

Case study

Ultra Efficient Lighting for Future Wards : The Rotherham NHS Foundation Trust, UK

The project

In common with many healthcare organisations across Europe, The Rotherham NHS Foundation Trust needs to deliver carbon reductions, save money and at the same time deliver excellent services to patients.

In an innovative project, the Trust has addressed these challenges by adopting a pro-innovation approach to procurement – Forward Commitment Procurement (FCP).

The project set out to deliver both a step change in the patient experience and in the efficiency of ward lighting, while at the same time being cost effective and 'future ready'.

Method: taking a new approach to procurement

The project team used the Forward Commitment Procurement (FCP) methodology to stimulate innovation in the supply chain.

The opportunity for innovation was presented by an 8 year refurbishment programme beginning in 2010. The vision of the CEO for a 'Hospital of the Future' was a key driver. The facilities team were keen to exploit new and emerging lighting technology such as LEDs and Organic LEDs which promised both considerable energy savings and an improved environment for patients and staff.

With the vision for a 'Future Ward' firmly in their minds and adopting FCP thinking, the project team set out to define what they needed in terms of outcomes, rather than in terms of the products that were available on the market.



The Trust asked for the solution to be future proofed to enable adoption of new technology such as organic LEDs as they become available.

Once identified this 'unmet need' was communicated to the supply chain in outcome terms as part of a market sounding exercise. The Trust communicated their requirement and launched the market consultation via a Prior Information Notice in the OJEU more than two years before the solution would be needed on site.

The project team drew on the expertise of the Electronics, Sensors and Photonics Knowledge Transfer Network (ESPKTN)¹ and other supply chain intermediaries to ensure all parts of the supply chain were aware of the opportunity. By providing advance information on the requirement, in the context of a major procurement, and by stimulating cross supply chain cooperation the Trust gave the supply chain the time, opportunity, and motivation to come up with an innovative solution.

"This is what we suppliers need; information on our customers needs today, and even more helpfully their future needs. We can then plan and manage our supply chain so we are ready to respond".

Andrew Bissell Director of CundallLight4

'The Trust wish to achieve a step change in the patient experience; creating a patient centred environment, including the incorporation of highly efficient, smart lighting systems that can deliver economical carbon reductions while at the same time contributing to a pleasant and healthy environment for both patients and staff.'

Extract from the market sounding prospectus

The market consultation process was enthusiastically received and culminated in a consultation workshop and a refined outcome based specification (box 1 over).

"The key to success was to begin by asking for what was needed – not what we thought was available or affordable. The results have exceeded all expectations. FCP really works."

John Cartwright

Director of Estates and Facilities



Steph Holmes and John Cartwright

Box 1. An outcome based specification sets out the end result to be achieved, not the means of delivering it: you effectively specify the problem and invite solutions. This gives the supply chain the opportunity to innovate.

'Innovative, value added, smart, ultra-efficient lighting systems that can deliver the Trust's vision for Future Ward lighting, meet the operational requirements and provide added value functionality, in a cost effective way.

The core requirement outcomes are:

- 1. A step change in patient experience i.e. creating a pleasant, healing environment with patients being in control of bed zone lighting levels and ambience whilst providing the lighting to perform clinical requirements and incorporating measures to reduce the risk of hospital acquired infections;**
- 2. A demonstrable step change in energy efficiency with progressive improvements in energy efficiency and operational performance over the life of the project;**
- 3. A future-proofed service, for example to facilitate upgrading to more energy efficient products as they become available.'**

The result: a new and innovative solution for the healthcare market

Stimulated by the advance warning of the forthcoming procurement, one consortium worked together in advance of the tender and was subsequently well prepared to come forward with an innovative solution that met, and indeed exceeded, the Trust's expectations.

The pro-innovation procurement approach has brought to the market an integrated 'future ward' modular solution, with integrated bio-dynamic lighting, trunking, and storage for use by patients and staff.

Detailed costings, verified by an independent quantity surveyor, show that the innovative solution will cost the same as a standard ward solution with not only the required step change in patient experience and lighting efficiency but also with reduced on-site build time and additional benefits.

Benefit Realisation

Design features

- Increased storage
- Bio-dynamic lighting
- Daylight responsive
- Modular and flexible solutions
- Patient control

Operational benefits

- Future technology ready
- Easy to clean & maintain
- Daylight linked control

Construction benefits

- Factory made quality
- Adaptable standard components
- Tried and tested technology
- Clean dry construction
- Quick installation

Financial benefits

- Same cost as the traditional build
- Reduced energy consumption, anticipated savings of 30% (or more than \leftrightarrow 5,000 per 40 beds over 10 years)
- Reduced maintenance, anticipated saving of 88% (or more than \leftrightarrow 15,000 per 40 beds over 10 years)
- Reduced construction and disruption costs

Sustainability

- Long lamp life
- Green energy in manufacture
- Low energy lamps
- Recyclable components

Next steps

A prototype UEL Pod was well received by staff and senior management during a 6 week demonstration. The final product was launched in October 2011 and will be featured in the BRE Healthcare Facility, Watford, UK until Spring 2013.



Graphic image of the Future Ward solution with integrated future ready dynamic ultra efficient lighting

"From the start we said that the solution had to be cost effective and affordable. We have not been disappointed. The outcome shows that better and more sustainable does not have to cost more."

Steph Holmes
Head of Procurement

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