

CASE STUDY:
Innovative Ultra
Efficient Lighting for
Future Wards

The Rotherham **NHS**
NHS Foundation Trust

Welcome to
Rotherham General Hospital

Sustainable Development Unit (SDU) in the NHS have been supportive and kept informed of the FCP process and quoted it as best practice on their website.



Rotherham Hospital is a 500 bed acute hospital in the north of England

Stimulating innovation in the economy and meeting society's needs

Supporting innovation for progress and growth

The NHS needs to deliver carbon reductions, save money and at the same time deliver excellent services to patients.

In an innovative project, The Rotherham NHS Foundation Trust has addressed these challenges by taking a new approach to procurement – Forward Commitment Procurement (FCP).

The Trust worked in partnership with the Department for Business, Innovation and Skills and the Department of Health in a forward commitment procurement project that sought to meet two key requirements:

- A step change in the patient experience
- A step change in the efficiency of lighting

The opportunity for innovation was presented by a 7 year refurbishment programme beginning in 2010. The vision of the CEO for a 'Hospital of the Future' was a key driver.

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

Detailed costings, verified by an independent quantity surveyor, show that the innovative solution will cost the same as a standard ward solution, but will deliver both the required step change in patient experience and lighting efficiency, and also reduced on-site build time, minimising disruption to hospital staff and patients.

Innovation can enable you to do new things or provide you with a step change in effectiveness or efficiency.

FCP is a step by step approach to delivering innovation and better, more efficient, goods and services.

FCP provides the incentive, confidence and momentum for suppliers to invest and deliver innovative solutions.

FCP delivers value for money policy and is consistent with the legal framework that governs public procurement.

“The NHS is continually striving to improve the services they provide for patients and as can be seen from the outcome of this project – FCP can help them to deliver. I would like to see more Trusts adopting the FCP process and innovative techniques

to maximise the benefits available” – *David Whiteley Chief Engineer, Estates and Facilities Division, Department of Health*

“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, Rotherham NHS Foundation Trust*

Anticipated Benefits Realisation

Design features

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

Operational benefits

- Future technology ready
- Easy to clean & maintain
- Simple pictorial controls
- Failure feedback
- Daylight linked control
- Efficient lighting design
- Ergonomic design
- Diversity of storage options

Construction benefits

- Factory made quality
- Adaptable standard components
- Tried and tested technology
- Clean dry construction
- Quick installation
- Same cost as the traditional

Financial benefits – Based on Rotherham General Hospital

- Reduced energy consumption / cost anticipated savings of 30% or ~£4,600 per 40 beds over 10 years
- Reduced maintenance time / cost anticipated saving of 88% or ~£13,600 per 40 beds over 10 years
- Reduced construction and disruption costs due to faster turn around

Sustainability

- Reduced energy use
- Long lamp life
- Green energy in manufacturing
- Low energy lamps
- Recyclable components



Taking a new approach to procurement

The project team, which included the Director of Estates and Facilities, the Head of Procurement and the BIS Consultant FCP Programme Manager, used the Forward Commitment Procurement (FCP) methodology to stimulate innovation in the supply chain to meet 'unmet needs' identified as part of the programme.

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.

Once identified this 'unmet need' was communicated to the supply chain in outcome terms as part of a market sounding exercise:

'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'.

The project team drew on the expertise of the Photonics and Plastic Electronics KTN 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 and motivation to come up with an innovative approach.

The market consultation process was enthusiastically received and culminated in the consultation workshop and a refined outcome based specification.

The Trust communicated their requirement and the market consultation via a Prior Information Notice in the OJEU 2 years before the solution would be needed on site. This gave the supply chain a chance to organise and innovate.

FCP 'pre-procurement' techniques

Give the supply chain time to innovate

Think ahead; signal your long and medium term 'direction of travel' to the market.

Communicate your forthcoming needs and procurement plans in advance.

Allow room for innovation

Communicate your needs in outcome terms;
State what you want, not what you think is available or affordable.
Look for progressive improvements and future proofing.

Invite feedback from the supply chain

Market sounding and market consultation allow you to test out your requirements and iron out problems in advance of the invitation to tender.

Facilitate communication between suppliers

Consultation workshops, site visits and publishing a directory of companies that have expressed interest all help.

FCP Know How

BIS and DH provided FCP Know How training and project support.

“The market engagement not only gave potential suppliers advance notice and time to innovate, it also stimulated a valuable exchange within and between supply chains” – *Dr Gareth Jones, Consultant for the Electronics, Sensors and Photonics KTN.*

Competitive Dialogue is a procurement process that permits discussion of options with suppliers before inviting best and final offers.

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.

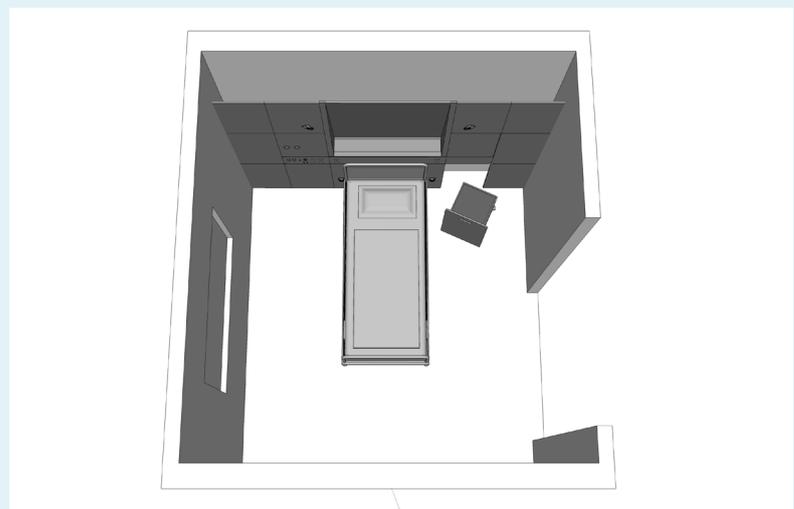
‘Innovative, value added, smart, ultra efficient lighting systems that can deliver the Trust’s vision for Future Ward lighting, meet the operational requirements and provide added value functionality, in a cost effective way. The core requirement outcomes are:

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 fully installed, maintained and future-proofed service, for example to facilitate upgrading to more energy efficient or better products as they become available.

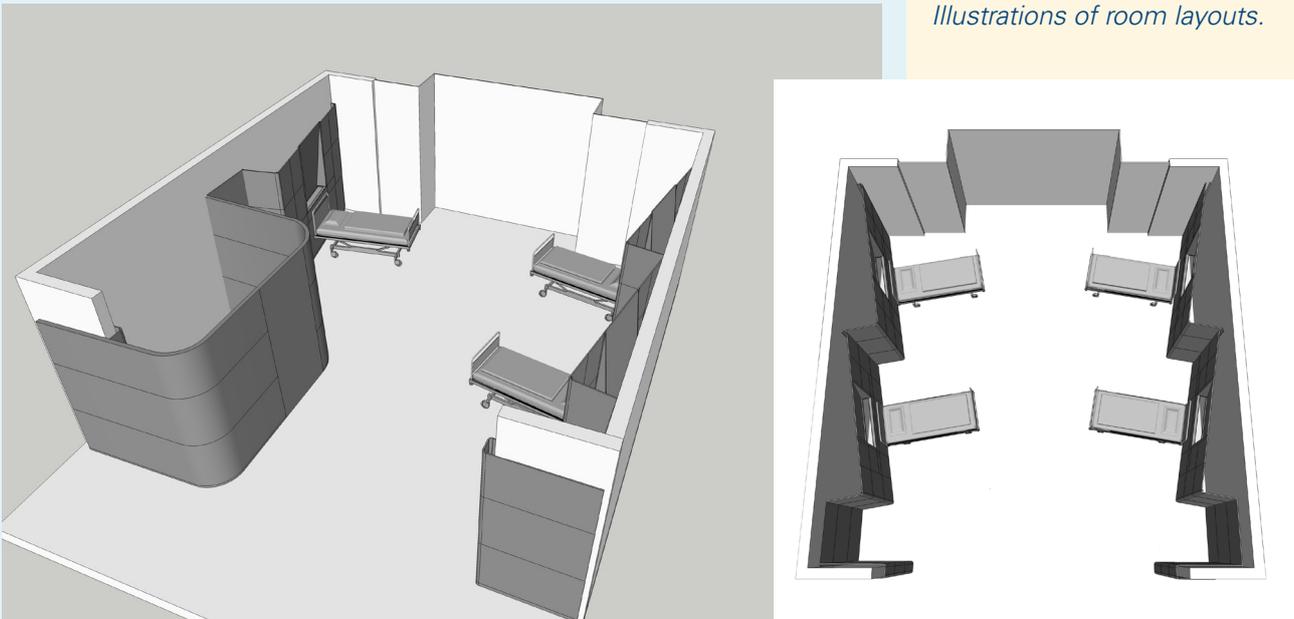
Greatly encouraged by the response of the supply chain, the Trust began a competitive procurement in the summer of 2009. A number of high quality proposals were presented as part of the Competitive Dialogue process. Among these were leading medical lighting companies and a pan-European consortium of companies including a lighting designer, architect, building systems manufacturer and lighting manufacturers.



The solution has been future proofed to enable adoption of new technology such as organic LEDs as they become available



Illustrations of room layouts.



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 FCP approach has brought to the market an integrated smart 'future ward' modular built solution with integrated (bio-dynamic) lighting, trunking and storage.

The solution transforms the appearance and functionality of wards from a cluttered, hard to clean and poorly lit environment with little storage, to one that is stream lined, easy to clean and welcoming, with smart lighting that responds to patient and environmental needs and follows the circadian rhythm.

The new well lit environment will use one third less energy than the previous poorly lit environment. It will also benefit from reduced maintenance and is future proofed i.e. the pod is designed to be able to take new lighting technology as it becomes available.

A demonstration pod was built at Rotherham Hospital in March 2011 to undergo clinical and facility assessment. Following this it was installed at the Building Research Establishment."

"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, Rotherham
NHS Foundation Trust*

The FCP process has been well received by suppliers

“This is what gets us excited. There is somebody here who doesn’t want to carry on doing the same old thing, just chipping away at energy efficiency but saying what they really need – a step change”. – *Andrew Bissell, Cundall Light4*

“What is great about this [Rotherham Foundation Trust FCP] process is the commitment – the 7 year programme gives a timeframe we can really work with to plan and bring new solutions forward”. – *Wayne Morgan, Elements Europe*

“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”. – *Peter Jones, Director of Design, Skanska.*

FURTHER INFORMATION:
For more information on these projects go to www.bis.gov.uk/fcp

FCP is increasingly seen as best practice and more FCP projects are now underway in the NHS and in healthcare organisations across Europe.

In England...

Nottingham University Hospitals NHS Trust is using FCP to test the market for an ultra low carbon energy solution to replace their coal fired boiler plant.

Estates and procurement staff at the Scarborough and North East Yorkshire NHS Trust are embarking on the FCP Know How programme as part of their carbon reduction programme.

The Rotherham NHS Foundation Trust is looking to stimulate the market to provide a zero waste zero infection mattress.

Across the rest of Europe

Erasmus MC, Rotterdam is looking for a more energy and resource efficient bed cleaning solution.

Rawicz Hospital, Poland is looking for innovative low carbon refurbishment technologies.

In Norway, SINTEF Health Research are working with a new build acute hospital (nye østfoldsykehuset – NØS) to understand how the current planning process influences the introduction of innovative, energy effective solutions in the hospital and how the process presents barriers for innovative solutions and change.

These projects all received support from the European Commission Lead Market Initiative as part of the Low Carbon Buildings (LCB):HEALTHCARE Public Procurement Network programme

LCB:HEALTHCARE – Buying better building solutions

LCB-Healthcare stimulates demand for innovative low-carbon solutions for the healthcare sector by providing procurement decision makers with the knowledge and tools to achieve more sustainable buildings within their budget constraints.



To find out more about these projects, access information on low carbon solutions and continuing professional development materials and advice on how your organisation could benefit from adopting FCP go to info@lowcarbon-healthcare.eu

Join the LCB:HEALTHCARE network at:
<http://lowcarbon-healthcare.eu/cms/members/stakeholder.php>