

A wide-angle, low-angle shot of a large indoor arena under construction or renovation. The ceiling is a complex network of metal trusses and scaffolding, with numerous bright stage lights mounted on it. The arena floor is a smooth, light-colored concrete. In the background, the tiered seating area is visible, with blue seats and some sections of scaffolding. A large, curved structure, possibly a stage or a large screen, is partially visible on the right side. The overall atmosphere is industrial and high-tech.

PHILIPS

Lighting

Case Study

State-of-the-art lighting

State-of-the-art lighting for an iconic,
state-of-the-art arena





“ We’re very happy with the install of the new lighting rig at the SSE Arena, Wembley. **Not only are we saving on energy costs, but we can now also light the auditorium to a standard expected from major sporting events.** We look forward to the new opportunities this system will open up to us as we continue to upgrade our lighting systems throughout the venue.”

Peter Fewings, Technical and Building Services Director at The SSE Arena, Wembley

Solution

The existing halogen lamps were removed and replaced with 60 new LED Philips OptiVision floodlights. The new lighting can provide up to 1500 lux across the auditorium floor for when certain sports require this illuminance, with each luminaire providing a maximum Power rating of 964W. However, in normal operation, the lights produce between 300 to 500 lux and are running at considerably less energy than the previous system.

Through consultation, it was determined that the new lighting could be retrofitted to the existing floodlight system – creating significant savings over the originally requested

linear suspended system. The floodlights are supported by the existing gantries, so show lighting is not affected and Signify and its partner Powercor were able to provide the structural calculations to ensure the system was secure, and that every single bolt was torqued and marked to the highest degree of accuracy.

The new lighting system also introduces a Dynalite control system Distribution Management System (DMS) so the house lighting and show lighting can be controlled in tandem, providing the level of control and versatility required. Combined with the brighter lux levels available, the arena now has the versatility to host an even greater range of events and sports.

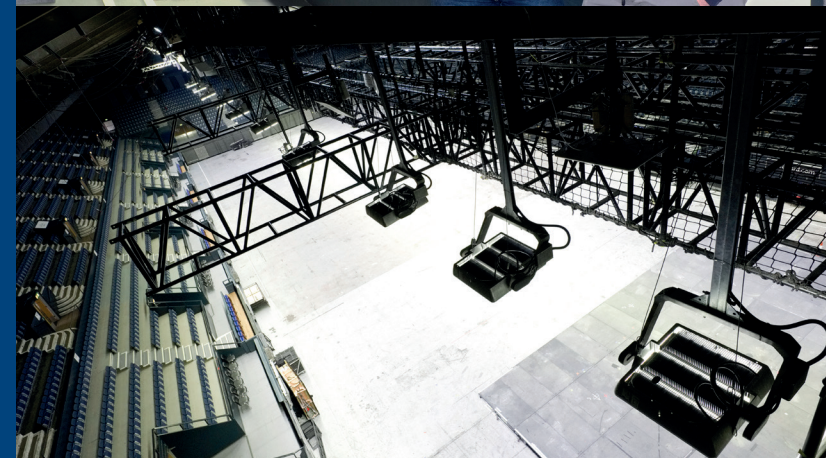


Philips Optivision Overview

The Philips OptiVision floodlighting system provides a complete lighting solution for sports lighting applications. The high efficiency floodlights come with two or three LED light modules which function with an external driver box. They meet the highest performance standards, provide outstanding light quality, and ensure safety and visual comfort.

Project Details

- 60 LED floodlights installed, using existing infrastructure rather than a costly new system
- Significant energy savings alongside increased lux levels
- Designed to cope with sound vibration and ensure absolute safety in the 12,000-capacity venue
- With the new lighting, the arena can host a greater variety of sports and events



Project overview

The SSE Arena, Wembley is one of the UK’s most iconic concert and events venues, with a rich history that goes back to its days as the Empire Pool and Sports Arena. The building has played host to numerous events including the 1948 and 2012 Olympics. Since its opening in 1934, the famous stage has been graced by the likes of Madonna, David Bowie, The Who, Dolly Parton, Stevie Wonder, Prince, and even The Beatles and Rolling Stones who shared the same bill.

The venue is renowned for its state-of-the-art facilities and SSE were keen to upgrade the lighting to the same high standard. When looking for a system, they also sought to lower costs, reduce energy usage (and subsequently emissions) and open-up the arena to potential new streams of revenue in addition to major sporting events. Modern, high-spec lighting would also bring improved controls, allowing the house lighting and show lighting to work in tandem, through one simple control system.

Challenge

The auditorium was originally lit by 99 1500W halogen lamps with an hourly power use of 148KW, which only provided 300 lux across the floor. Increasing the lux available to the SSE Arena team would make the venue more versatile (for example, making it possible to host sports which require higher lux ratings such as ice hockey), but installing lighting to this level was expected to require a new linear suspended system that would interfere with show lighting gantries. The lighting solution would also need to be incredibly secure in its fittings, due to the amount of sound vibration created in the building during shows.

Features

- Precisely controlled light distribution – symmetrical and asymmetrical – limits light pollution
- Light can be dimmed/controlled according to actual need, significantly reducing energy costs
- Pre-programmed basic plug and play control solutions with integrated driver
- Fully controllable when combined with the latest lighting control systems to enable maximum energy savings
- Single-unit floodlight version (HGB) with integrated driver box for ease of installation and lower installation cost

“ The challenge the SSE Arena was facing was a significant one – how to install modern, high-spec lighting into an existing infrastructure, to provide the level of lighting required and ensure safety and security of the fittings. **Fortunately, working with Signify we were able to ensure the structural calculations were accurate to the highest degree, and generate significant savings for the arena thanks to the ability to retrofit the Philips products to the existing system.** The SSE Arena can rest easy knowing their lighting fittings are secure, while giving them the ability to host a range of events.”

Chris Wright, Technical Director at Powercor (a Signify partner).

