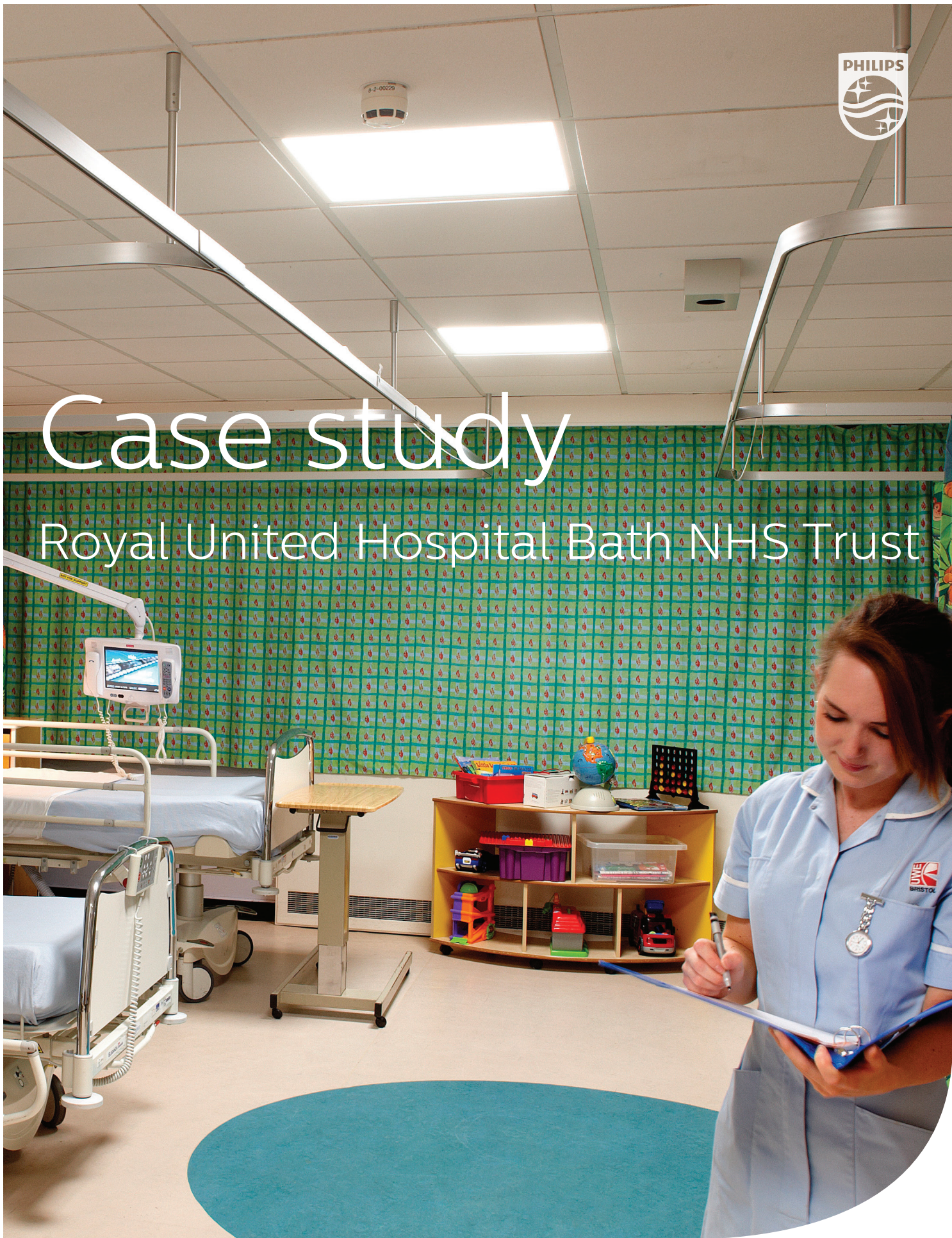




Case study

Royal United Hospital Bath NHS Trust



Location
Philips Lighting

Bath
GreenSpace, PowerBalance, Occuswitch
DALI, Philips HealWell, CoreLine Amenity
and CoreLine Waterproof



PHILIPS



“The project has been transformational in changing the way people perceive the hospital. The funding came about initially because of energy efficiency but we have seen many other benefits for staff, patients and visitors. It has made the hospital feel lighter and brighter; it looks cleaner and people are generally a lot happier with the environment.”

Andy House, Head of Estates, Royal United Hospital Bath NHS Trust

Before



After



Transformational lighting for the Royal United Hospital Bath NHS Trust



Fast Facts

Customer

Royal United Hospital Bath NHS Trust

Location

Bath

Philips Products

GreenSpace, PowerBalance, Occuswitch DALI, Philips HealWell, CoreLine Amenity and CoreLine Waterproof

Services Provided

Lighting Survey, Installation, Commissioning

Project Partner

Electrico

Background

Upgrading to LED lighting at the Royal United Hospital Bath NHS Trust has transformed the appearance and ambience of internal spaces while delivering significant energy, cost and carbon savings.

The Royal United Hospital Bath NHS Trust occupies a 52-acre site and employs around 4,800 staff, providing acute treatment and care for almost 500,000 people in Bath and North East Somerset, and parts of Wiltshire and Somerset. In 2010 the Trust launched the 'Team Green' initiative, which aims to embed sustainability in all aspects of operating and maintaining the hospital.

"There is never as much money as we would like to meet all of our healthcare demands so we are always looking for ways to save money and spend money more wisely," explained Head of Estates Andy House. "Reducing energy bills is a key aspect of making that happen," he added.

To that end, the Trust had been assessing its lighting and had carried out small trials of LED technologies in some wards and corridors. In 2013, however, an opportunity arose to carry out a more extensive upgrade with the help of funding from the Department of Health's Energy Efficient Capital Funding initiative. In support of the funding application the Trust, with input from Philips, was able to demonstrate that a more extensive upgrade to LED lighting would yield savings of around 5 million kWh per annum, saving £400,000 a year. The annual reduction in carbon dioxide emissions was predicted to be 2,700 tonnes.

Andy House recalled: "When this money became available, we had already engaged with Philips so we were ready to submit our bid for rolling out LED right across the site. We were awarded a grant of just over £1.6m but we had to spend it within six months, and that was a challenge. One of the benefits of working with Philips is it has the size and scale needed to deliver such a project. Philips also brought a positive attitude to the project and, very importantly, had complete control over the supply chain."

Working closely with Andy and his team, Philips delivered a total lighting solution across the hospital including clinical areas, corridors, reception spaces and entire wards. Philips began by evaluating the existing lighting before identifying the most appropriate LED solutions and managing the installation which occurred on live wards, greatly reducing the level of disruption to the hospital. To achieve this, the installation teams were immensely flexible, taking into account the potentially changing clinical needs of the wards involved.

The engagement of hospital staff and senior management played a key role in the success of the lighting upgrade. Philips supported the in-house team in delivering open and transparent communication, with on-going updates provided, to help ensure the required buy in from staff, alleviating concerns and facilitating access to wards.

Comprehensive survey

The first stage was for Philips to carry out a comprehensive survey of all existing light fittings and their energy consumption, in line with the lighting requirements for each area. “The survey was critical because it meant the design was right and that was key to ensuring the project went smoothly,” Andy House observed.

The survey also provided the project team with an opportunity to engage with hospital staff to allay any concerns about potential disruption to their work.

Armed with the survey information Philips was able to propose replacement products, using this to calculate projected energy savings. The proposed lighting needed to meet CIBSE criteria and all new luminaires had to be easy to clean with no fly traps or reflective surfaces when switched off to aid infection control.

Installation of the new luminaires was managed by Philips and carried out by contractor Electrio. In most areas the fittings were replaced on a point-for-point basis, though wherever possible the opportunity was taken to reduce the total number of fittings. To ensure the project remained on schedule, Philips initiated weekly operational reviews and monthly stakeholder reviews, supported by a project dashboard to monitor progress.

Philips GreenSpace IP44-rated downlights were used extensively in the project, utilising different light outputs to meet specific lighting requirements. The 1,100 lumen version has replaced surface-mounted 2D fixtures, as well as 1 x 18W, 1 x 26W and 2 x 18W compact fluorescent downlights. The 2,000 lumen version of the GreenSpace proved an ideal alternative to 2 x 26W fluorescent downlighters, while single and twin T8 fluorescent fittings in internal corridors were replaced with the 200 lumen GreenSpace.

In addition, PowerBalance luminaires have been used in offices, examination rooms, consultation rooms and interview rooms, with CoreView luminaires installed in wards that previously had surface-mounted T8 luminaires. Other luminaires used on the project included CoreLine Amenity and CoreLine Waterproof.

In corridors, offices, store rooms and toilet blocks, except for those with only one luminaire, the lighting has been linked to Occuswitch DALI Advanced sensors to dim the lighting when areas are unoccupied, thereby adding to the energy savings achieved.

Using light for better outcomes

As well as addressing the day-to-day lighting requirements throughout the hospital, the Trust has introduced the Philips HealWell system to support better patient outcomes in dementia wards as part of a separate project. The HealWell system provides gradually varying light levels during the day, as if on a sunny day outside, and combines this with ambient lighting. The system can be controlled by the patient using a touch-pad controller to switch between pre-set scenes and has proved to be particularly beneficial for dementia patients.

Andy House continued: “The project has been transformational in changing the way people perceive the hospital. The funding came about initially because of energy efficiency but we have seen many other benefits for staff, patients and visitors. It has made the hospital feel lighter and brighter; it looks cleaner and people are generally a lot happier with the environment.

“Carrying out this kind of work in an occupied hospital is always difficult but we put a good team together and involved stakeholders at all levels. The Philips people fitted in perfectly with that team,” he concluded.



The lighting upgrade encompassed clinical areas, corridors and other communal areas, including:

- Children's Ward
- Cardiac Centre
- Acute Stroke Unit
- Respiratory Ward
- Reception
- Shop
- Atrium
- Eye unit
- Endoscopy
- Cardiac catheter labs
- Emergency Department



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Date of release: April 2014