



EALING HOSPITAL

DEXTRA GROUP'S ENERGY SAVING
BESPOKE LUMINAIRES AID NORTH
LONDON HOSPITAL IN ITS STRUGGLE
FOR SUSTAINABILITY.

Dextra
LIGHTING

ABOUT THE CLIENT

Energy Efficiency and Healthcare – How the NHS's future may depend on efficiency savings.



With tightening budgets affecting the public sector nationwide, the healthcare system is facing significant challenges to maintain, let alone improve, the level of service in hospitals and care facilities. The NHS has reported that "people's need for service will continue to grow faster than funding" and therefore, as part of the government's drive to increase the efficiency of public sector facilities, the Department of Health has issued a strategic management framework that encourages NHS commissioners to "explore innovative solutions for new construction and refurbishment of the (NHS) estate".

When we consider that lighting accounts for an average of 44% of a hospital's entire electricity usage (almost twice the amount used in commercial buildings), it becomes clear that investment in energy efficient lighting can have an enormous impact on the running costs of healthcare facilities. Substantial paybacks in the form of energy savings and

installation/maintenance costs can then be reutilised for the improvement of other aspects of service, supporting the NHS mandate to guarantee sustainable high quality care for all. This is particularly relevant for the NHS estate, as energy costs amount to 9% (£636 million in 2014/15) of its total costs.

The London North West Healthcare NHS Trust is one of the U.K.'s largest care trusts, employing over 8,000 members of staff and serves a diverse population of approximately 850,000. In a recent media statement the trust declared: "We are heavily investing in our services for the future" – so, as part of its corporate objective to improve its estate and infrastructure, the organisation has secured government funding to invest in an extensive LED lighting upgrade for its Ealing Hospital site.

THE PROJECT

Dextra Group plc. were approached by the Trust to design, manufacture and deliver a bespoke lighting solution with a strong emphasis on energy efficiency. The LED upgrade aimed to provide the hospital with the opportunity to balance quality with cost-effectiveness, by abiding to the PEAT (Patient Environment Action Team) and CQC's (Care Quality Commission) stringent assessment criteria for quality, comfort and safety, in addition to ensuring eligibility for the CRC Energy Efficiency Scheme. Rigorous compliance to current legislation and standards ensured that the new installation would operate in alignment with the Trust's performance goals and environmental policies.

After conducting a thorough, floor-by-floor survey of the premises, Dextra Group's in-house design team produced full DWG drawings of the building to clearly advise the client on the optimum lighting solution for the hospital. Within only two weeks, a complete project plan was presented with quotation and payback calculations, luminaire specifications and provision of samples where required.

The extensive upgrade covered all aspects of the hospital including: wards, waiting rooms, outdoor and indoor circulation areas, loading bays, canteens and receptions. Due to the diverse and extensive nature of the project, Dextra Group put a number of its subsidiary companies into action; successfully collaborating to fulfil the client's specific requirements. A wide selection of precision-engineered LED luminaires, sensors and lighting controls were handpicked from the Dextra Lighting, Dexeco and Dexsor product ranges to provide the best suited solution for each area.

Thanks to Dextra Group's vast manufacturing capacity, and cutting-edge design and testing facilities, a staggering total of 38 product variants were delivered to meet the client's every need. The products were offered with a wide range of options with regards to: lumen outputs, reflector types, diffuser materials, installation modes, integral emergency packages and dimming/sensor controls. 10 of these products were unique customisations, designed and manufactured with mounting frames purposely built to cater for the building's old imperial ceiling grids. Since light fixtures conforming to imperial ceiling measurements have long been out of production, Dextra's bespoke luminaires saved the Trust the considerable construction expenses of replacing the entire suspended ceiling.



“Our delivery times for customised products are second to none in the industry.”

THE PRODUCTS

Amongst these unique products was the DEXLED recessed luminaire, of which a number were provided with customised mounting frames in the corresponding imperial dimensions of 1220mm x 610mm and 610mm x 610mm. The highly versatile DEXLED was utilised in a number of areas including: wards, corridors, stairwells and canteen facilities. Thanks to the flexibility offered by the DEXLED's wide range of lumen outputs and body sizes, the required Lux levels for many of these locations, were consistently achieved with fewer luminaires than originally installed. In addition, the luminaire's semi-specular, low brightness louvres and opal polycarbonate diffusers, produce a softer, more comfortable light ideal for patients and staff working long hours.

Luminaires from the MODLED range were also manufactured to match the imperial grid dimensions. Installed in lay-in, pull-up and surface mount options and in various lumen outputs and sizes; variants of the MODLED luminaire brightened up the hospital's wards and lift lobbies. The MODLED is engineered to be both versatile and provide customers with performance that exceeds that of many competitors whilst maintaining a highly competitive price. Compliant with BSEN 12464 glare limitations, the MODLED is also designed with visual comfort in mind.

The attractive Sequent LED luminaire helped create an inviting and brightly-lit main reception area, giving patients a positive first impression upon each visit. This highly versatile product range offers rapid installation, allowing for a cost effective lighting solution without compromising on aesthetics or performance. Its versatility is owed to a wide range of diffuser options, dimming controls, push-fit attachments and panels available in both T5 and LED variants. Its highly adaptable trunking system is also designed for quick and easy electrical connection and gear tray positioning, to minimise installation times.

The Avalon Wallpack and Dexeco's ProLED were utilised for the hospital's loading bay and nursery. Both these products are IP65 rated, offering ease of cleaning and complete protection against dust and water ingress. The durability of their construction, in conjunction with the added benefits of the latest Philips LEDs for long life/low maintenance, make these highly efficient luminaires ideal for arduous conditions and hard to access areas, where servicing is often difficult or costly to perform.



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In addition to the countless benefits of LED for long life, low maintenance and huge energy savings, all the products utilised in this project are offered with only the highest quality Philips sources and drivers and are provided with Dextra Group's 5 year warranty, giving the client continued support beyond purchase.”

THE PRODUCTS

Operating at an impressive 91 luminaire lumens per circuit watt, the ProLED's excellent efficiency is also boosted by its constant lumen output, which completely eliminates lumen depreciation of the source over the luminaire's first 50,000 operating hours. The ProLED is also fully assembled and prewired upon delivery, and is supplied with a zinc spine for quick and simple luminaire mounting. These factors combine to minimise installation and maintenance costs for the client, ensuring a rapid return on investment.

Similarly, the tough and durable Opus 2 LED floodlight is manufactured in IP65 rated die-cast aluminium housings and toughened glass covers, making it the ideal replacement for the former lighting fitted around the building's perimeter and roof for maintenance purposes. Like the ProLED, the Opus 2 LED uses the latest Philips or Tridonic LEDs and drivers, with high output variants also including the advantages of a constant lumen output. Together, these features provide excellent energy efficiency and minimal maintenance, reducing the lifetime cost of ownership.

The versatile and highly efficient Amenity Plus LED was selected to illuminate the hospital's external areas. The Amenity LED range is available in either 1500 or 2000 lumen outputs with light output ratios in excess of 80%, giving similar performance to traditional fluorescent sources but at a fraction of the energy cost. These luminaires can be sealed to IP65 and are offered with optional integral

sensors, emergency packages, corridor mode and a range of dimming controls, all of which can be combined to suit both internal and external applications effectively. This product is also available in black or white polycarbonate body options, to suit the client's aesthetic and practical needs.

As part of Dextra's "total service" to its customers, the Group's subsidiary company, Dextraco quickly and efficiently recycled all the replaced light fittings, providing an on-site container with regular collections at the hospital. The service also included supplying the corresponding waste transfer notes in support of the Trust's environmental policy.

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The refurbishment project has received excellent feedback as the new lighting has allowed the building to operate more efficiently, offering the Trust substantial financial returns. Although driven by energy efficiency, the LED upgrade has notably enhanced the overall working and healing environment, creating a "brighter, fresh and modern" ambience for the hospital's staff and patients.



SOURCES

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FEATURED PRODUCTS



MODLED SLIM



SEQUENT LED



DEXLED



GRADUATE SURFACE
LED



PROTEC LED



AVALON WALLPACK LED



PROLED



OPUS 2 LED



AMENITY PLUS LED