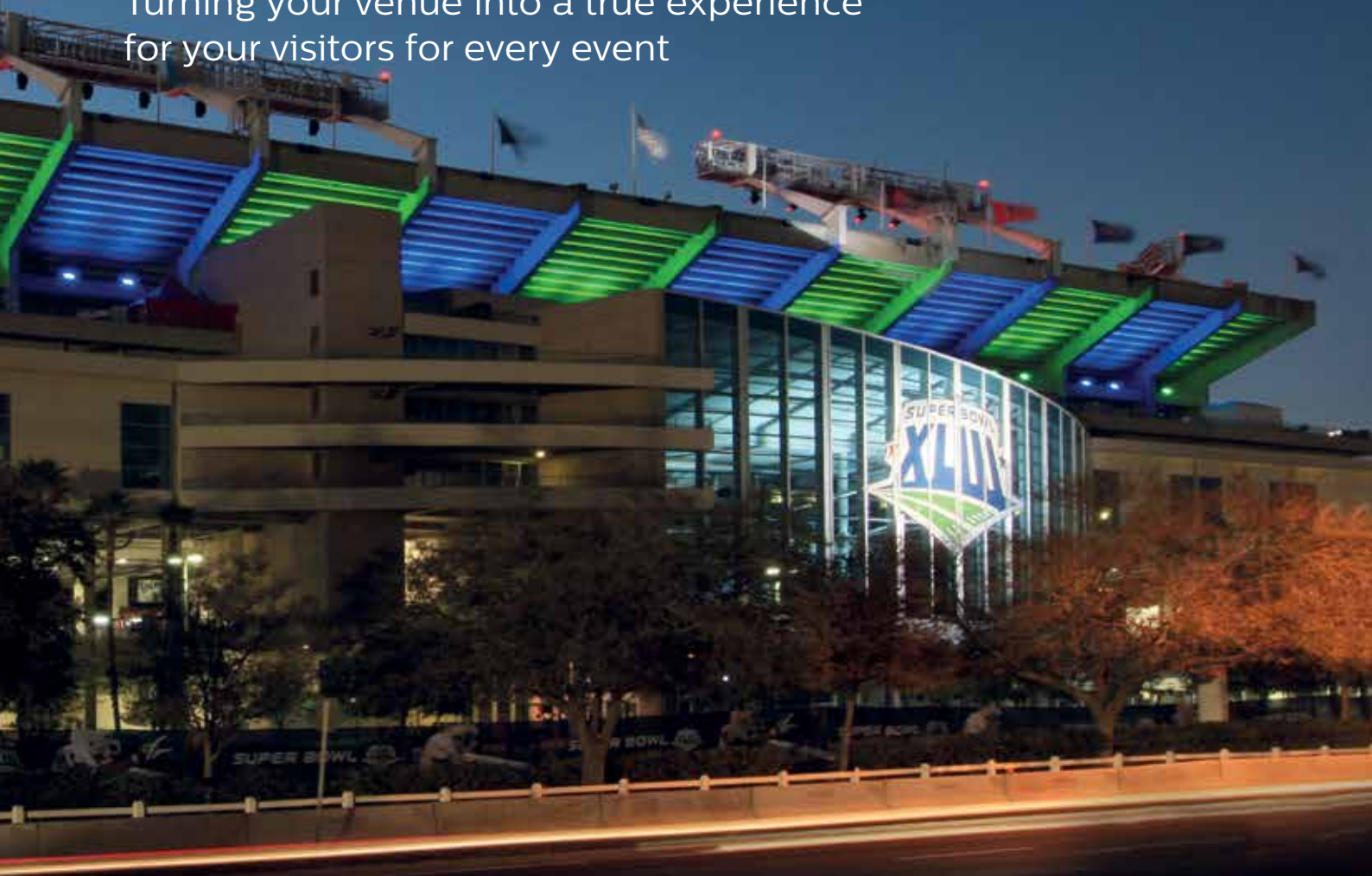
Outdoor lighting

Sports



Arena Experience

Turning your venue into a true experience
for your visitors for every event



Leading the world in sports lighting



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 conference centers.

High quality lighting is a vital factor for sports, drama and entertainment. Broadcast-compatible lighting, supplying images with high color fidelity and complying with High Definition Television (HDTV) standards also allows viewers at home to experience the emotion, excitement and atmosphere of sport, and is essential for advertising, supporting the promotion of brand identity.

Key factors determining the suitability of lighting installations for sports applications are quality aspects such as color rendering, consistency of color temperature, light control and uniformity as well as high lumen yield.

Philips has long pioneered lighting innovation in sports, from the 1952 Olympic Games in Oslo to the first Formula One night race in Singapore on 28 September 2008, and has been the technical partner of international sports federations such as the IAAF, FIFA and FIBA over many years. Through these

partnerships, Philips has helped to draw up official specifications for sports floodlighting and is the ideal partner for the complete complexity of holistic lighting solutions, from design to commissioning.

Our major references include:

- Olympic Games: Seoul 1988, Barcelona 1992, Atlanta 1996, Sydney 2000, Athens 2004, Beijing 2008, London 2012
- 2006 World Cup Football: 8 out of 12 stadiums in Germany illuminated by Philips
- 2010 World Cup football: 6 stadiums illuminated by Philips
- 2014 more than 50% of stadiums illuminated by Philips in Sochi for the Winter Olympics
- 2014 World Cup football: 9 out of 12 stadiums in Brazil illuminated by Philips
- Philips Lighting currently illuminates 70% of all UK Premier League clubs
- 55% of the world's major football stadiums are illuminated by Philips

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.



Allianz Arena, Germany (live in 2015)

“ Venues save on operating costs, gain safety and generate new revenue by becoming truly multipurpose ... ”

Philips ArenaExperience – Innovation that matters to you because:

- We deliver simple, smart and easy-to-use lighting solutions that provide advanced functionality, versatility and operational efficiency.
- Our lighting systems allow venue operators to quickly and effortlessly create ambiance, develop innovative and distinctive lighting scenes and transform environments in one click or touch, to complement the events and performances as well as enhance the venue's atmosphere.
- Innovations are driven by a deep understanding of customers' needs and their specific lighting environments.
- Philips LED lighting features instant on/off, dimming, full controllability, high energy efficiency, flicker-free lighting and full flexibility.
- Our advanced lighting control system can help deliver excellent monitoring and control management and optimum operation at all times, giving significant energy and maintenance savings benefits.
- To meet the changing demands of large-scale and diverse indoor and outdoor stadiums and arenas.

Guangzhou Olympic Stadium, China



Poznan City Stadium, Poland



The Philips ArenaExperience at work



A

Pitch lighting

Philips offers high quality lighting solutions and with LED technology coming to the pitch it adds even more value, flexibility and control. Instant On, dimming, lighting effects create new excitement.

B

Decorative lighting

Giving a venue a unique look and feel that matches with the excitement of the game.

C

Scoreboard

Philips can provide a complete solution, that integrates also large screens and advertising boards.

D

Spectator lighting

Enhancing the live game experience by lighting up the spectator area. LED technology allows your lighting to be managed and tailored for the event type and size.

E

Public facilities

Energy management of facility areas ensure lighting is turned off after the event and high quality LED solutions provide safety and guidance for the public.

F

Control box

Bringing all the lighting elements together, tailor-made for any type of event.

G

Sky box and business seats

The next level of entertainment creating the right atmosphere during the event for example in the colors of the box owner, sponsor or team.

H

Hospitality (food and drinks) & Retail shops

Supporting the crowd management and coordinating retail/food shops, restaurants and other outlets with lighting during the event.

I

Dress rooms

Dress rooms are becoming more attractive and representative with the right lighting and equipped with motion detectors. The lights are only on when the rooms are occupied.

J

Behind the scenes

The lighting for storage areas is only on when required.

K

Public access areas

Light supports the crowd management and gives venue owners full control over the access lighting for more efficient use of the venue's power consumption.

L

Facade architectural lighting

Attracting the audience into the venue and creating an iconic landmark from your stadium.

M

Parking Area

Light supports the visibility and guidance in both indoor and outdoor parkings around your venue.

Philips ArenaExperience

Creative lighting for the success of your stadium

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

A leading, well established partner for major sporting events and stadiums worldwide, we can help you 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 together with other suppliers and partners.

Around the Arena

- The parking area is illuminated by Philips energy saving LED luminaires.
- Light the route from the train/subway station to the stadium in the same way.
- When people catch a glimpse of the stadium, they can see something truly iconic through dynamic facade lighting.

Inside the Arena

- Once inside, they will be enticed by efficient and appealing retail shops, in which key merchandise is given extra attention.
- Hospitality suites can easily be illuminated in particular colors of the sponsor.
- 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 as well as live music and many other forms of entertainment.
- Beyond illumination, Philips can offer you a total solution to create opportunities to entertain, inform and advertise.



Philip's energy saving lighting solutions can be used to light the route from the public transport station to the stadium.



Athens Olympics 2004

Benefits in the Philips approach

Experience, Consultancy and Quality

The end result will be of outstanding 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 LED energy efficient lighting is a relatively simple way to save significant amounts of money every year.

Total cost of ownership

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



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

“ Discover how
ArenaExperience
adds value and boosts
your business at every
step of the way.”



Philips ArenaExperience



Innovation that will enable **new experiences at sports venues**

ArenaExperience guarantees your all the way through your project that your venue will make use of the latest innovations that are available during the planning and that will become available at the time of completion of the project.

With Philips as your partner you can dip into the research and innovative power of the world leading company in lighting – not only for sports lighting, but also retail, hospitality, office, street, parking and architectural lighting, ensuring that your lighting installation will always be at the edge of technology and based on latest research.

With the transition to LED technology taking place the opportunities for your venue are growing as well, either adding additional excitement and entertainment or becoming more multipurpose or maybe both, it is your choice and our latest innovations will help you on the way to achieve this.

One recent example of this innovative power that Philips has to offer to your venue is the new Philips ArenaVision LED system, which can be incorporated in venue applications and light settings that would normally require dedicated entertainment lighting fixtures. You as a user can switch between fixed sports lighting configurations that fulfill highest sports federations' and broadcaster requirements and preprogrammed special lighting effects or predefined switch modes for other sport events in your venue by simply pushing a button. For further integration into event lighting and additional entertaining light effects, it is also possible to connect an external lighting controller to the ArenaVision LED control system, allowing full integration of the ArenaVision LED floodlights in a lighting show.

In addition, the new ArenaVision LED system will offer the possibility that even facade or stand lighting fixtures can be connected to it to create a fully immersive audience experience before, during and after the event. Creating a lasting impression for your audience and business partner and a strong desire to return and spend more time at the venue.



ArenaVision LED with connection box



ArenaVision LED system



Ekinox Arena, Bourg-en-Bresse, France

The world première for **ArenaVision LED**

The “Ekinox” arena, named in reference to the equinox, conveys an image of an illuminated half-sphere and hosts events, including basketball, business exhibitions, concerts and entertainment shows.

Bourg-en-Bresse Agglomeration decided to renovate its exhibition center Ainterexpo built in the 1970s, and to add a fourth hall of 9,940 m², which opened in January 2014. Thanks to the modularity of its stands and its technical platform, the main hall can accommodate performances in 360°. Only an exceptional lighting system could match this modernity – that is how ArenaVision LED became involved.

In total, 50 floodlights of 1.43 kW were installed, each providing 86,000 lm, with an average life of 40,000 hours. The solution includes a dedicated user interface and a DMX control system for fast, easy and reliable commissioning, monitoring and switching between lighting configurations. Philips and a broadcasting team carried out a series of tests to check the efficacy of the system – ArenaVision LED proved to be a great success, surpassing expectations.



“ I am used to new technology since I mostly work for shows, but I was really stunned when I discovered the possibilities provided by ArenaVision LED.”



The Millennium Dome – London, England

A new millennium in lighting control

Philips joined with lighting design studio 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 a sophisticated lighting solution, enabling dimming, switching and control equipment.

While the lighting was visually elaborate and intricate, a PC running Philips Dynalite DLight MapView software provided simple to use site-wide graphical interface. Additionally, LCD touchscreens and local scene selection panels 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 Dynalite office, for remote maintenance and programming.

To ensure superior reliability and security, the system was wired as several networks, that are interconnected, 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.

“With a reputation as a provider of innovative and reliable lighting solutions for outdoor public spaces, Philips was chosen to install an innovative lighting system to meet the demands of and extensive network of theatrical and entertainment lighting.”



The theatrical and entertainment lighting of the dome is controlled by the DynaLite control system.

An iconic sporting venue lights up

Philips has illuminated KAA Gent's new Ghelamco Arena both inside and outside with sustainable, energy-efficient LED technology, and half a million LEDs exclusively illuminate the media facade with colorful and dynamic light. The new lighting supports the club's ambitions to become one of Belgium's top three.

Light, sports and entertainment inspire people and transform surroundings into really special locations, and the facade now announces and advertises its events calendar and the current event on a much grander scale with dynamic content updated in real time.

The media facade is also a unique advertising medium for Belgium, and is visible from the adjacent main traffic routes. The truly unique system offers personalized lighting using a palette of more than 16 million colors, and with endless combinations and lighting effects such as ripples, cross-fading, sequences, strobes and explosions.

Philips provided not just products but also services for the project, taking responsibility for supply and installation of the complete lighting system including retail stores and other facilities, with a 10 year maintenance contract underlining the outstanding level of cooperation.



Ghelamco Arena, Ghent, Belgium

“ This is a truly unique lighting system that offers personalized lighting possibilities using more than 16 million colors in endless combinations and lighting effects that have never been seen before.”

Beijing Olympic Sites – Beijing, China

Technologically advanced lighting **wins at Beijing Olympics**

Shenyang Olympic Stadium



“ With a proven track record in providing successful lighting control strategies for the Sydney 2000 Olympic Games and for stadia around the world, Philips won the right to deliver innovative and advanced lighting solutions for Beijing 2008 Olympic venues.”

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 entered the Games.

Philips' involvement with the Beijing Olympics began in 2001 when they were asked to deliver lighting systems that would help to reduce energy costs in 10 purpose-built Olympic venues as well as at the Olympic Press and Convention Center.

The solution was simple. More than 80 % of the venues were equipped with state-of-the-art lighting installations for sports lighting from Philips and all 10 venues were controlled by Philips 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 audiovisual and building management systems.

Friends Arena – Solna, Sweden

Friends Arena profiles events with **LED RGB**

The Friends Arena facade in Solna, Sweden, a new national arena with a seating capacity of 50,000, is illuminated with iColorGraze linear lighting using a Pharos control system, and the playing field with ArenaVision floodlights from Philips.

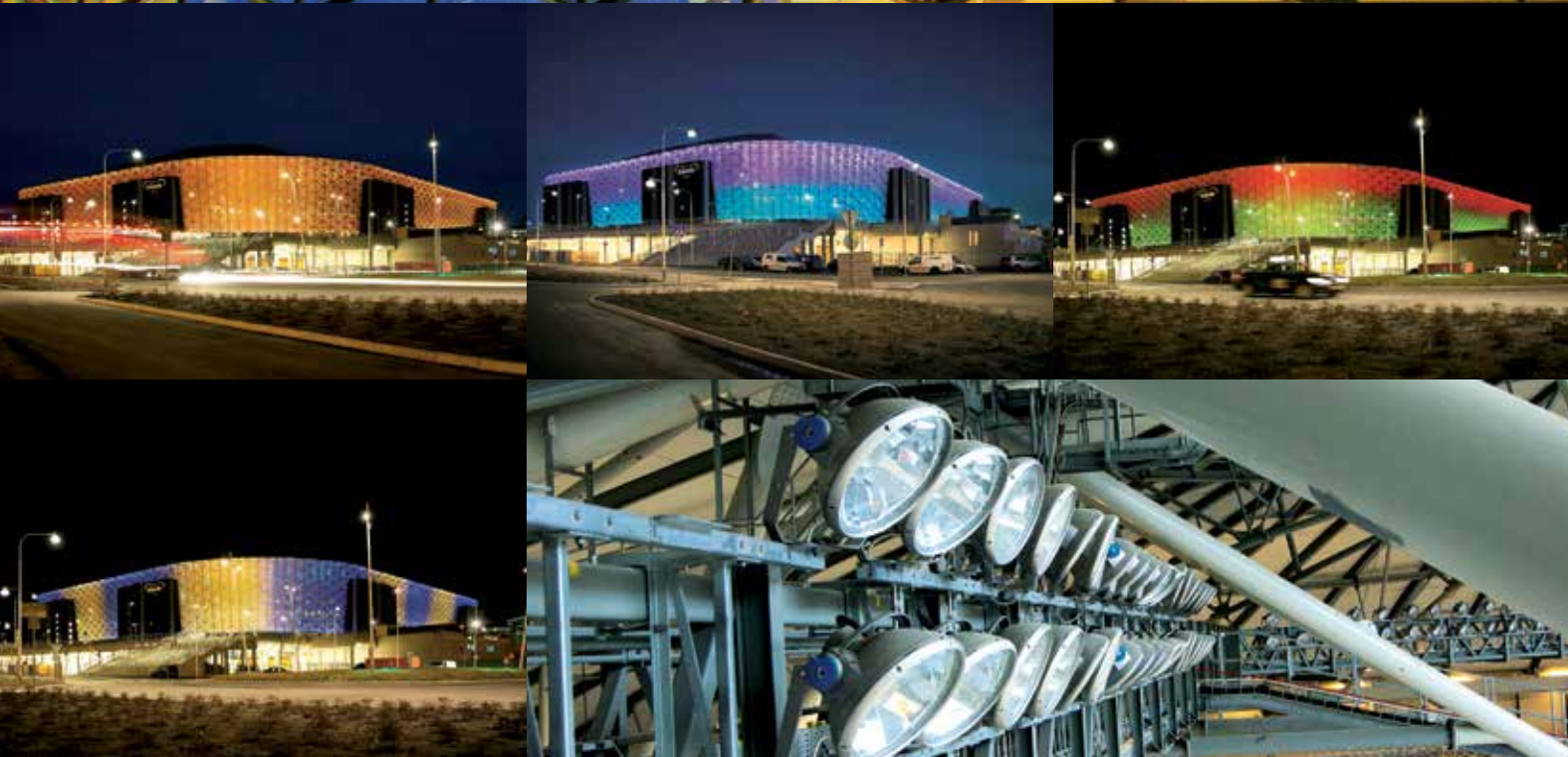
The ambition was to give the Friends Arena a living and adaptable exterior which can be modified according to the event being hosted, and linear light fixtures with static and dynamic RGB effects were the ideal solution.

The pitch lighting meets FIFA lighting stipulations, limiting the number of luminaires, with minimum power consumption and with suitability for HD television broadcasting, where each luminaire must be below 3500 lux. 316 ArenaVision floodlights were installed around the arena periphery, mounted in clusters on a walkway at a height of 42 meters, and further ArenaVision floodlights with hot restrike were specified for emergency lighting. The result of the project is an architectural landmark with vivacious facade illumination and professional lighting for both players and spectators, whether in the stadium or at home.

“ The facade lighting turned out better than we had hoped. Peab and the architect have been very constructively active throughout the entire project.

The collaboration has worked very well – they have recognized my intentions, embraced my wishes and made changes accordingly to grant us the opportunity to realize our vision.”

Helena Åkerberg,
lighting architect for Lighthouse AB



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 system to match.

Philips designed and installed a single integrated Dynalite 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 very 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 control panel interfaces, the day-to-day management of the complex's lighting is a simple task.

Plus, the system has also delivered powerful energy management, which is saving running costs.



“ **ACC Liverpool is one of United Kingdom's most flexible entertainment, sports and business facilities.**”



Olympic sporting facilities shine with Philips lighting solutions

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

Philips' involvement in the Olympic project began in 1998, with planning for lighting solutions 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 lighting systems at the SuperDome was media coverage of events. To ensure the lighting was appropriate for both still photography and broadcast coverage Philips installed a lighting solution, which overcame the problem of color shift when dimming metal halide lamps.

The Dynalite 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 Center, the brief called for constant lighting levels that could be easily adjusted and programmed.

A lighting control system of Philips Dynalite was installed to effortlessly switch and dim metal halide lamps using constant wattage ballasts.

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

Dunc Grey Velodrome



Acer Arena, Sydney, Australia
© J.W.C. Adam

The right lighting for every lap
The indoor Dunc Gray Velodrome was designed with light control louvers 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 1,000 lux for broadcast events – it was critical that the lighting levels could be easily set and adjusted.

The solution was to install a flexible and simple control system that allowed the operators to use the existing building management system to control the venue lighting without any complicated add-on equipment or expensive rewiring.

Flexible control made possible
The International Broadcasting Center (IBC) was the central hub for 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.

With a mix of architectural floodlights for day-to-day operations and theatrical style light fixtures for television interviews and broadcasts controlled via a lighting desk, the brief called for a control system that could effectively control both types of fixtures and interface with the DMX protocol.

“ Philips DynaLite controllers, leading edge dimmers and converters together with innovative Philips lighting solutions were installed to ensure all lighting could be integrated into one system.”

Lighting the first 5 star stadium in Eastern Europe

After completing lighting installations at the Slavutych Arena and Dnipro Arena in Ukraine, Philips was commissioned to provide unique and innovative lighting solutions for Donbass Arena, a national football arena with a seating capacity of 51,000. Philips provided both products and a full service package consisting of concept and design development, planning, equipment supply, logistics, installation, commissioning and maintenance.

The arena was designed by ArupSport, creators of the Manchester City stadium, the Allianz Arena and the Sydney stadium. The location with a space of over 120,000 square meters is illuminated by Philips using a wide variety of luminaires and light sources, including innovative ArenaVision floodlights. 272 floodlights have been installed above the football pitch, each equipped with laser sights and with a luminous flux of 2,000 lux.

“ We keenly acknowledge the exceptional quality of Philips’ products and services, and the outstanding level of proficiency and dedication of the Philips team ...”

Alexander Atamanenko, CEO, Donbass Arena



Donbass Arena, Ukraine



Skilled solution for stadium lighting

Philips has provided lighting for the City Stadium in Poznan, the first Polish stadium completed for the European Championship football tournament in 2012. The conventional ArenaVision lighting system achieves significant energy savings, and the pitch is illuminated with ArenaVision MVF404 floodlights – the latest conventional generation lighting system specifically designed for sports facilities.

Dynamic color illumination of the external facade is provided by Philips ColorBlast LED lighting with controls and software for rich, saturated colors and color changing effects, and the external section of the roof membrane

is also backlit by the same projectors. The ColorBlast projectors have a particularly long lifespan (50,000 hours), and yet have very low energy consumption (a single projector consumes 55W).

The pitch lighting can operate according to five different modes: training, match, emergency TV broadcast, TV broadcast and standard HD TV, and the ArenaVision system achieves a reduced number of projectors, lowering the cost of the entire system and its maintenance and also significantly increasing energy savings.

“The steel roof made it possible to install the highest-quality lighting around the steel platforms where the pitch lights are installed, ensuring it meets all the requirements and produces maximum effect for HDTV.”

“The stadium is truly atmospheric”
says architect Wojciech Ryzynski



Stamford Bridge – London, UK

Chelsea FC becomes the world's first top club to use innovative LED floodlights

“ I am delighted to be able to work with Philips on delivering the best possible environment for our supporters to enjoy Chelsea matches in.

Once again, Chelsea Football Club is at the forefront of innovation and we look forward to many more memorable games at Stamford Bridge under this new floodlighting system.”

Ron Gourlay, CEO Chelsea FC

Philips has provided state-of-the-art LED pitch lighting for Chelsea Football Club making Stamford Bridge the first stadium for a top flight football club equipped with this pioneering lighting system, which will ensure that the stadium continues to be one of the most famous sporting arenas in the world.

The Philips ArenaVision LED floodlighting system is an innovative LED pitch lighting solution, designed to provide footballers, fans and TV broadcasters with the best possible experience and to support the latest Premier League requirements for TV broadcasting. The world's first ever floodlit football match took place in England, so as sports lighting goes digital again the lighting standard is being set there. With this transition another technology milestone in the modern football game is happening.

The installed LED pitch lighting meets the new stringent broadcast criteria of the English Premier League in helping to deliver high definition, flicker-free super-slow motion images and will ensure that Chelsea delivers

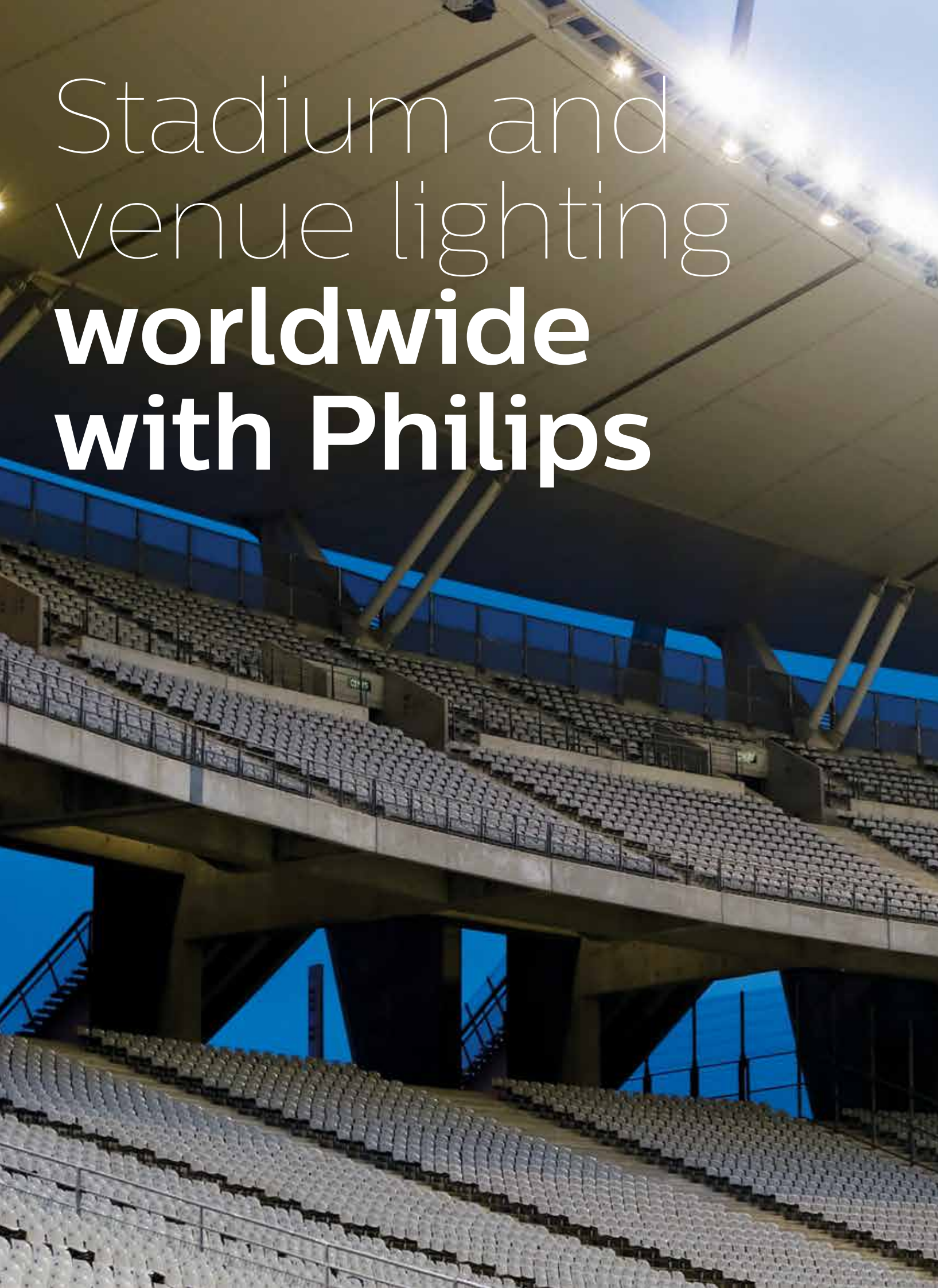
the best possible viewing experience to the 40,000 plus fans in the stadium as well as those at home.

The solution includes a dedicated user interface and a control system allowing quick, easy and reliable monitoring of the system and switching between optimal lighting configurations thereby providing complete flexibility and the ability to switch and dim each floodlight individually. The Philips ArenaVision LED floodlight system can also be used to create special entertainment lighting effects that would normally require dedicated stage-lighting, providing the opportunity for the floodlights to be integrated into pre- and post-match light shows to help build the atmosphere and excitement in the stadium.

The new LED floodlights deliver flawless lighting, achieving exceptional vertical illuminance on the players and good uniformity of light. In addition to supporting better-quality broadcast images, the club will also benefit from maintenance savings due to the exceptional long life of the LED solution.

In addition, the club is also upgrading its lighting at its training ground, installing the same family of Philips LED floodlighting to deliver a similar lighting performance when training as on match days. With the new system it is possible to light specific areas of the training ground to different illuminance levels to create the ideal practice environment for players.

Stamford Bridge – London, UK
© David Thrower



Stadium and
venue lighting
worldwide
with Philips





© 2014, Koninklijke Philips N.V.

All rights reserved. Philips reserves the right to make changes in specifications and/or to discontinue any product at any time without notice or obligation and will not be liable for any consequences resulting from the use of this publication.

www.philips.com
www.lighting.philips.com