



Wireless Lighting Controls

The UK's foremost designer of lighting solutions



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Wireless Lighting Controls

It is a proven fact that lighting controls can reduce energy consumption by up to 40%. As the UK hurtles towards the government's target of Carbon NET ZERO emissions by 2050, installing lighting controls in new or existing buildings is simply a logical and smart decision.

We believe the future of lighting controls is wireless connectivity. Wireless lighting controls are more sustainable than their hard-wired alternatives as no extra cables are required. The wireless connectivity also ensures faster, easier and more flexible installation, which is of particular use in refurbishment projects and listed buildings.

With detailed monitoring, reporting and control of the entire lighting system available remotely with finger-tip control via a handheld tablet, the future really is wireless.



Design, test and manufacture

Our in-house laboratory facility, 'LUXLAB', is at the centre of our product development process.

A highly skilled team of product design engineers and laboratory technicians oversee products from the idea stage through to full production status.

About us

Our company has several decades of experience servicing the UK market. Our passion for designing and manufacturing energy efficient, aesthetically pleasing lighting products, has seen the company deliver their portfolio of lighting and controls solutions to some of the UK's most prestigious healthcare establishments.

Glamox Luxonic embraces sustainability, energy saving and LEAN Manufacturing. The company can offer a variety of highly respected brands, including Luxonic, which is manufactured to the highest UK quality standards at the company's Basingstoke HQ, and proudly bears the 'Made in Britain' marque.

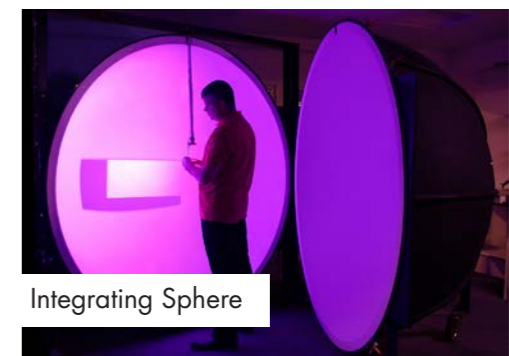
Our products and solutions are developed and tested by our engineers at our own research and testing facilities, and manufactured and certified in accordance with all relevant quality and environmental standards. Glamox Luxonic is part of the Glamox Group. The Glamox Group is a global organization, with approx. 2300 employees and annual turnover of £292m (2019).



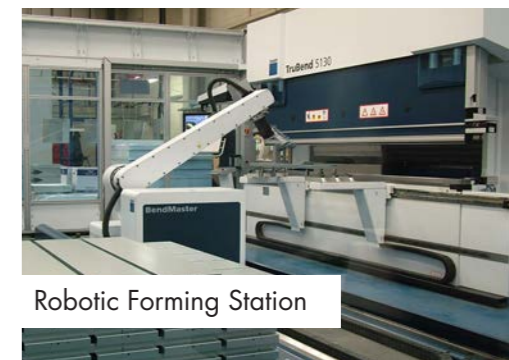
Goniophotometer



Product Design



Integrating Sphere



Robotic Forming Station



A selection of our previous
Wireless Projects

3 Centenary Square
100 Embankment
Manchester Royal Infirmary
ABP Port of Hull
ABP Port of Immingham
Heron House
Saint Gobain (various)
St Anne's School

Amazon (various)
Ford factory, Dagenham
Seaforth Dock
Stepping Hill Hospital
Prestwich Hospital
Pets at Home (various)
The Hut Group, Warrington
QVC Distribution Centre

University of Cambridge
Bank of England
Forth Ports, Port of Tilbury
EURAC factory Poole
TW Metals
RAF Lakenheath
Unilever HQ
Platform 21

Kellogg's UK HQ
Circle Square Manchester
Peel Ports, Port of Liverpool
McLaren F1 factory, Sheffield
Shop Direct Distribution Centre
UCLAN Engineering Innovation Centre
Science & Technology Facilities Council
Catalyst Building - Staffordshire University

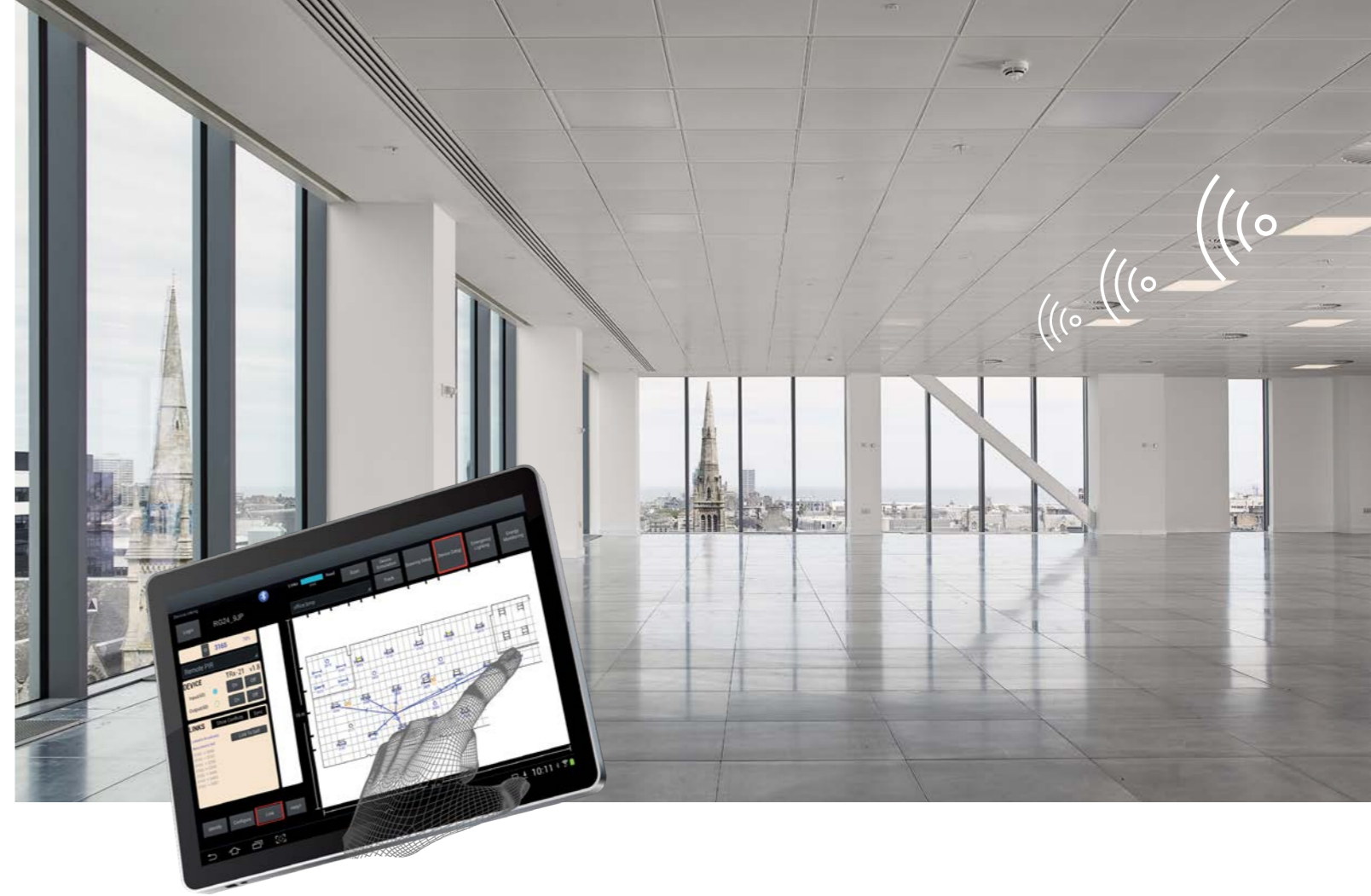
Sustainability

Glamox Luxonic is committed to efficient, sustainable design, which reduces the impact on the environment.

While our high quality, efficient solutions deliver significant energy savings for our clients, we are constantly implementing new ways to reduce our own environmental impact as a business.

We have a track record for assisting in the creation of 'BREEAM Outstanding' buildings and adopt a 'zero harm' approach to our design and manufacturing process, minimising our carbon and water footprints, as well as waste committed to landfill.

Our sustainable approach is also evident in how we deal with packaging and logistics. An inhouse box manufacturing machine allows us to create product specific packaging, therefore eliminating waste. Logistics planning includes the careful selection of delivery vehicles and routes to avoid empty vehicles.



5 year warranty

Glamox Luxonic Limited offers a 5 year warranty against manufacturing and material defects on all products branded Glamox, Luxonic, and Luxo. If our full terms and conditions are fulfilled, Glamox Luxonic Limited will either repair or replace the products with new fully functional products. This warranty is valid from the invoice date and applies for manufacturing and material defects if the products have been used/installed;



- Purely in accordance with their intended purpose and application specifications
- Within the specified operational envelope, e.g. environment.
- With power within the specified range, i.e. voltage, current and frequency.
- In a professional and legal manner and in accordance with installation instructions provided

Welcome to the world of wireless connectivity

Wireless technology is well established having been installed in more than 2,000 projects to date. The technology enables wireless communication between a wide range of standard and emergency luminaires and controls. Emergency test reporting, energy monitoring and occupancy analysis data is available via the cloud through wireless collators to the Luxonic Wireless portal.

Easy to commission via tablet, our wireless enabled lighting and controls are suitable for new and refurbishment projects across all market sectors. This system has been deployed in award winning retail projects, warehousing, office, manufacturing, healthcare, education and logistics projects. We have supplied small projects as well as large installations of over 5000 wireless luminaires.

















You define. We connect.

Innovative lighting control tailored to your needs. Using cutting-edge technology, we create the features that you select, and we deliver them in order to meet all necessary requirements in project specifications.



Other features

- 
Switch
- 
Tunable white
- 
Dimming
- 
RGBW
- 
Neighbouring linking
- 
Multi-group
- 
Dynamic grouping
- 
Scheduler
- 
Push notifications
- 
Central monitoring
- 
Maintenance monitoring
- 
Customised user interface
- 
Online platform
- 
Open API

Three different levels of complexity

We offer lighting control solutions on three different levels of complexity. You define what type of features you need and which areas you want to cover, whether it is an entire building or a single room. Afterwards, we connect premium luminaires with smart technology in order to create precisely the solution you need, delivered according to user needs and the project specification.



BUILDING WIDE – interactions in the whole building

A building wide system is at the heart of every Smart building. Our centrally monitored lighting control systems provide full visual feedback and detailed building analysis. All our solutions are capable of sharing data through open API's (application programming interface) to allow further integration with other building services – such as BMS or Room Booking systems.



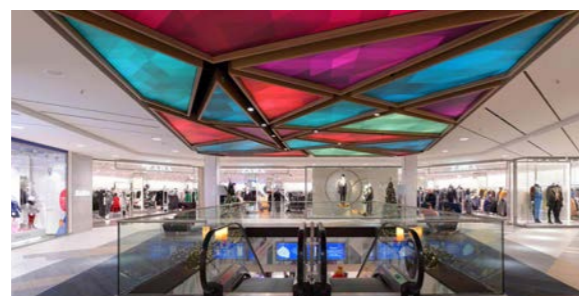
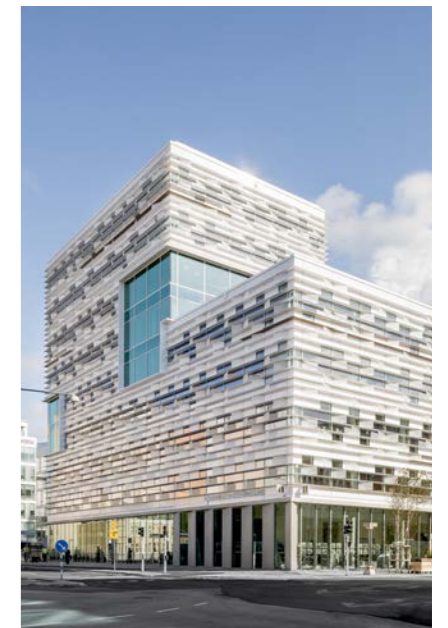
MULTI ROOM – interactions between rooms

Multi-room controls take functionality beyond a single space, allowing advanced features such as corridor linking, time management and daylight harvesting. Our modular approach allows the systems to grow and expand as the building and client requirements evolve.



SINGLE ROOM – one room at the time

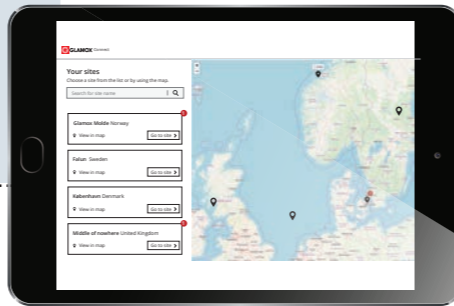
Simple solutions for single room applications. From mains switching sensors, to easy-to-use scene control, our single room energy saving options offer both basic and complex levels of control.



Glamox Connect

All you need in one system!

Glamox Connect is our central monitoring system. It works like a hub for integrating different lighting control technologies, and offers complete control over your light installation, with 24-hour monitoring of all your devices.



Safe storage in the cloud
Access your sites and data from anywhere.

Multi-user and multi-site user interfaces

Glamox Connect is a cloud-based web application for designated users. Let them share the data on all your sites for complete control over the entire lighting installation.



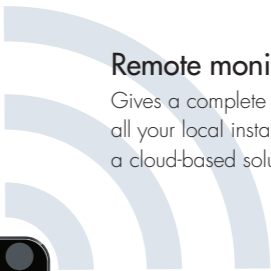
Energy monitoring

A complete overview of the energy consumption on your site, which can be filtered by predefined areas.



Emergency monitoring

Get alerts directly to maintenance personnel when emergency lights are failing, and generate emergency reports according to standards.



Remote monitoring

Gives a complete overview of all your local installations from a cloud-based solution.



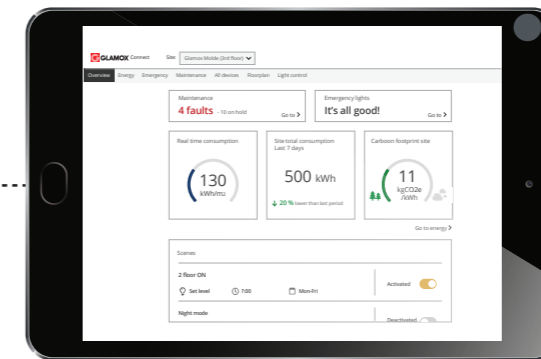
Floor plan

An easy overview of your installation thanks to a clear and easy-to-prepare floor plan visualisation.



Maintenance planning

Receive alerts whenever luminaire faults occur, including information about each fault and its location. The system has direct integration with online product pages.



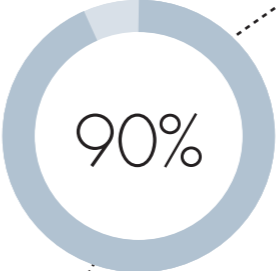
SMART integrations

Continue utilising the data that is available in the cloud.

Reduce carbon footprint - save energy costs

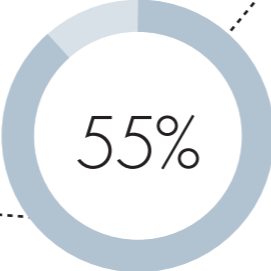
Electricity bills are among the largest costs at any facility - and lighting is a major part of it. But the great news is that with our lighting control systems, you can reduce energy consumption by up to 90%.

Lower energy consumption translates to less waste and less pollution. You can choose solutions that are both economical and eco-friendly.



ABP Ports, Port of Hull

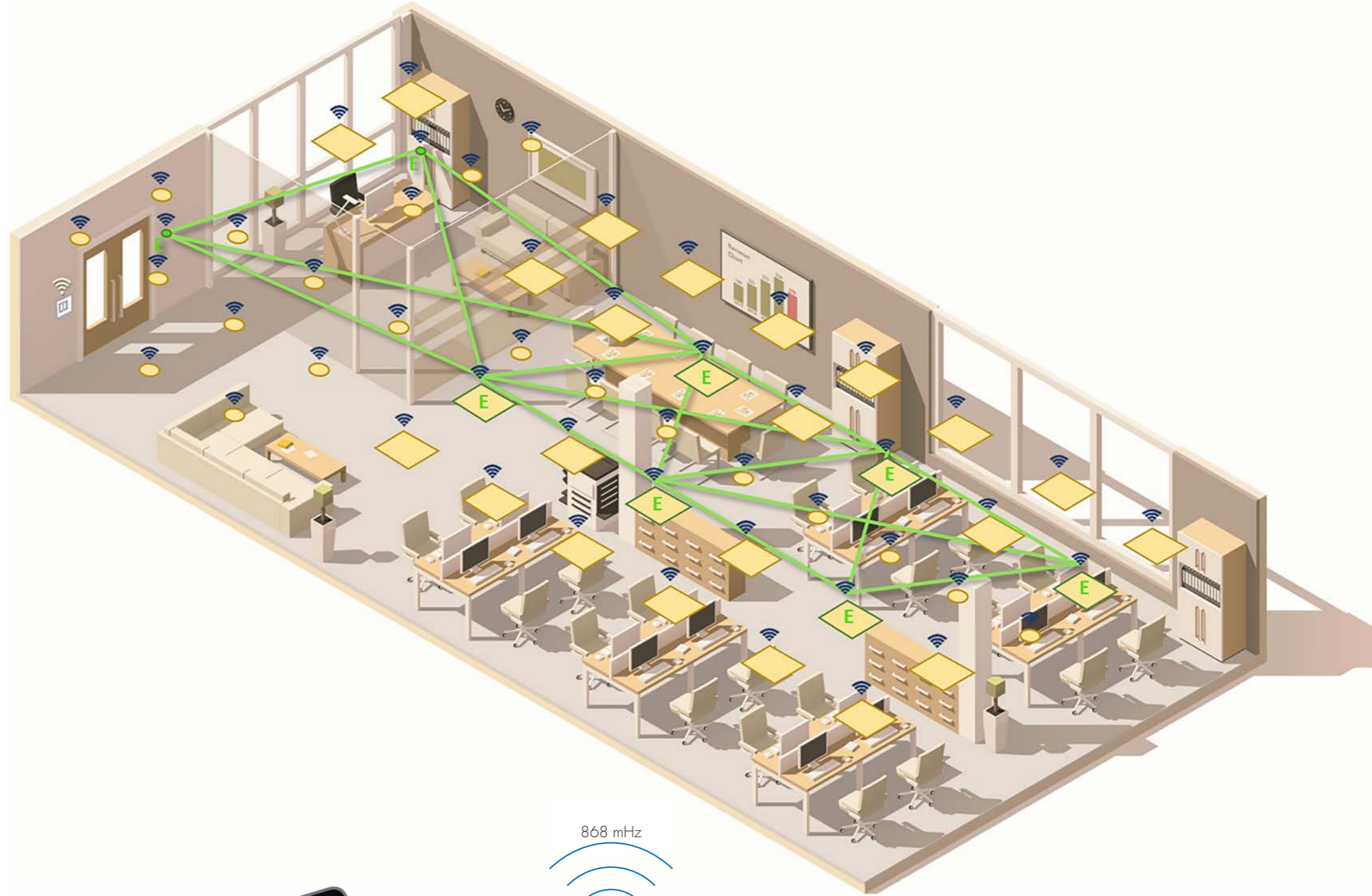
ABP Ports is responsible for 25% of the UK's sea-borne trade. ABP Ports upgraded their warehouses at Port of Hull with new LED luminaires and a wireless lighting control system. The upgrade resulted in a 90% energy cost saving.



Pets at Home (430 stores)

New LED luminaires, sensors and wireless lighting controls enabled Pets at Home to achieve annual energy cost savings of £2.9m, make CO2e savings of 9,762 tonnes, and win an 'eadie' energy saving award.





Glamox Wireless Radio

Standard Functionality



A tablet and bridge is used to commission the system at fit-out stage. Once set up, the system does not need a gateway or central hub to operate.

System Highlights



Wireless Communication Technology

Glamox Wireless Radio uses the 868 MHz frequency for 'Short Range Devices' (SRD). Components are CE marked and meet the requirements of ETSI 300330 which is the relevant standard for wireless transmission. Our transceivers can transmit up to 100 m, providing significant benefit over mesh type networks which operate over short distances at significantly higher frequencies.

- Point to point communication is more robust
- No Wi-Fi
- No PC
- No Communication wires
- No single point of failure
- Does not need gateway/central hub to operate

Simple Wiring

Only 3-core cable required (LEN)

- New installations save significant cost compared to wired lighting control systems due to no separation of un-switched and switched live wires
- DALI, DSI or 1-10 V control wiring, LCM based Sensor wiring or Belden field bus network type wiring is not required.
- Existing wiring can be reused in refurbishment projects

No Lighting Control System Design Required

- No limit to the number of wireless luminaires included in the lighting design
- No limit to the number of luminaire control groups
- No limit to the size of project
- No lighting control design required
- No design risk
- Inexpensive and more flexible as compared with wired systems
- Start small, extend, modify, control and monitor.
- Eliminates the potential for contract variations

Each Luminaire is Dimmable and Addressable

Each main luminaire has a dimmable driver for light level control, an integral microwave or PIR presence detector and a wireless transceiver for communication between luminaires. These features enable each luminaire to be freely positioned and wired by a 3-core cable. Each luminaire has a unique address and is programmed by android tablet to meet the client's fit-out requirements. Each luminaire can control itself individually or be grouped with other luminaires for total flexibility in area control. Wireless communication enables features such as corridor linking to be achieved easily.

Daylight Detection

Both open and closed loop daylight detection is catered for and luminaires can be connected for group daylight detection.

Simple Commissioning Setup

The system is simply configured and reconfigured by Glamox Luxonic or the client using an Android tablet (no need to call out a commissioning engineer for minor changes). Space planning is not required prior to installation as all areas are configured at commissioning stage.

- No separate lighting control installation; install the luminaire, install the control system.
- No need for the building occupant to be consulted until the day they move in
- Cat A commissioning eliminated

Scene Setting

There are a number of scene setting controller options available.

Driver and Lightsource Feedback

The addition of a feedback board enables the system to monitor the functionality of the mains driver and light source.

Distributed Presence Detection

- Each main luminaire incorporates a PIR or microwave presence detector
- Infinite flexibility below ceiling at fit-out
- Absence control by the connection of a retractive switch
- Occupancy heat mapping possible

Tuneable White

Our system fully supports tuneable white and Human Centric Lighting (HCL) applications.

Emergency Lighting Monitoring and Reporting

Both self-contained and central battery powered emergency luminaires can be monitored and the results reported.

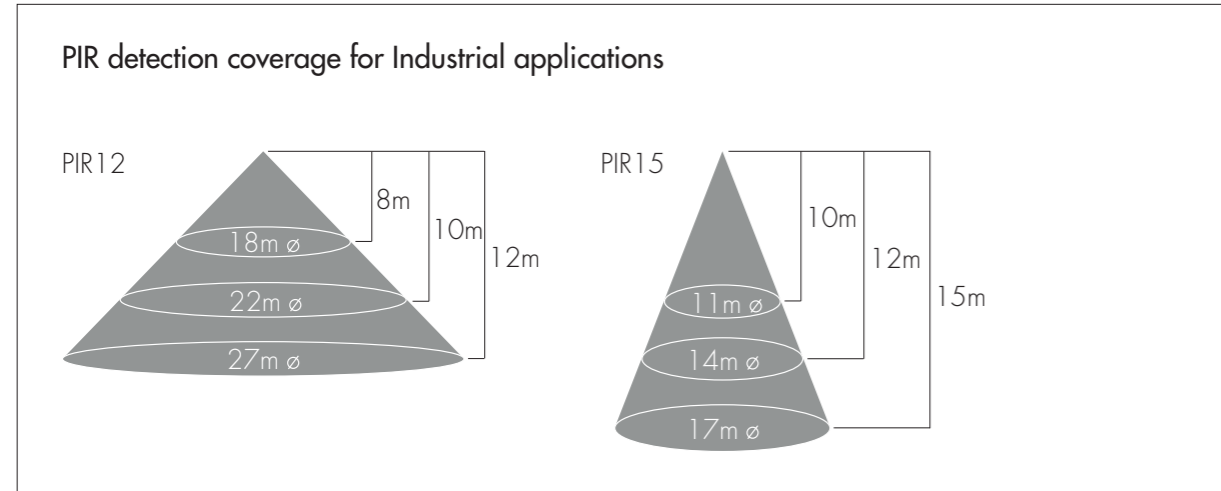
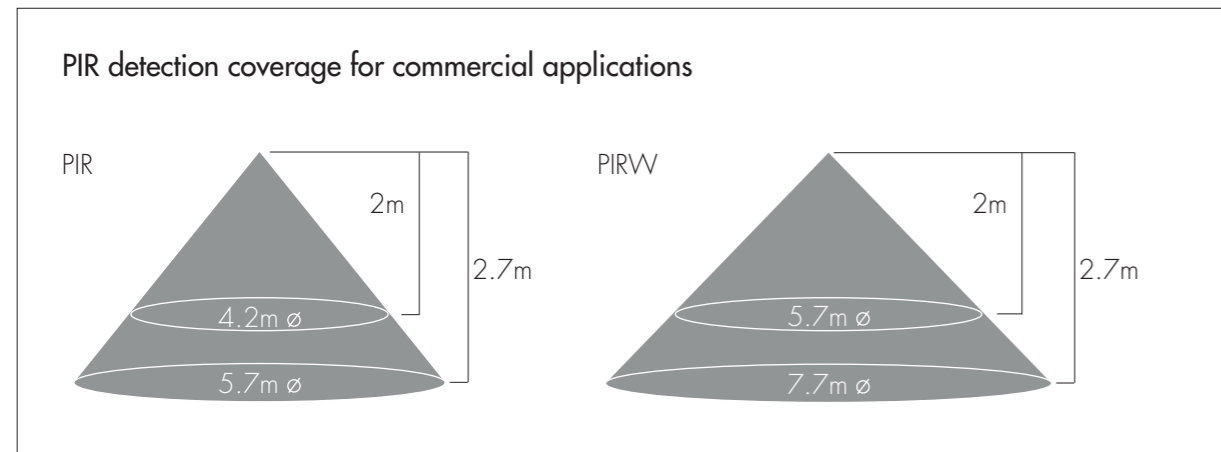
Safety and Security

Flexible lighting when and where it's needed with corridor linking provides a feeling of safety for lone occupants. Lighting can be connected to access control systems for Room Control, i.e. Access Control on, Auto off. Elimination of blind spots prevents nuisance switching off. Each luminaire has different modes, i.e. day & night mode whereby different PIR sensor profiles can be programmed when the system senses low activity such as lone workers or security patrols.



Presence Detection

All main luminaires are supplied with an integral PIR or microwave presence detector, with fully adjustable features such as time-out and hold-on etc.



Microwave detection

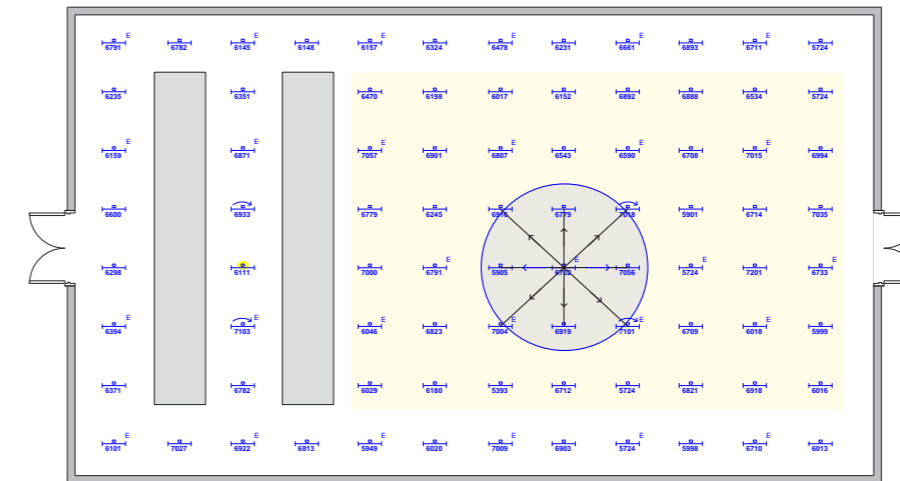
A selection of luminaires use microwave presence detection rather than passive infrared to maintain ingress protection and impact resistance.

Open Area Linking

Complex links between luminaires are possible with a few finger movements on the tablet. Collect zones of luminaires by touch and drag a zone box around the luminaires to determine the zone to be linked. Press and hold the 'Self + ?' tab and the tablet

provides the option to change the quantity of luminaires to link. Input 8 and save, then touch the button again and the pattern for linking will appear on the screen. Accept this and all links to luminaires in the defined zone will be made automatically.

Typically the self + value will be 2, 4 or 8 with 2 & 4 being ideal for aisle zones whereby the luminaire before and after the luminaire detecting occupancy will switch on. Complex links can also be made manually by simply dragging your finger.



Daylight Detection

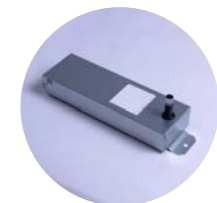
Each luminaire can be linked to a remote 'closed loop' light sensor to facilitate;

- Individual and group luminaire dimming for daylight linking
- Individual and group luminaire dimming for maintained illuminance

Luminaires can be grouped together for daylight linking to harmonise the appearance of the working area.



Downward facing 'Closed loop' remote mounted light sensor. This can be installed at any emergency luminaire position.



Upward facing 'Open loop' remote mounted light sensors for warehouse applications with rooflights.



Closed loop daylight detection can be built into our luminaires as part of the transceiver module.

Scene setting

We offer a range of scene setting wall mounted and hand held remote controllers.



Integrated Bluetooth Scene Controller

This is a 6 button scene controller where each button can control 5 groups of luminaires and each button can raise/lower the level of that selected scene. The scene plate can be programmed from a Bluetooth enabled smart device and communicates with the luminaires using 868 MHz.

This scene controller can be used to enable simple tuneable white applications.



Presenter's Switch Control

A two-gang latching switch is hard wired to one wireless luminaire. This gives on/off and high/low control to preset levels.



Key Fob (868 MHz)

A five button key fob remote controller where each button can control five groups of luminaires and programmed by tablet and interface.

Data Security

To prevent unauthorised access or interference on our wireless network, communication between Glamox Luxonic wireless luminaires and devices is encrypted. This measure prevents 3rd party SRD devices adversely affecting the operation of our wireless system.

The wireless system is set up by a tablet and wireless bridge and this of course can make changes to wireless devices possible subject to authorised access to the tablet.

The Glamox Wireless Radio system cannot receive communication from underlying networks such as Wi-Fi, Bluetooth, Zigbee or Thread which operate at a significantly higher frequency. Therefore no security risk exists whereby data is transferred or stored on the Glamox Luxonic network.

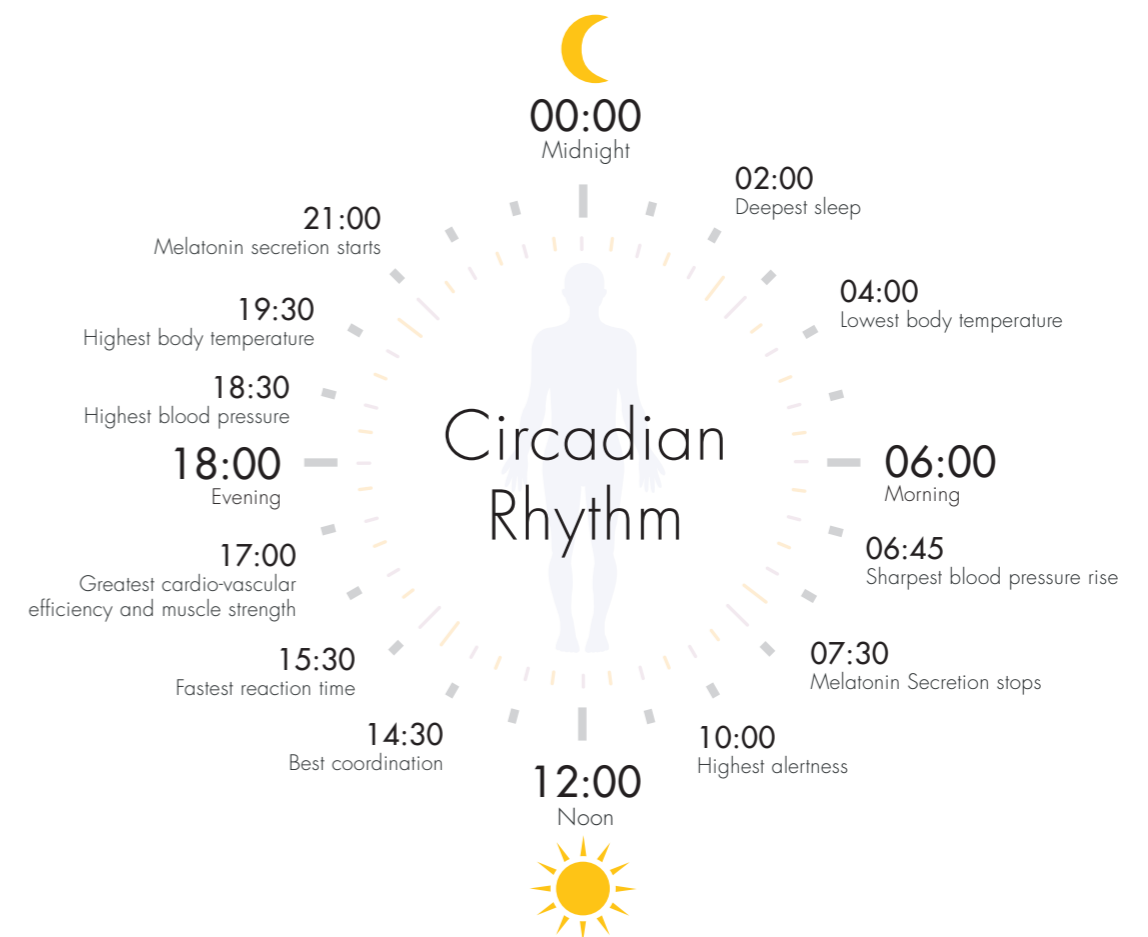
This system does not need connection to the internet. Where internet connection is desirable for information collation to the cloud via Wi-Fi, internet or 3G mobile connection from a tablet or Collator, data traffic is one way only, i.e. system infiltration in the opposite direction is not possible.

Glamox Luxonic recommends back up of site data to the cloud to ensure database security for future use.

Human Centric Lighting

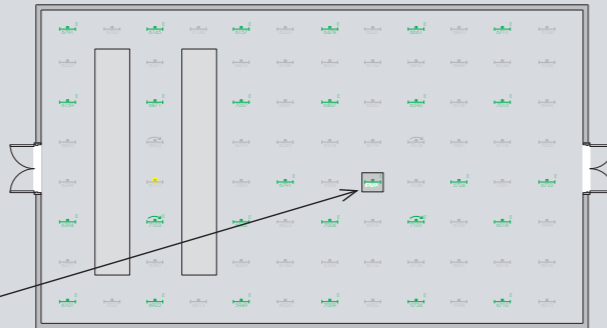
HCL is a way of bringing the natural changes of light intensity and colour temperature indoors by using artificial light to imitate natural light. HCL puts humans in the centre when developing lighting systems, providing optimized work and living environments.

Daylight stimulates us, and influences our moods and activity level. As we spend much time indoors, the characteristics of artificial light becomes significant. HCL solutions can compensate for the lack of daylight and contribute to the natural circadian rhythm of humans. We have a range of luminaires specifically designed to incorporate 'Tunable White Technology', the technological ingredient required to create Human Centric Lighting.



Emergency Monitoring and Reporting – Self contained

With the inclusion of a self-test emergency inverter/battery pack, full emergency monitoring with centralised reporting is achieved with emergency test report download from the cloud.



Emergency Monitoring and Reporting – Central Battery

Offline Static Inverters with Wireless Lighting

The Glamox Wireless Radio system can be used in combination with a Central Battery System with an offline Static Inverter (CBS/SI). The CBS/SI to be supplied by the installers preferred supplier.

Our offline Static Inverter wireless offer is designed to provide central emergency power in compliance with BS-EN-50171 to

an essential lighting distribution board in the event of mains failure to the CBS/SI system or building. The CBS/SI does not respond to local non-essential circuit failures without an established method of circuit monitoring to engage/disengage the normal mains supply to or from the CBS/SI.

Risk of no lighting is mitigated by essential lighting being mixed in with non-essential lighting and will continue to function as normal in conjunction with essential/non-essential luminaires on other circuits, particularly in warehousing type applications

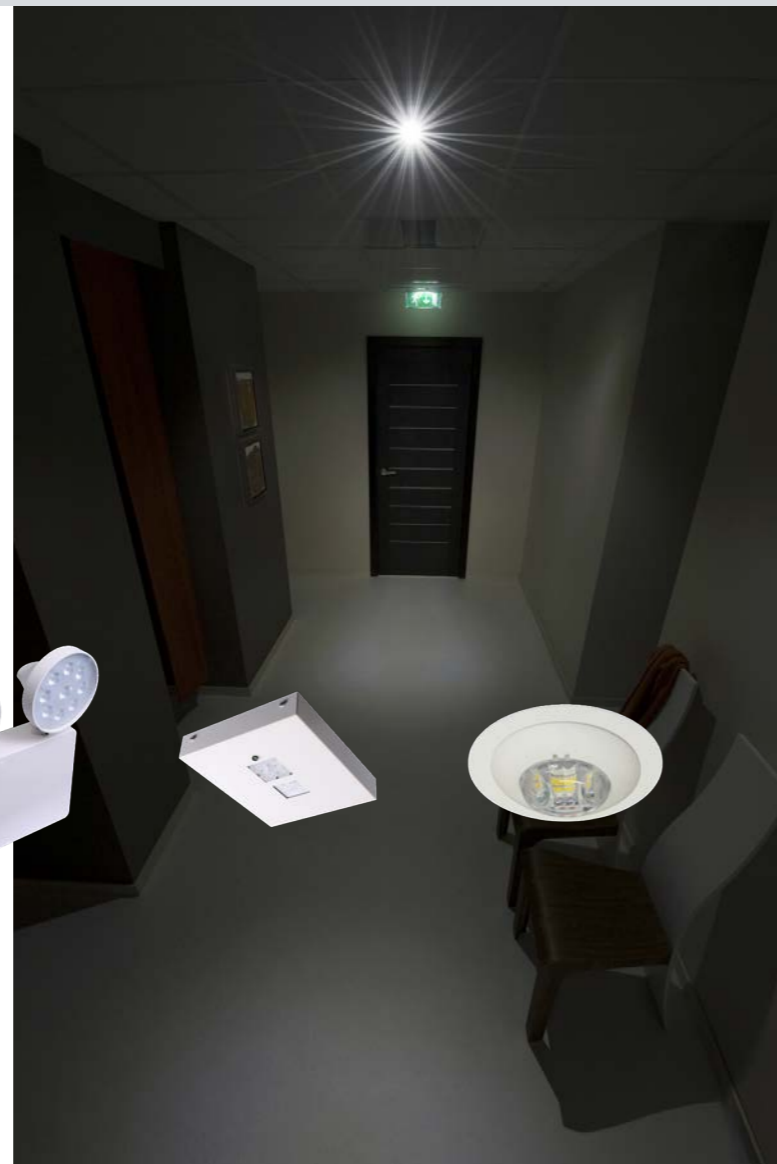
where control scenarios such as 'me + 8' are adopted whereby the luminaire detecting brings on 8 luminaires around it in a 9 luminaire block across multiple busbars/circuits.

Should the essential and non-essential lighting be off or dimmed due to local control when a complete mains failure occurs, the non-essential lighting will go off and the essential lighting will go to a pre-programmed light level.

Centralised Emergency Monitoring and Reporting

Many public buildings, especially hospital premises, have a stand-alone network of emergency luminaires that are tested using key-switches in the conventional and well established way. Our wireless system however can be used, in conjunction with our maintained and non-maintained emergency luminaires to automatically test, monitor and report the status of the emergency lighting providing a simple, effective and accurate way of generating the information that is obligatory in any public building.

Non-maintained wireless emergency luminaires



Online Static Inverters with Wireless Lighting

The Glamox Wireless Radio System can be used in combination with a Central Battery System with an online Static Inverters (CBS/SI). The CBS/SI to be supplied by the installers preferred supplier.

Our online Static Inverter wireless offer is designed to provide central emergency power in compliance with BS-EN-50171 to an essential lighting distribution board and onward to essential luminaires with a built-in changeover relay. In the event of mains failure to a lighting sub-circuit or the building, a (changeover) relay within the luminaire changes over to CBS/SI power for emergency lighting.

The changeover relay in all pre-configured emergency luminaires has a 400ms break which signals the luminaire to enter emergency mode on mains interruption whereby control is lost and a pre-determined light level in consideration of the CBS/SI output capability is realised. Wireless senders powered from a local essential circuit take a 24V signal from a non-essential circuit and will send the luminaires back into normal mode once the non-essential power returns and a 24V signal is received.

Should the essential and non-essential lighting be off or dimmed due to local control when any mains failure occurs, affected non-essential lighting will go off and the essential lighting will go to a pre-programmed light level with control disabled.

Driver and Lightsource feedback

Online and offline static inverters are supplied in varying outputs, mixed shapes and sizes depending on the load to be supported in the building.

Wireless emergency luminaires can be fitted with Driver and light source feedback boards to enable detection of failed components that form part of the emergency test report system at the Glamox Luxonic Wireless portal.

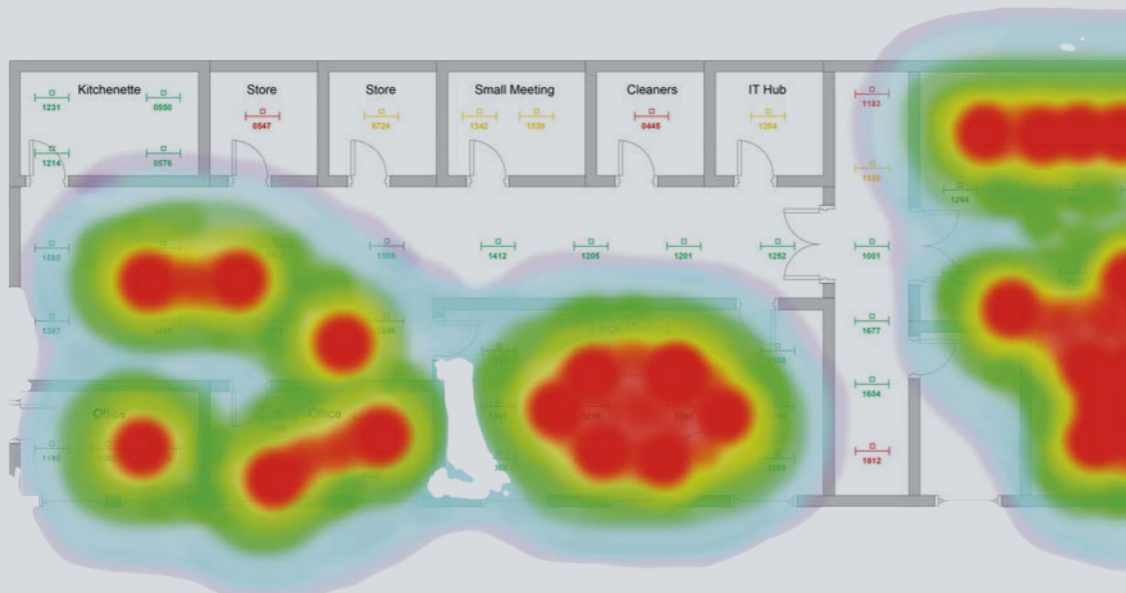
Cloud Based Reporting

Precise measurement of energy usage and analysis of energy data relative to occupancy is achievable, providing further opportunity to save energy using space utilisation data. Energy monitoring graphs show previously installed load 'before' by comparison to newly installed load with LED lighting and energy usage with control 'after' for individual areas on screen.



Space Management

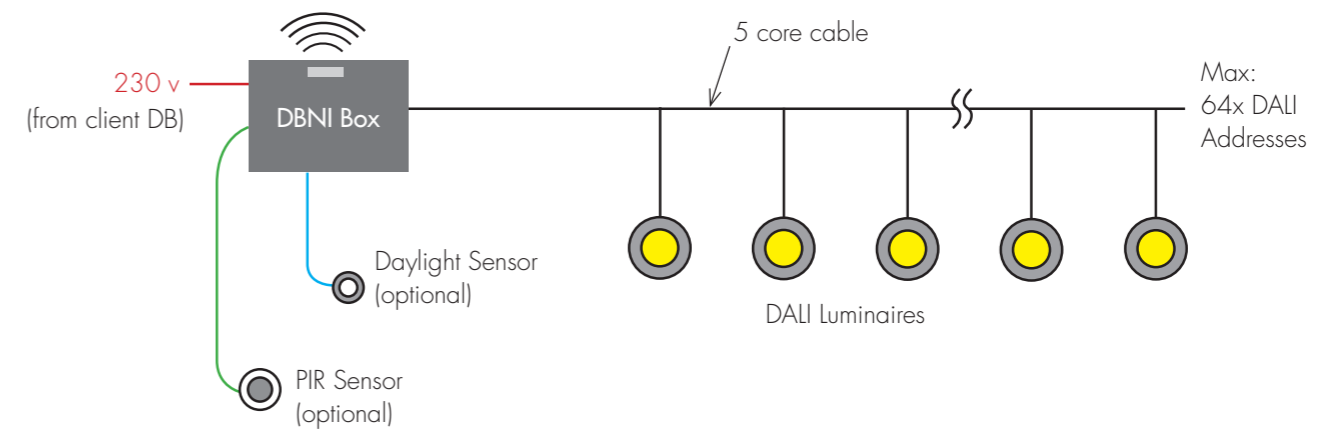
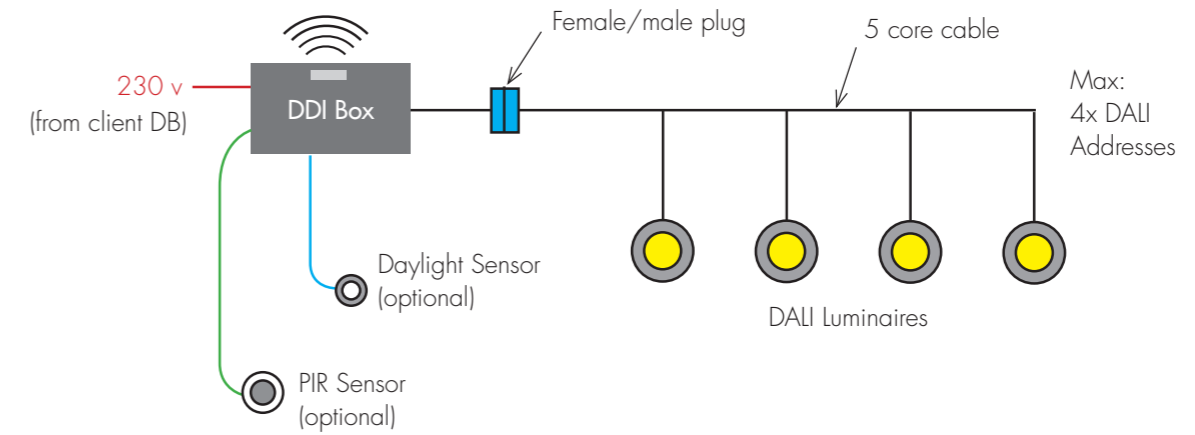
If collators are installed status information is logged to the cloud server. This can be used to create e-mail alerts or reports. For example, the emergency lighting test status, lamp voltage indicator, light level or occupancy information. The example below shows a heatmap of hourly occupancy levels throughout the day.



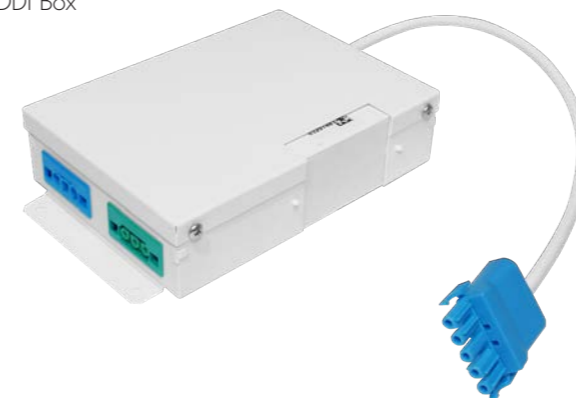
DDI & DBNI DALI Interface

The DALI Dimming Interface (DDI) is a wireless hub designed to interface DALI luminaires and enables the connection of an optional 230 Volt PIR and/or photo-cell. This DALI dimming interface uses DALI Broadcast demands to dim and switch connected luminaires. This

hub is designed to interface non-emergency luminaires unsuitable for wireless conversion and provides a 5-pole female plug for connection to up to four luminaires.



DDI Box

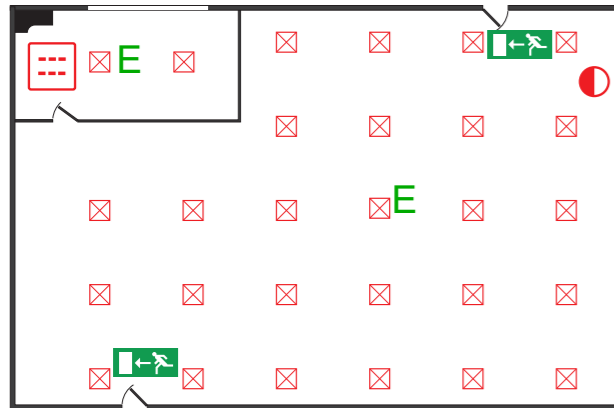


DBNI Box



Connectivity

Standard Functionality



Each luminaire has a wireless node and PIR or Microwave presence detector

- Emergency luminaire
- Optional daylight sensor
- Optional wireless scene controller

Standard Features;

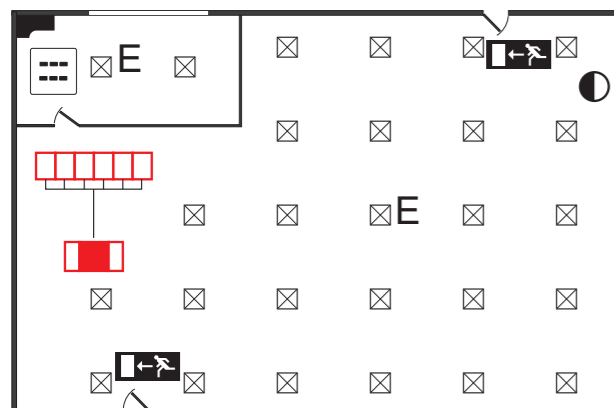
- Unlimited overlapping presence groups
- Independent daylight groups
- Commissioned with a Tablet App but no need to have tablet or any other central controller on site for a day-to-day operation
- Self-test emergency monitoring on tablet



BMS Lighting Interface (Store Controller)



BMS-Dry Contacts



A 3rd party device such as a timeswitch, MBS or manual switch



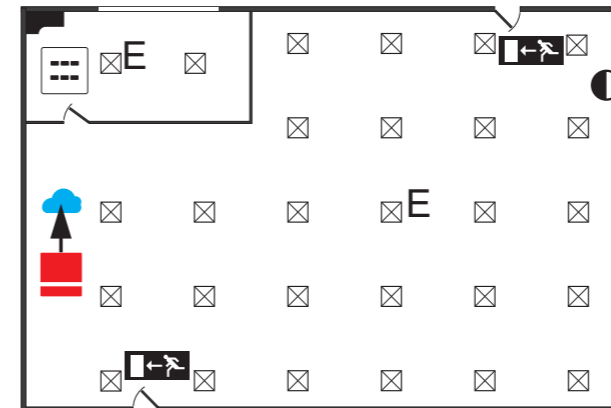
is connected to a Glamox Wireless Radio BMS Interface.



The Glamox Wireless Radio BMS Interface sends commands to luminaires to override sensors and/or set scenes and light levels. Glamox Wireless Radio devices with relays can trigger actions in non-lighting devices (eg HVAC, blinds, fans) or BMS inputs.

Connectivity

Enhanced Functionality – Online Monitoring



Standard Features plus;

- Add one or more wireless Collators with 3G Internet connections to enable Online functions;
- Emergency Lighting alerts and reports
 - Energy monitoring and heat-mapping of occupancy
 - 7-day schedule of Timed Events + Circadian Rythms/HCL
 - Change timeouts and light levels remotely



Glamox Wireless Radio Collator



Office

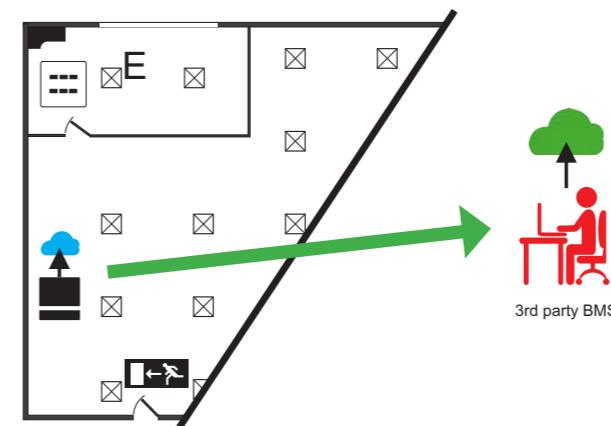
OR



Industrial



BMS / Integration – Online

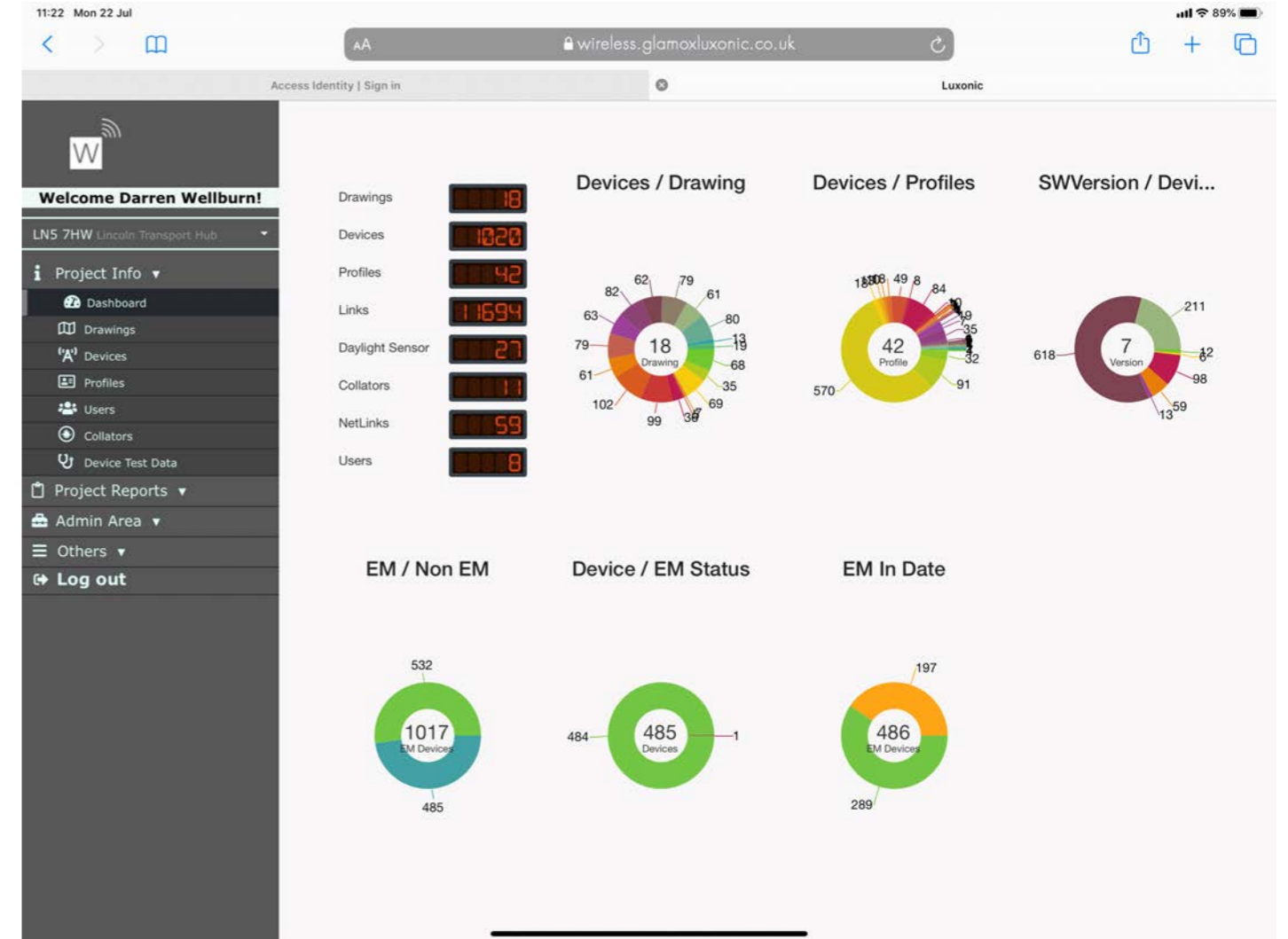
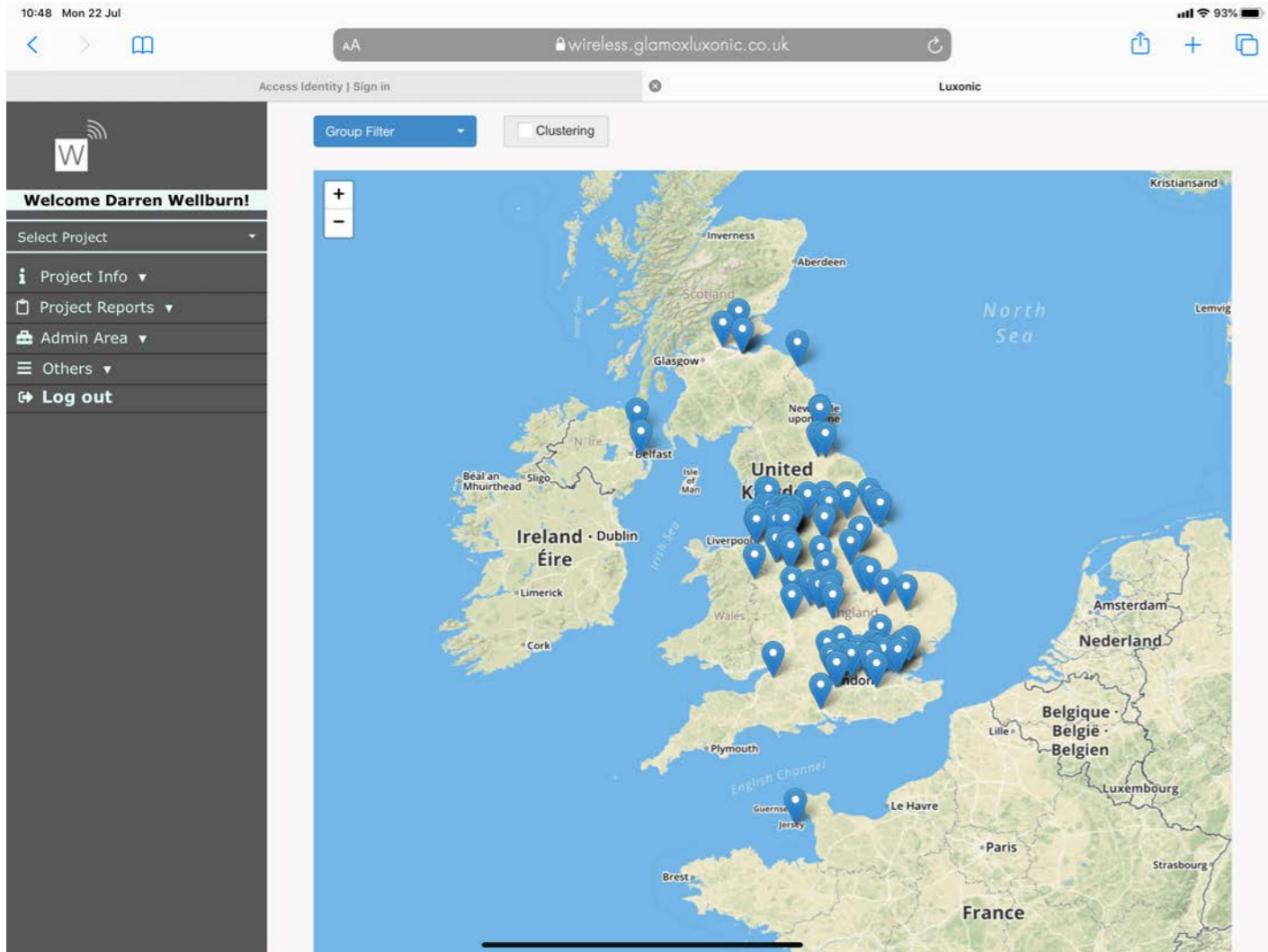


Glamox Wireless Radio Collators information can be combined with 3rd party data and incorporated into other cloud-based systems.

A bespoke API

Can be built to transfer data from Glamox Wireless Radio servers

to a 3rd party server



All the features.

You define. We connect.

		Building-wide
		Wireless Radio
	Switch (ON/OFF)	✓
	Presence detection	✓
	Absence detection	✓
	Dimming	✓
	Multi-group	✓
	Dynamic grouping	✓
	Daylight harvesting	✓
	Neighbouring linking	✓
	Tunable white	✓
	RGBW	✓
	Energy monitoring	✓
	Scheduler	✓
	Customised user interface	✓
	Push notification	✓
	Central monitoring	✓
	Emergency monitoring	✓
	Maintenance monitoring	✓
	BMS integration	✓
	Space usage analytics	✓
	Online platform	✓
	Open API	✓

✓ Integrated in the system

Case Studies

Wireless connectivity in practice



3 Centenary Square

3 Centenary Square was a complex £27m project comprising of the redevelopment of Birmingham Municipal Bank, and was a major refurbishment of the Grade II Listed building on behalf of the University of Birmingham. Built in the 1930's and designed by T.Cecil Howitt, the bank is of key significance to the UK's second city and importance lies within the preservation of the original culture and value.

Brief

Our brief was to supply a complete and detailed design, providing a compliant lighting scheme, and a lighting controls system to meet specification expectation. We were required to work closely with the clients, M&E consultant and architect, while remaining within M&E contractors' budgets. The objective was to create an exceptional working environment, but also to revive a city landmark.



Solution

As this was a Grade 2 listed building, our team faced various challenges; All existing wiring points should be used, no additional wiring points were to be considered on walls or ceilings.

A GlamoX Luxonic wireless lighting control system and a wide range of wireless connectivity enabled luminaires would provide the perfect solution to the issue of not using additional wiring or modifying the walls and ceilings.

The luminaires would be provided in a non-standard paint colour to meet Grade 2 listed heritage requirements.

Result

The new wireless lighting system ensured that no new wiring was required on the walls or ceilings, not only meeting customer expectations, but also providing a more sustainable solution.

The wireless lighting controls enable the entire lighting system to be monitored and controlled via a hand-held tablet. Detailed energy usage and emergency lighting reports can be accessed remotely. The new wireless system is also expertly equipped to reduce carbon footprint and enable major energy cost savings throughout the coming years.

Architect: Clancy Nicholls Architects Birmingham
Main Contractor: Galiford Try Midlands
M&E Contractor: NG Bailey Birmingham
Consultant: WSP Birmingham



100 Embankment

Located in the beautiful Medieval Quarter with stunning views across the River and city and a tiered roof terrace overlooking Manchester Cathedral, 100 Embankment is much more than 166,000 ft² of Grade A office space. The £80m project's commitment to sustainability and human well-being is evident. The building boasts solar panels, EV charging parking spaces, access to natural daylight with 360 degree panoramic views, and stimulating break-out spaces.

Brief

Our brief was to supply aesthetically pleasing, energy efficient luminaires to suit the new building. There were different areas and applications requiring lighting, such as offices, communal areas, toilets and a bicycle store. There was a strong emphasis placed on sustainability and energy efficiency because the client wanted the building to achieve BREEAM certification. The lighting system would need to be monitored and controlled.



Solution

The lighting design team reviewed all the different installation areas and recommended a variety of luminaires based on light calculations in Dialux lighting design software.

A wide variety of products were recommended to satisfy the requirements of the different areas, including the development of a new, bespoke, continuous row-mounted luminaire for the offices.

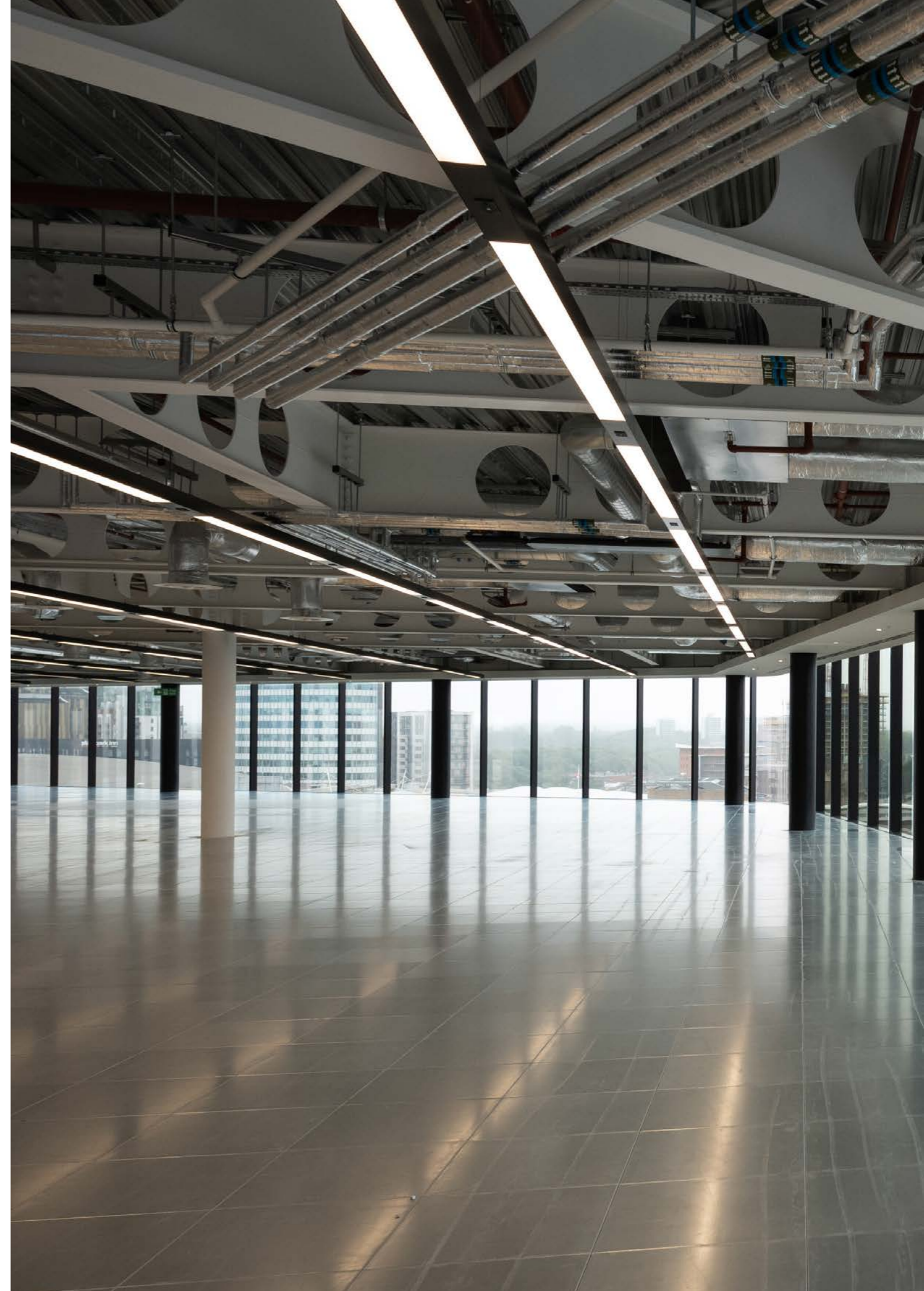
All the recommended products met the client's energy efficiency requirements. A wireless lighting controls system was recommended as it is a more sustainable, flexible solution than traditional, hard-wired lighting controls, and offers a wealth of system information quickly and simply.

Result

The installed wireless controls system enabled the customer to monitor, download data and control the lighting system remotely with a handheld tablet. The system provides the ability to monitor space management and energy usage, therefore allowing the customer to tweak settings to achieve the greatest energy cost savings and carbon emissions reduction.

More than simply adding some of its own style to the building's aesthetics, the energy efficient lighting system helped the customer to achieve BREEAM Excellent certification for 100 Embankment.

Architect: Flanagan Lawrence.
Main Contractor: BAM Construct UK.
M&E Contractor: A&B Engineering.
Consultant: Ridge and Partners.



Pets at Home

Pets at Home is the UK's largest pet supplies retailer, also offering onsite veterinary services. The company was established in 1991 and has over 400 stores in its nationwide network.

Brief

With 420 stores, 350 of which have 'Vets for Pets' veterinary services onsite, Pets at Home invited Glamox Luxonic to provide a commercially economical lighting solution that suited both its retail and clinical needs and would deliver significant energy savings.



Solution

We selected our HI-MAX luminaires as the most suitable range for Pets at Home's large open plan spaces. The Hi-Max is a one-piece diecast aluminium highbay luminaire suitable for mounting heights up to 15m. It offers significant light output while maintaining an impressive 165 Luminaire Lumens per circuit Watt.

With Pets at Home extremely focused on reducing their carbon emissions and achieving significant energy cost reductions, we recommended our wireless lighting controls system as the perfect way to monitor and control the lighting system in order to maximize savings.

With sustainability and capability in mind, our bespoke design also included colour temperature change panels for use in the veterinary surgeries. The entire lighting system was to be controlled wirelessly with a handheld tablet.

Result

The operating theatre areas now have the capability to adjust mood by changing colour temperature between 2,000 and 5,700k, allowing the vets to relax the animals as well as operate with clinical level lighting. In stores, each luminaire was specifically built with a wire transceiver, which allows the control system to monitor levels of daylight and automatically adjust interior lighting levels in response, to optimise working conditions.

Our energy efficient and innovative solutions suited the retail and clinical needs of Pets at Home, and provided the company with an estimated 55 per cent improvement in energy saving. Our lighting systems generated energy cost savings of £2.9m per year and enabled Pets at Home to win an 'edie' energy saving award.



Architect: N/A
Main Contractor: N/A
M&E Contractor: N/A
Consultant: Ignite Energy

ABP Ports

Associated British Ports, Port of Hull, handles approximately 10 million tonnes of cargo, amounting to around £12 billion in trade each year. Hull is also home to the UK's first fully-enclosed cargo-handling facility for weather-sensitive cargoes such as steel and bagged products. A key gateway on the UK's busiest trading estuary, the Humber, the Port of Hull supports 12,000 jobs and contributes over £800 million to the economy every year.

Brief

Port of Hull Terminal required a lighting system that could meet the energy demands of a 24-hour port with very little downtime. The design, supply and installation of an LED lighting and wireless lighting controls system for three warehouses located on the Finland Terminal, Queen Elizabeth Dock. The existing 250W and 400W High Pressure Sodium luminaires were to be replaced in the same location with suitably rated, individually fused LED luminaires generally in accordance with TM21, to meet the desired specification. The installation should utilise all existing cabling where possible.



Solution

The Hi-Max luminaire was specified in all areas. This dedicated, extremely high efficiency warehouse luminaire was supplied with appropriate glare and luminance ratings. The scheme was proven via a DIALux calculation prior to installation.

The warehouses' 24/7 working cycles and lighting usage information was collated and our Energy Calculator was then used to calculate energy savings. Calculations showed that the new lighting system would provide high energy cost savings and payback would be achieved in only 2.4 years.

The wireless system was designed to be programmable with an android tablet. The system had the ability to collate occupancy data for energy usage monitoring and status of the emergency lighting.

The luminaires were to be supplied with a presence detector and light sensor. This provided the ability to program the system to make full use of natural daylight, and the illumination of areas as specifically required.

Result

Representatives from the Estates Department were provided with training, which then allowed them to fine-tune the system as required in future. ABP ports later informed us that they had achieved 96% energy cost savings, exceeding our realistic calculations. The whole system was wireless, and so reconfiguration in future would be possible without rewiring and without the need to gain access to the light fittings or sensors.

Architect: N/A.
Main Contractor: N/A.
M&E Contractor: N/A.
Consultant: Salisbury Group.



Pharmacy Building Prestwich Hospital

A new pharmacy building was constructed at Prestwich Hospital, after the Greater Manchester Mental Health NHS Foundation Trust proposals for the demolition of a large temporary building and construction of new facilities was approved by Bury Council. The new building was deemed necessary as development of the hospital's services meant the office area of the building was too small and the pharmacy's facilities were outdated.

Brief

The Trust requested energy efficient, yet aesthetically pleasing lighting, throughout the building. Circulation areas were to be well-lit without needlessly consuming energy. The office and pharmacy areas required that the luminaires met UGR<19 (Unified Glare Rating for reading, writing, training, meetings, computer-based work). This would ensure that no excessive brightness would be "bounced off" reflective surfaces, such as computer screens, causing headaches and eyesight issues.



Solution

Glamox Luxonic recommended CORRILUX 450 wall-mounted luminaires to be installed in stairway areas. These light fittings would incorporate a microwave sensor, enabling the luminaires to detect motion and daylight.

ALTERLUX Coffe luminaires were recommended for the office and pharmacy areas due to its glare control capability and sleek look. VLED range downlighters were suggested for various circulation areas and the canteen.

Emergency, IP65 configurations of the EXURBIA MAXI downlighter were recommended for use in areas requiring anti-ligature, and CORRIST luminaires featuring modular plug and play wiring were selected for the plant room.

The Trust was advised on the benefits of incorporating wireless controls into the lighting system.

Result

Staff and patients at Prestwich Hospital's pharmacy building now enjoy a safe and comfortable environment. Greater Manchester Mental Health NHS Foundation Trust will benefit from low energy costs thanks to Glamox Luxonic's modern, efficient, lighting products.

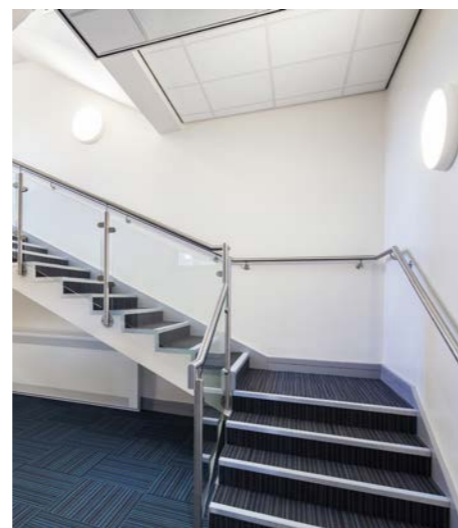
Each luminaire incorporates a sensor and wireless connectivity, enabling quick, easy, installation and the ability to maximize energy efficiency. The lighting system also incorporates remote emergency monitoring with a minimum of disruption to staff and patients. The whole system can be monitored, operated, and usage data can be downloaded via a handheld tablet.

Architect:N/A

Main Contractor:N/A

M&E Contractor: GR Bayley Electrical Contractors

Consultant: Pettit Singleton Associates



A glossary to help you understand lighting controls terminology

lighting control system	A smart lighting control system which can be easily programmed through an intuitive user interface, remotely controlled or monitored, wired or wireless.	Pulse Width Modulation (PWM)	This refers to the concept of changing the pulse width of a digital signal on a wire. When dimming an LED light source, PWM is used to simulate a varying static voltage.
SMART technology	Short for Self-Monitoring, Analysis and Reporting Technology.	Tunable White technology	A technology that allows users to adjust the colour temperature of a luminaire. The technology is based on two white light sources with different colour temperatures and a mixing chamber (e.g. the luminaire). Users can modify the luminaire's correlated colour temperature (CCT) and light intensity via an input from a lighting controls system.
Glamox Connect	Software that provides the intelligence and insights necessary to easily monitor energy consumption and emergency lighting installations. Is a great tool providing all the information for handling maintenance in a quick, easy and costefficient way.	RGB	This refers to the primary colours – red, green and blue. In order to create light with different colours you need to combine individual LEDs with radiation in the red, green and blue spectrum. This is referred to as RGB in DALI DT8.
HCL – Human Centric Lighting	A way of bringing the natural changes of light intensity and colour temperature indoors by using artificial light in order to imitate natural light.	PIR sensor	A passive infrared sensor; an electronic sensor that measures infrared light (heat) radiating from objects in its field of view. A special lens is placed in front of the IR sensor. When the system measures IR radiation moving from one lens segment to another it is interpreted as presence. PIR sensors are most often used in PIR-based motion detectors.
Addressable emergency lights	Emergency luminaires based on the DALI standard which can be controlled and managed with a central monitoring system. These types of emergency luminaires can be mixed with general lighting scenes.	DALI	Digital Addressable Lighting Interface; a standardised (IEC 62386) protocol describing digital communication between lighting devices, which makes it possible to address them individually; a protocol is set out in the technical standard IEC 62386.
Building Management System (BMS)	Otherwise known as a building automation system (BAS) – a computer-based control system that controls and monitors the building's equipment such as ventilation, lighting, power systems, fire systems, and security systems.	Dynamic Grouping	Luminaires are commissioned to work in more than one group or overlapping groups. For example, a row of luminaires can be programmed to illuminate a corridor area between desks, but also operate as part of a 3x3 grid for a user sat at one of the desks. This level of granular control is not possible with DALI.
Heatmap	A data visualisation technique that shows the magnitude of a phenomenon (e.g. presence detection) in colour in two dimensions.	DALI device type 8 (DT8)	Part of DALI protocol that is used to modify colours and colour temperatures. DT8 is used to create Human Centric Lighting solutions.
Smart buildings	Modern and energy-efficient buildings.	KNX	A standardised (EN 50090, ISO/IEC 14543), Open system interconnection model (OSI) based network communications protocol for building automation.
API	An application programming interface.	BACnet	An open communications protocol for Building Automation and Control (BAC) networks that can implement the ASHRAE, ANSI, and the ISO 16484-5 standard protocol.
Central Monitoring System	A central monitoring system monitors a technical installation and gathers all collected information in a single location. This makes monitoring a lighting controls system fast and easy, no matter how complicated the location is. Central monitoring systems can be customised to fit the application perfectly.	Internet of Things	The Internet of Things (IoT) connects machines and devices to one another.
System architecture	A conceptual model that defines the structure, behaviour, and several views of a system. An architecture description is a formal description and representation of a system, and is organised in a way that supports reasoning about the structures and behaviours of the system.	PoE	Power over Ethernet (POE) is a technology that lets network cables carry electrical power.
Mesh technology	A network topology where each node receives and passes on data to the network. This way all nodes cooperate in the distribution of data in the network.		



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Please refer to our website
for information about
our 5 year warranty.