Response to NHS Chief Executive’s Open Call for Evidence and Ideas

Respondent ID: 82

Organisation name: Department for Business Innovation and Skills

Type of response: Letter and documents
Dear Sir Ian

INNOVATION IN THE NHS

Thank you for the opportunity to contribute to your report on accelerating the adoption and diffusion of innovations across the National Health Service (NHS). I also understand that colleagues at the Technology Strategy Board are working closely with the Department of Health (DoH) and NHS colleagues to provide input to the review, and that you are due to meet with Iain Gray.

BIS sees the Department of Health and NHS as key partners in the area of science and innovation. The Department of Health is the main customer for the work of the Medical Research Council (MRC), and also works closely with the Biotechnology and Biological Sciences Research Council (BBSRC) and Technology Strategy Board (TSB). It will also ultimately be the employer of a significant number of graduates produced by the university system and teaching hospitals each year, as well as those from non-clinically related academic disciplines that pursue careers in health management.

There are two main reasons that innovation in the healthcare sector is so important for the UK. Firstly, the life sciences sector, which is primarily bio-medical in focus, is the UK’s largest technology-based sector. GSK alone accounts for over £3bn of investment in R&D each year, and the sector generates significant economic benefits for the UK through exports and attracting inward investment. Secondly, this is one of the few sectors where the UK where the market is primarily in the public sector, which exerts considerable influence over every stage in the process of innovation, from fundamental research through to the diffusion and adoption that drive the economic and social benefits for innovation. For these reasons, and particularly in the current economic and fiscal climate, it is more important than ever that the DoH and NHS act as a driver of innovation and as a market for this.
To achieve this outcome, it will be important for DoH and the NHS to adopt a more strategic approach to innovation. At present, whilst there are a large number of people working on innovation in the health sector, and many organisations actively engaged in innovating, my impression is that this activity is not that well co-ordinated, and that, particularly outside the Department, it is not always clear who is responsible for which aspects of innovation. This is a barrier to both effective cooperation with external organisations, including those BIS sponsors, but also a barrier to managing a long term process such as supporting innovation effectively. A new NHS strategy for innovation, which sets out which organisations are responsible for which activities, and how these fit within a co-ordinated system for managing and supporting innovation in the NHS would be welcome, and would enable better co-ordination between the research base, BIS-sponsored organisations, business and the NHS, and enable more effective delivery of some of the programmes which have proven to be successful in delivering healthcare-related innovation.

The attached annex provides some further background information on examples of where the DoH and NHS have worked with BIS and BIS-sponsored bodies to deliver improved healthcare through innovation which I hope you will find helpful. It identifies some of the areas we know of where the NHS is already being innovative and I would strongly encourage you to look at how these types of approaches can be scaled up.

In addition to the information set out in the annex, I would like to highlight two areas where the engagement of the Department of Health and the NHS has been particularly helpful to this department:

- **Small Business Research Initiative (SBRI):** The Department of Health was one of the departments to pilot the reformed SBRI model in order that the programme could then be rolled out more widely across the public sector. Since launch of the reformed SBRI both DoH and the NHS have been key players in the use of SBRI. The action in the Healthcare and Life Sciences Growth Plan to spend £10m on SBRI competitions to address healthcare challenges shows the department’s continued commitment in this area.

- **Forward Commitment Procurement (FCP):** The NHS has been one of the early adopters of the FCP model. The project at Rotherham Foundation Trust has been extremely valuable in helping to refine the FCP process.

Both the Small Business Research Initiative and the Forward Commitment Procurement model are proven mechanisms for driving the uptake of innovation within the NHS, to meet both clinical and non-clinical challenges. I am also enclosing some case studies of these programmes in practice, to show what they have achieved in terms of fostering innovation, and in supporting businesses to help deliver solutions to challenges within the public sector. The case studies also show how FCP and SBRI can be used by individual Trusts to procure innovative solutions
that may need to be suited to local needs (with the option of adapting for wider roll out) or at a regional or national level.

The Department of Health is also working closely with the TSB on a number of co-funded projects in the areas of stratified medicine, the detection of diseases and assisted living. The Department of Health is a valued partner in these Innovation Platforms, and I believe there is scope for further collaborations with the TSB. However, in order to make these effective, it will be important that the NHS publicises and supports the diffusion of the outcomes of these programmes, and I would be interested in your thoughts as to how this could be achieved.

It has been pleasing to see the outcome of the Department of Health’s recent collaborations with the Design Council, an organisation funded by BIS, to demonstrate the role design can play in innovation by helping address challenges such as reducing hospital infections, addressing the issue of patient dignity in hospitals and reducing aggression in hospital A&E. I understand that some of the products from the Design Bugs Out project are now a commercial reality and have been successfully sold into both NHS and foreign healthcare markets. A business and export success, as well as helping the Department of Health meet its objectives through innovation.

I would be happy to provide further information on any of the areas included in the attached annex.

Yours sincerely

SIR ADRIAN SMITH
Director General Knowledge and Innovation
Small Business Research Initiative (SBRI)

SBRI provides an efficient mechanism for public bodies to procure technology development to meet their policy or service delivery needs and, in doing so, it also encourages innovation in UK companies, particularly SMEs. It has the added benefit over 'normal' procurement processes that support is provided by the Technology Strategy Board, the delivery body for BIS innovation support programmes. SBRI offers technology-based SMEs the opportunity to compete for contracts to develop innovative solutions to challenges faced by the public sector, and is based on a highly successful US Government Small Business Innovation Research programme that has been running since 1982. Since the reformed SBRI programme was launched in April 2009, over 600 contracts worth over £41m have been awarded to technology-based businesses in the UK. 67% of these have been awarded to micro (less than 10 employees) or small (less than 50 employees) businesses, typically the cadre of companies that the public sector has the greatest difficulty contracting with.

The health sector has been one in which SBRI has been used effectively. Engagement by the Department of Health and the NHS has led to a significant number of ideas which promise to bring real improvements to public services such as:

- Better means of detecting pathogens and improving hand hygiene in order to reduce the incidence of healthcare acquired infections such as MRSA.
- Finding ways to help manage the growing numbers of people with long-term health conditions, such as diabetes, coronary heart disease, and high blood pressure.
- Combatting obesity in children.
- Finding new ways to improve patient safety.
- New ways to detect / screen for atrial fibrillation and support the rehabilitation of stroke patients.
- Helping people with dementia to live independently for longer.
- Identifying new technologies to reduce hospital admissions by 20%.

The Healthcare and Life Sciences Growth Plan included an action to "encourage more innovation in healthcare by working with the Technology Strategy Board to see £10 million spent over the next two years on Small Business Research Initiative competitions that address specific healthcare problems". This provides an excellent opportunity for better adoption and diffusion of innovative technologies across the NHS through wider engagement and deployment of SBRI. The NHS Commissioning Board would appear to be the most appropriate vehicle to take this action forward. The identification of the key NHS priority areas would best be co-ordinated centrally in order to allow guidance and delivery of R&D leading to solutions to
NHS challenges, whilst the deployment of new products and services would be through local Trusts.

**Action:** The NHS Commissioning Board should take the lead role for NHS implementation of the Healthcare and Life Sciences Growth Plan action to “encourage more innovation in healthcare by working with the Technology Strategy Board to see £10 million spent over the next two years on Small Business Research Initiative competitions that address specific healthcare problems”.

**Action:** Use of the SBRI programme should be widely more deployed in DoH, the NHS and across wider government.

**Forward Commitment Procurement (FCP)**

The FCP approach enables the public sector to fulfil its role as a natural lead market for environmental products and services whilst delivering the cost effective solutions needed to address problems such as climate change and economic and social sustainability. It transforms the market for innovative and sustainable solutions, making new and emerging solutions more affordable and widely available, and providing a way for the public sector to manage the risk of procuring innovative products and services.

An example of the success of the model can be seen at Rotherham NHS Foundation Trust where DoH and BIS initiated and supported an Ultra Efficient Lighting procurement which was part of the Trust’s refurbishment programme. The Trust wanted 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’. Through using FCP they were able to purchase an innovative solution, which incorporates lighting as one element within a patient care pod, a bed, storage and treatment environment for patients, at the same cost as the existing lighting and equipment. The success of this project has been well received by the sector with other NHS Trusts expressing their interest in buying a solution. For the consortium who has designed this solution it has created opportunities in other sectors, e.g. education.

A more recent project is the requirement by Nottingham University Hospital for a cost effective, ultra low carbon energy solution to replace the existing coal fired boiler plant on the Trust’s city site. The Trust is aware that the goods and services needed to address its energy and carbon reduction needs are either not currently available on the market, are too costly or are unacceptable and that a ‘business as usual’ methodology will not deliver the requirements. It has therefore adopted the Forward Commitment Procurement approach.
The FCP model is also being used to progress work on the Low Carbon Buildings – Healthcare (LCB) project. The aim of the project is to share experience and information on best practice procurement, lead market methodologies and case studies related to the design, construction and refurbishment of low carbon buildings in the healthcare sector. The Department of Health is one of the Partners on this project along with: the Directorate for Health Affairs, Norway; the Dutch Centre for Health Assets, Netherlands; Rawicz Hospital, Poland, a pan-European network (the European Health Property Network – EuHPN) and the Department for Business, Innovation and Skills, UK. Given the focus on FCP the projects at Rotherham Hospital and Nottingham University Hospital have proved to be key components to progress the LCB project.

In order to build on the FCP activities, BIS has recently started to work with the Prince of Wales’ Corporate Leaders Group to develop ‘private-public procurement compacts’. By working together in developing these ‘compacts’ the public and private sector can help stimulate suppliers to provide even lower carbon goods and services, and consequently generate growth in the market sector. One of the first areas being looked at is zero carbon catering. Initial contact with both the Department of Health and the NHS has received a positive response.

**Action:** Further FCP projects should be identified in both the NHS and the wider public sector.

**Action:** The NHS should look at the possibility of wider adoption/scale up of existing FCP projects.

**Action:** Learning from the LCB project needs to be fully implemented across the wider government but especially across the NHS.

**Action:** The NHS should agree to participate in the zero carbon catering project.

**Collaboration with the Technology Strategy Board**

The Department of Health and NHS have been involved in a number of TSB-led programmes, notably the three Innovation Platforms: Assisted Living; the Detection and Identification of Infectious Agents; and Stratified Medicine. The Innovation Platforms represent a significant commitment on the part of the TSB (c£10m pa per platform), as well as the Department of Health and other partners. As such, we are keen to ensure that the outcomes of these programmes, which will develop innovative solutions that will benefit the health sector in the UK and UK businesses, are widely used within the NHS, and we feel it is important that there is an internal mechanism for ensuring that information about these is widely disseminated within the NHS and other health authorities. As an example, the TSB is currently procuring a number of Demonstrators for Assisted Living At Scale (DALLAS), working with DoH and
the Scottish Executive. This has the potential to develop technologies that will transform the way care is provided for the elderly and those with chronic medical conditions. If the UK is to remain a leader in this field, and to attract more private sector investment into this area, then it is important that the NHS and local authorities are seen to be customers for these technologies.

**Action: Develop a plan for publicising and promoting the uptake of innovative products and services developed through collaborative innovation activities.**

**Innovation & Research Strategy**

BIS is currently working on development of a cross-government Innovation and Research Strategy to be published later this year. The Strategy will articulate the role we see for government to produce an environment that fosters and encourages innovation in all sectors and what government can/will do to secure this. One of the sections of the Strategy is likely to focus on private sector growth: how government can increase levels of innovation in sectors where there may be potential for an increase in the level of innovation and its adoption, to drive productivity and growth across a range of policy areas. One activity is likely to be around Innovation Inducement Prizes so it might be helpful for BIS colleagues to hear lessons learnt from the establishment of the NHS Innovation Challenge Prize programme.

**Action: Dissemination of learning from the NHS Innovation Challenge Prize programme.**

**Select Committee Report**

The recent House of Lords Select Committee report on “public procurement as a tool to stimulate innovation” made a number of recommendations to government. The report and government response provide an opportunity for departments to review current practice and look at possibilities for encouraging innovation in to the public sector - for example, sharing details of procurement of innovative solutions across central and local government.

**Action: The Department of Health, the NHS and wider government to draw on the report and the government response to highlight a couple of keys actions to adopt in order to help encourage the adoption and diffusion of innovation.**
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.

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

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.

CASE STUDY: Innovative Ultra Efficient Lighting for Future Wards

Welcome to Rotherham General Hospital
Innovative Ultra Efficient Lighting for Future Wards

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

Anticipated Benefits Realisation

“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
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.
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 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.

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

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

“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

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

CASE STUDY: 
Forward Commitment Procurement 
HM Prison Service Zero Waste 
Prison Mattress System

Forward Commitment Procurement: 
practical pathways to delivering innovation

FCP Demonstration Project: 
HM Prison Service Zero Waste Prison 
Mattress System

Historically, the majority of waste mattresses and pillows from Her Majesty’s Prison Service (HMPS) were sent to landfill or incinerated as clinical waste. The increasing costs of disposal together with a drive to reduce volumes of waste to landfill driven by the SOGE targets brought this problem into focus.

HMPS worked with the DTI/DEFRA Environmental Innovations Advisory Group and OGC in the first Forward Commitment Procurement (FCP) demonstration project to deliver an innovative solution to this problem.

In line with the principles of FCP, HMPS identified their unmet need and consulted with the market to find a way to deliver their requirement in a cost effective way. This led to a fundamental shift in the procurement approach and, after trials, the procurement in March 2009 of a fully managed Zero Waste Mattress system, eliminating waste to landfill and savings estimated to be nearly £5 million over the life of the contract.
The problem
In a typical year HMPS purchased around 53,000 foam mattresses and 48,000 pillows, and dispose in the order of 40,000 items due to soiling, misuse, and wear and tear. Each prison area handled their own arrangements for disposal through local contracts. Although the current specification was considered innovative at the time of its development, and operationally a success, the majority of ‘end of life’ mattresses were being sent to landfill, with the remainder classed as clinical or hazardous waste and incurred high disposal costs.

In short, the situation was environmentally unsustainable and the combined cost of supply and disposal was estimated conservatively to be in the region of £2.8 million per year. As well as the financial cost of this disposal, individual prisoners were finding it increasingly difficult to have the products taken away by contractors due to the increasing demands on and restrictions on the use of landfill sites.

This practice was not only uneconomical but out of step with HMPS and UK Government sustainable development policy and goals, including those set out in Sustainable Operations on the Government Estate (SOGE) targets and Sustainable Procurement Action Plan (SPAP) objectives. To compound matters, disposal costs were also set to rise as a result of regulatory drivers, such as the European Union (EU) Landfill Directive, and EU Waste Framework Directive.

The situation required a radical rethink.

“The starting point for any FCP project is recognising that you have an unmet need that needs a solution and then deciding to do something about it.” – Gaynor Whyles, Director JERA Consulting

The Opportunity
With supply arrangements for mattresses and pillows being reviewed in 2006 ahead of re-tendering in 2007/8 HMPS took the opportunity to overhaul its arrangements for there supply, use and disposal.

Following the FCP process, first HMPS needed to establish their ‘unmet needs’; HMPS and the FCP team thought carefully about what was needed, and described this in outcome terms to allow scope for innovation:

By 2012, HMPS wants all its mattresses and pillows not classified as hazardous waste to be recycled, repurposed or reused instead of going to landfill and to reduce to 2 per cent pa the number of mattresses disposed of as hazardous or clinical waste (and by the way it needs to cost less).

Using the FCP market sounding and consultation process, HMPS made sure that the market knew about the requirement, had time to develop new supply chains and to innovate, and (critically) was convinced of their commitment to delivering the outcomes.

Finding a Solution
HMPS issued a Prior Indicative Notice (PIN) in the EU Official Journal (OJEU) in October 2006 as ‘A call for innovative solutions and information’ announcing the market sounding exercise.

“The combined cost of mattress and pillow supply and disposal is estimated to be well in excess of £3 million per year. In short, the current solution is costly and environmentally unsustainable”.

– HMPS FCP Market Communication Document

The call was widely publicised among the supply chain with the help of intermediary organisations such as the Knowledge Transfer Networks and generated much interest. The Manufacturing and Materials Knowledge Transfer Network organised a one day workshop with the supply chain and academics to discuss the issue and explore solutions. By the end of the consultation period over 30 good quality submissions from across the supply chain including multinationals, SMEs and social enterprises were received.

The call for innovative solutions and information achieved the following:

• made HMPS unmet needs visible to the market
• stimulated a response from the market
• provided HMPS with information on a number of products and technologies that could contribute to achieving a zero waste system
• introduced ideas and options for managing end of life mattresses
• introduced a number of potential new suppliers
• catalysed a number of innovative ideas.

The responses presented a range of different routes to achieve the desired outcome and also included ideas to improve the overall operational and environmental performance.

A representative sample of these companies were invited to attend an information exchange in a supply chain workshop event on 23rd April 2007 ‘to explore means of delivering a zero waste prison mattress system’.

“The response of the supply chain has been excellent and has confirmed the value of this novel approach.”
– Geoff Sykes, Head of Procurement Compliance and Mattress Project Manager, MOJ
The workshop provided an opportunity for HMPS to explore with potential suppliers the technical, operational and commercial options available to deliver a zero waste mattress system and for suppliers to find out more about our requirements and how their products and know how might contribute to a total solution, as well as supporting the development of the supply chain.

The HMPS used the information gathered through the market sounding and supply chain workshop to inform their procurement strategy and decisions on the contracting approach.

“FCP involves being a demanding procurer, asking for what you want, not what you think you can get, and actively creating the market conditions that stimulate and enable to supply chain to deliver.”
– Gaynor Whyles, Director JERA Consulting

As a result of the market engagement it was recommended in the procurement strategy that an OJEU competition was launched for the supply of a ‘Fully Managed Service for Mattresses and Pillows’ that was environmentally friendly, be at the very least cost neutral and achieve a Zero Waste solution by 2012.

The Outcome

In March 2009, HMPS signed a supplier contract for a ‘Zero Waste Mattress and Pillow Solution’. Exceeding all expectations, this brings to a successful conclusion the first pioneering FCP demonstration project.

Outcomes? A zero waste mattress and pillows solution, sooner than expected and with significant cost savings – estimated to be in the region of £5 million over the life of the contract.

The results speak for themselves: innovative new covers will reduce turnover, and all but eliminate the need for clinical waste disposal; no end-of-life mattresses will be sent to landfill, but instead will be recycled into useful products.

Next steps

It doesn’t end here; HMPS are committed to auditing the zero waste outcomes of the contract, and will look to continual improvement in performance of all aspects of the contract. HMPS is now working with the Department for Business, Innovation and Skills FCP programme to build on the success of this project and develop a second Forward Commitment Procurement project.
Long ‘Life Bulb’ illuminates replacement market

A UK company has developed a unique light bulb, which, claims the developers, will last more than 25 years and uses 14% less energy than the most advanced energy saving bulbs on the market.

Life Bulb

The Life Bulb is expected to be on sale by 2012 and will be a replacement for the 60W incandescent bulb to be phased out across the European Union in September 2011.

Zeta Controls won a development contract for £450,000 from the Department for Environment, Food and Rural Affairs (Defra) and the Technology Strategy Board to develop an ultra-efficient lighting prototype for domestic use. (Ultra-efficient lighting is predicted by NextGen Research to grow rapidly to achieve worldwide revenues in excess of US $33bn by 2013.) The contract is part of the Small Business Research Initiative (SBRI), which invests in supporting cutting edge UK projects.

Glass and mercury free

The Life Bulb is believed to be a world first in ultra-efficient lighting. The LED component is encased in an aluminium cage to allow air to flow through without overheating. It only uses 8W of energy but has the brightness of 60W, as well as a ‘whole life span’ of 25 years when used for four hours a day. It provides instant light without needing the warming-up process of most energy efficient bulbs. It also distributes light through 360 degrees and is dimmable. Finally, as it doesn’t contain glass or mercury the ‘bulb that isn’t a bulb’ does not need specialised recycling.
Technology Strategy Board
Driving Innovation

2012 launch
By September 2011 all 60W clear incandescent bulbs will be phased out across the European Union and by September 2012 all remaining clear incandescent lamps (25W and 40W) will no longer exist.

The UK Government, energy companies and retailers are all working together to achieve these targets and are keen to produce innovative low energy lighting products. Investing in the latest ultra-efficient lighting technology is expected not only to cut carbon emissions but to create jobs and boost the UK economy.

Zeta Controls’ latest innovation, the Life Bulb, is ready to take advantage of the huge global market to open up in September 2011. With prototypes tested in February 2011 and two patents already filed, Zeta anticipates the new product will be on the shelves in 2012.

The bulb is planned to retail initially at £19.50 but Zeta anticipates the cost will reduce dramatically as production volume increases.

Ultra-Efficient Lighting
In February 2010 the Technology Strategy Board and Defra launched a £1.2m SBRI to fund development work on ultra-efficient lighting for the domestic environment. This competition aims to develop capability to supply high-quality directional and non-directional lighting for the home that is exceptionally efficient, while providing a medium-term payback of costs in real terms.

Zeta Controls was one of two UK companies selected to develop their prototypes and produce 50 fully-functional, tested demonstration units. Both selected projects (Zeta Controls and Juice Technology) are non-directional lighting sources (bulb replacements) and are highly innovative with strong take-up potential in the retrofit market.

KEY FEATURES
• Competition is demand driven by a defined challenge
• Stimulates the creation of innovative new products or services
• Operates under EU pre-commercial procurement guidelines
• Fully-funded development contract – not a grant
• Fast-track, simplified process
• Particularly suitable for small and medium-sized businesses
• Government department acts as the lead customer
• Intellectual property is retained by the company

The SBRI scheme is one of the tools that the Technology Strategy Board uses to drive innovation. SBRI competitions use the power of Government procurement to:

• provide innovative solutions to public sector challenges
• and business opportunities for technology companies.

The Technology Strategy Board is a business-led executive non-departmental public body, established by the Government. Its role is to promote and support research into, and development and exploitation of, technology and innovation for the benefit of UK business, in order to increase economic growth and improve the quality of life. It is sponsored by the Department for Business, Innovation and Skills (BIS).

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T11/021 June 2011

‘Thanks to this investment as part of the SBRI initiative we have been able to bring to market a unique product that will ensure the UK is ready to take advantage of the growing worldwide demand for energy efficient lighting.’

PHILIP SHADBOLT, MANAGING DIRECTOR, Zeta Controls Ltd.
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