

## INSPIRE case study

### ERASMUS MC EcoQUIP

Roles involved:

- Erasmus MC: University hospital as the customer
- TNO: Local facilitators and technical support
- Experts on innovation procurement: JERA support to Erasmus and TNO in design and implementation of PPI (FCP) process.

Status: contracted demonstration stage nearing completion.

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#### **1. Identification and assessment of unmet needs within (and starts from) the public bodies**

The first step in the Forward Commitment procurement process adopted by Erasmus is the identification stage where an unmet need (e.g. problem or opportunity) and requirement for innovation is identified. In this case the problem was that the existing bed washing facility was nearing the end of its life and a new machine was needed for installation in the new hospital building in 2014. An analysis of the market suggested at best there was one supplier and that this supplier was likely to discontinue manufacture of the bed washing facility. In an assessment of the technology it was also established that it was resource intensive in terms of water, energy and hence had a high carbon footprint.

#### **2. Involvement of users in specification of requirements**

A Decision Making Unit (DMU) was set up involving staff from all the relevant departments, facilitated by the local facilitator (TNO) with the support of PPI experts (JERA).

#### **3. Creating a Decision Making Unit for clarity and transparency at ERASMUS MC**

As the project got underway, the project team identified that procurement was usually dealt with at the level of a budget holder (usually a head of department) assisted by procurement staff, with staff from the relevant department occasionally involved. The team soon realised that for this project a wider perspective was needed. This meant involving more stakeholders within the organisation from the start.

A DMU is a group of employees made responsible for finalising major decisions, usually involving a purchase. Major purchases typically require input from various parts of the organisation. Highly technical purchases, such as medical equipment, also require the expertise of technical specialists. In some cases the DMU is an informal ad hoc group, but in this case, it was created as a formally sanctioned group with specific mandates.

There are typically six roles within a DMU:

1. Initiator who suggests purchasing a product or service.
2. Influencers who try to affect the outcome decision with their opinions.
3. Deciders who have the final

decision.

4. Buyers who are responsible for the contract.
5. End users of the item being purchased.
6. Gatekeepers who control the flow of information.

These six roles are formal roles. As external project team member TNO played a key role by acting as innovation procurement coach and as project facilitator, helping coordinate the project, assist team members and question the seemingly obvious.

As soon as the outline of the procurement was agreed and all the important stakeholders represented, the team approached senior management for approval to proceed (in this case it was one of the Board members and the Tender Board that governs all procurement projects at the hospital procurement projects at the hospital). This not only gave the project team formal status, but also ensured that future activities would not be surprised by last minute changes, shifting priorities, extra bureaucracy or steps in the procurement process. Important lessons from the pilot project included:

Identify the decision making group as early as possible.

Make clear the role and influence they play during the procurement process and the priorities each of the involved persons has (this can differ significantly!).

Remind them of this during the process.

Make sure the team is complete (have we forgotten an important influencer?)

A final but vital issue is to get the team recognized and enabled by senior management.

The DMU identified a future need for a sustainable bed cleaning solution for the new hospital building.

In DMU included decision makers from different areas in the hospital such as infection prevention, end users, facilities management and estates and together they identified an unmet, in outcome terms in line with innovation procurement good practice, for 'a sustainable and low carbon solution to deliver 70,000 clean beds and mattresses per year'. The team determined the *Total Cost of Ownership (TCO)* of the existing solution so that this could be used for comparison with proposed new approaches. The team also helped to identify the wider market by contacting other hospitals with similar needs. Six other hospitals in The Netherlands expressed an interest in the outcome of the consultation.

#### **4. Definition of requirements in terms of outcomes and early market engagement**

The outcome based requirement identified:

Erasmus University Medical Centre (Erasmus MC) is renewing its bed washing facility to provide enough clean and disinfected beds for its daily operational needs. This currently exceeds 70,000 beds per annum and is expected to increase. The existing machine is labour intensive and uses a large volume of water and energy to operate. In brief, it is expensive and out of step with the hospital's sustainability policies and objectives.

Once the requirement was identified and the project embedded in the Hospital a Prior Information Notice was published in the OJEU calling for innovative solutions. The team also publicised the project widely in the press and trade magazines. This market communication was followed by a Market Meeting Day. The purpose of the day was to provide the market with insight into the hospital's needs, demonstrate the commitment to innovative procurement and the potentially broader demand for a solution, facilitate partnerships and consortia-building and discuss the process. The market meeting day gave the Erasmus MC project team confidence that there was both interest and capacity in the supply chain to deliver the specified outcomes.

## **5. ERASMUS MC organised a market meeting day to stimulate innovation and cooperation among suppliers**

The goal of this 'market meeting day' was to discuss in detail the challenge: how to efficiently clean beds in a sustainable way in the context of Erasmus MC. A large number of market parties from a wide range of backgrounds (around 60 persons) attended, as well as stakeholders and several other healthcare organisations.

The day focused on:

providing parties with more insight in the challenge set by Erasmus MC

demonstrating the commitment of Erasmus MC to buy innovative solutions.

Furthermore, the attendance of other healthcare parties showed that there is a wider future market for innovative solutions.

helping market parties find potential partners for developing better and more innovative solutions.

discussing how Erasmus MC should organise the procurement process (e.g. tender procedure and awarding of contract) to enhance the chances for a successful outcome.

The day started with presentations and a guided tour. This was done to show the goal of the day, the importance of clean beds and to give a first-hand insight in the current process of cleaning beds. The current process will be one of the benchmarks for evaluating the solutions provided by the market. The afternoon session was highly interactive. In multiple discussion sessions people were invited to address questions like "how clean should hospital beds be?" and "how do we determine the most sustainable solution?"

In one of the most interesting sessions, each organisation was asked to write down their skills and competencies and highlight gaps in information, skills or techniques needed to develop an effective solution. This activity created a platform for suppliers to find potential partners to create a consortium.

The market parties responded very positively to this approach, despite it being very new to them. The Erasmus MC team emphasised that although any individual company in the room could create a 'good

enough' solution for the challenge, the team felt that, through a joint effort that combined different ideas and techniques, could create the best possible solution.

Over the course of the day participation and open communication was encouraged and facilitated and as the day progressed the market parties became more and more open to each other and were able to share ideas and work on future collaborations.

## 6. Pro-innovation Procurement and Evaluation

In March 2012 a tender was launched using the *competitive dialogue* procedure. On the basis of the market consultation, Erasmus MC developed an innovation- friendly procurement strategy and set three award criteria for the new bed cleaning facility:

1. Total Cost of Ownership / Service
2. Carbon footprint
3. Fit with organisational strategy

This was a radical change from normal procurement practice at the hospital. By making carbon footprint an award criterion Erasmus MC sent a strong signal to the market that suppliers have an important role to play in reducing embedded carbon, both in their products and their supply chain.

Eight candidates passed the pre- qualification stage and were invited to participate in the first round of the competitive dialogue. Over the dialogue period the number of participating operators was reduced from eight to the final two who were invited to tender.

### The solution and outcomes

The winning bid came from a Dutch SME, IMS Medical, who developed a fully automated robotic bed washing facility. This is an innovative solution based on robotics technology adapted from the automotive manufacturing sector. The contract is structured in two phases with an initial demonstration period being undertaken, part funded by both parties, to confirm the suitability of the solution within the hospital's operations.

Innovation often involves cross fertilisation between supply chains. In this project robotic technology, developed for car production lines, has been adopted to solve the problem of bed cleaning in hospitals.

The solution was provided by a Dutch SME that combined robot-technology from the car manufacturing industry with a patented steam nozzle. **The calculated reduction in Total Cost of Ownership is 28% and the calculated reduction in operational CO2 is 65%.**

Robotics is widely used in the automotive and other industries, with an increasing number of applications in the world of healthcare.

## 7. ERASMUS MC - A new approach to evaluating tenders

Erasmus MC developed three award criteria for its new bed cleaning facility:

1. Total Cost of Ownership/Service,
2. Carbon Footprint, and
3. Fit with strategy of Erasmus MC organisation.

This is a radical change from normal procurement practice (with an emphasis on qualitative criteria) as these criteria would not normally play any significant role and it doesn't signal any weighing between criteria yet; all options are kept open and solutions have no predefined form!

Providers of solutions were stimulated from the first official communication to look at the whole life-cycle impact of the offered solution and look beyond the point of what they offer themselves.

By making carbon footprint an award criteria Erasmus MC sent a strong signal to the market that suppliers have an important role to play in reducing embedded carbon, both in their products and their supply chain. This was signalled at the earliest stage possible, i.e. in the market consultation document and it was constantly repeated, ultimately becoming one of the three foundations of the procurement strategy. As Erasmus MC did not have any prior experience of using embedded carbon as an award criteria, nor did the supply chain (that emerged from the market meeting day), the help of external advisors (TNO) was invaluable.

The third criteria helps to determine the impact of the proposed solution (can it be managed and is it aligned with other operations in the hospital?), its strategic fit with for example carbon reduction schemes and resource efficiency policies, and whether it will be delivered when needed and up to the required quality standards.