



WREXHAM ARTS HUB

A BRIGHT NEW BEGINNING
FOR WREXHAM'S ARTS AND
MARKET CENTRE"

Dextra
LIGHTING

ABOUT THE CLIENT

Dextra Lighting's precision-engineered LED luminaires and intelligent lighting controls help Wrexham Borough Council inaugurate the new cultural hub in style whilst ensuring the sustainability of the building in years to come.

Situated in the old People's Market in the heart of Wrexham, Ty Pawb – Welsh for "Everybody's House", is a celebration of the town's cultural heritage and identity. Plans for the new arts centre were received with encouragement and enthusiasm from authorities and locals alike. The project secured a £1.56 million cash injection from Wrexham Council and a generous contribution of £2.3 million by the Welsh Arts Council, whose chairman, Phil George believes it will boost the town's cultural scene and be a catalyst for regeneration.

The £4.5m transformation of the old building involved creating two galleries, one to national standards for the display of exhibitions, several performance spaces including a 104-seater theatre and a food hall. A quaint and quirky Shepherd's Hut would also feature as a multi-purpose, rentable workshop space, whilst new lighting, furniture, seating, and signage were to give the building a new contemporary industrial look.

Council deputy leader, Cllr Hugh Jones commented that "Ty Pawb will be an exciting addition to Wrexham bringing together arts, culture and markets.". Dextra Lighting worked closely with the main contractor Wynne Construction and Architects and Featherstone Young to provide a lighting system that would serve the community well in years to come.

Dextra Group's vast manufacturing capabilities, experienced in-house designers, and wide range of state-of-the-art LED luminaires and lighting controls made it possible to fulfil the council's vision for this new and vibrant centre – paying close attention to detail in everything from aesthetics to energy-efficiency.

As an investment in Wrexham's thriving arts scene and market by its people – Ty-Pawb was to make use of the highest-quality sensor-controlled LED products to support a wide spectrum of activities – allowing for creativity and experimentation to flourish. To ensure return on investment of taxpayer money, the new system would also meet future-proof standards of sustainability, generating income for the council in the form of energy and maintenance savings.



THE BRIEF

The design approach for the new lighting was as much functional as it was architectural.

The council required an energy-efficient system using high-quality LED sources and automated lighting controls to maximise energy savings as well as provide full flexibility to use to the lighting for a wide range of purposes and activities.

Featherstone Young's adopted an "industrial" look for the building's exterior and interior. The lighting was to conform to this aesthetic whilst providing the recommended Lux levels in each area from different mounting heights. Locations for the new lighting included: market stalls, a cafe, large open spaces and the main entrance.

The luminaires chosen were to be featured in the Energy Technology List to offer the council eligibility to the government's Enhanced Capital Allowance (ECA) scheme. The scheme offers a 100% tax levy for the first year of purchasing the installation, giving Wrexham a substantial return on investment before even installing the lighting. By reducing the building's overall energy consumption and therefore its carbon emissions, the council would also perform better on the Carbon Reduction Commitment league table for further financial benefits.

By selecting high-quality products featuring the latest LM80-verified LED sources offering 90% lumen maintenance for the first 60,000 hours of operation and reliable drivers, the new installation would minimise maintenance by eliminating the need for frequent lamp changes compared to conventional fluorescent alternatives.

State-of-the-art lighting control was a priority for this project – combining automated sensors to maximise energy savings with user-friendly interface and switches that would allow users to make accurate adjustments as they see fit as well as programme lighting scenes for different occasions without the need to call out technicians to implement any changes.

The entire installation would also need to integrate with the building's wider DALI (Digital Addressable Lighting Interface) system to provide centralised and localised lighting control.



THE SOLUTION

The Runway LED Surface/Suspended

The Runway LED luminaire gives designers the flexibility to creatively adapt installations to a variety of interiors and corporate themes. An architectural and practical solution, designed to seamlessly integrate into any environment on a aesthetic level and provide customised light quality and distributions to suit the application.

Versatility is at the core of this product range. It can be surface-mounted or suspended, in standalone or in continuous runs, combined with corner sections, output packages in various lengths and an optional bi-directional distribution. These options allow the luminaire to be configured in different layouts, proving lighting effects to transform any space into a stimulating and inviting environment for visitors to engage in. The luminaire is available with integral emergency, white tuneable and dimming options, two optic styles, minimalist opal finish or microprism for compliance with the BSEN 12464 3000 candela limit and UGR (Unified Glare Rating) 19 for areas where monitors are in use.

For the purposes of this project the Runway was suspended in locations with varying mounting heights such as the cafe, entrance, multipurpose open spaces and stalls in the market's food hall. Suspensions cords of different lengths were supplied to accommodate the ceiling heights, as the industrial look consisted in higher exposed ceilings which make the rooms look airy and expansive. Luminaires were provided in a black finish to contrast against the white background for decorative effect.

From a range of output packages, the Runaway Suspended was supplied in 8400lm versions for the large open areas and entrance with the highest ceilings, and 2008lm and 3108lm for the reception, cafe and stalls. To ensure Lux levels met the required 400lux average with uniform and effective coverage, the 1500mm luminaries were customised with a bi-directional optic design, which distributes 75% of the light output downwards and the remaining 25% towards the ceiling.

This lighting distribution helps enhance the sense of space in each area, by opening it up with light entering all corners of the room evenly. "Cool-white" 4000k (C84) LED sources were provided to offer a fresh and comfortable light quality throughout.

Other luminaires used in this project include: a 2061lm version of the Discolo LED, which was wall-mounted in various stairways offering the efficiency, functionality and low-maintenance of the Amenity LED range but with an added decorative touch with its attractive white back-lit halo effect (also available in blue). The luminaire can be linked to standalone sensors or supplied with an integral microwave sensor for presence detection and a bright-out function. The sensor can be ordered as either on / off mode or with a bi-level dimming function to dim the LED to 10% output, providing continuous background lighting in accordance with health and safety guidelines and to reassure pedestrians.



THE SOLUTION

Bespoke Helvar DALI Wireless Lighting Controls

Luminaires with high-performance dimmable Philips drivers were linked to the building's existing DALI network, which can now be programmed, monitored and controlled wirelessly by three user-friendly wall-mounted iPads strategically positioned across the premises.

A DALI router was used to control the output of dimmable drivers of luminaires in different zones of the building. Fixed output luminaires, on the other hand, can now be switched on or off using a manual relay controller through the DALI network.

The building was divided into sixteen zones, each with its own dedicated 7-button manual controller featuring scene plates that allows users to easily and immediately switch between five different modes (from "off" to 100% output). These "scenes" can be fine-tuned to allow the centre to offer precision lighting for any occasion. Smaller zones had simplified on and off manual push-switches. A practical "last man out" switch was also installed at the main exit, allowing the last occupant to turn all the lights off in the building.

The luminaires worked with standalone passive infrared sensors (PIR) and microwave sensors from Dextra's Reacta Range. The DALI dimmable luminaires offered daylight regulation and presence detection in certain areas, whilst fixed-output versions offered bright-out function (luminaires dim to 10% or switch off completely when daylight reaches a certain level or the area is left unoccupied) by using the Reacta 6A LL PIR sensor.

The REAF 7 DR15 LL Master recessed, flush-mounted sensor was also linked to three other PIR sensors to increase the detection area to offer occupancy detection and daylight sensing via photocell in different locations. The sensor is programmable remotely using a digital interface, allowing staff to adjust its parameters to the hub's changing needs. A tiltable lens will also allow user to apply further modifications to the sensors' detection range.

The DALI system can now provide automatic testing and reporting of energy consumption, lamp conditions, and emergency lighting (where applicable) at regular intervals at no extra cost. Status reports can be accessed via the designated iPads across the building.

Following the initial commissioning and complete technical training conducted by Dextra Lighting, staff now has now full ownership and control of the system to use and enjoy it in the years to come.



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GROUP PLC