



Ulster Hospital features patient-centred lighting with Bluetooth control

Why shouldn't a hospital be a welcoming and attractive space that puts patients at their ease? That was the question the design team working on the new 32,000 square metre Acute Services Block at the Ulster Hospital in Belfast asked itself. The result is a lighting concept that owes more to boutique hotels or flagship offices and features a patient-centred lighting installation from ERCO with the latest wireless [Casambi Bluetooth](#) control. The illumination has been carefully planned by the building services consultancy Cundall to complement the architecture and emphasise the patient-centric experience. Instead of the usual uniform and often high-glare illumination from LED panels, Cundall has created a scheme with texture, hierarchy and visual interest. Emphasis has been placed on the illumination of the walls rather than the floors and the former feature distinctive scalloping which punctuate any journey through the building.

Project data

Client:	South Eastern Health and Social Care Trust
Architecture:	Avanti Architects, London and Kennedy FitzGerald Architects, Belfast
Lighting design:	Cundall, Belfast
Electrical Planning:	Blackbourne Electrical and Vaughan Engineering
Main contractor:	Graham BAM Healthcare Partnership
Photography:	Gavriil Papadiotis

Glare-free luminaires for high visual comfort

A key lighting tool in the project is ERCO's [Compar](#) range of linear recessed luminaires, which have a striking cellular design and ensure excellent visual comfort. Compared to standard 600mm by 600mm LED panels, the visible face of Compar (38W) is only 7% the size, while delivering the same luminous flux. In the corridors, the Compar units are offset so that patients being moved on trolleys through the hospital receive no glare while in transit. This was important because regular bursts of glare like this, while highly discomforting, can trigger more serious reactions in those susceptible.

Other thoughtful touches to the planning of the lighting include the use of variation in colour temperature to create a subtle, visual hierarchy across the building. Wards, clinical rooms and circulation spaces feature LEDs with a cool colour temperature of 4000K while the restaurant features warm white 3000K sources. A track and spot approach with ERCO's [Oseris](#) here brings pools of light to the tables and gives a soothing café environment for visitors.

Simple, individual light control via Bluetooth

The control of the lighting was always a major consideration at the Ulster Hospital and

Cundall began considering a control strategy back in the initial design stages of the project in 2016. An exciting platform then emerging was Bluetooth, a topology in which luminaires and other control devices form a network and communicate directly with each other rather than via a central controller. ERCO was one of the first companies to realise its potential and integrated Bluetooth technology from Casambi into its in-house developed control gear.

Without additional hardware such as a central management system, the luminaires communicate directly with each other and with other devices including switches, dimmers and PIRs. The lighting can also be controlled by a smartphone or tablet app using the Bluetooth Low Energy wireless standard. "The project was highly versatile, with many different areas and with different requirements," says the lighting designer, Chris McArdney of Cundall, "so we needed a solution that was easy to use, and with the ability to make necessary adjustments, as per the clients' wishes." A unique function is in the patients' bedroom, where several sensors monitor 'out of bed' movement and alert nurses if a patient has left their bed. As is normal on projects of this type, the luminaire specification was subject to rigorous value engineering analysis. However, to the client, the selection represented clear long-term value in terms of the total cost of ownership, the reduction of

disturbance to patients due to maintenance and the light quality.

Connecting the indoors and outdoors

The outdoor spaces have been equally well considered by the design team. Here [Castor](#) bollard luminaires help visually connect the indoors with the outdoors. Eliminating light pollution was a priority in these spaces, so ERCO's Dark Sky technology – which prevents emission of light above the horizontal – was a key feature of the specification.

The Castor bollards guide visitors, staff and patients safely along granite paths to the entrance of the building. Meanwhile, in the internal courtyard terraces, trees and planters are illuminated by ERCO's [Gecko](#) luminaire. Its refined power is achieved by combining a slightly conical shape with design details such as seamless transitions.

The small housing conceals sophisticated photometric properties including excellent glare control and a virtually invisible light source. In fact, the exterior luminaires use the same precision optics that ERCO includes in its best-in-class spotlights for museums and art galleries. Additionally, the luminaire head can be tilted and rotated in any direction, allowing precise commissioning by adjusting the head to the exact position required.

Luminaires used in the project



Castor



Compar linear



Gecko



Oseris

Copies and links requested.

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About ERCO

The ERCO Light Factory in the German town of Lüdenscheid is a leading international specialist in architectural lighting using LED technology. The family business, founded in 1934, now operates as a global player with independent sales organisations and partners in 55 countries worldwide. Since 2015 ERCO's portfolio has been 100% LED. With this in mind, ERCO in Lüdenscheid develops, designs and produces digital luminaires with focus on photometrics, electronics and design. Working

closely with architects, lighting designers and engineers, ERCO develops lighting tools used primarily for applications in the following fields: Work, Shop, Culture, Community, Hospitality, Living, Public and Contemplation. ERCO understands digital light as the fourth dimension of architecture – providing highly precise and efficient lighting solutions to support creative designers in turning their visions into reality.

