



Case Studies
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Public Procurement of Innovation

Contrasting Approaches Throughout
Europe – Case Studies.

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Public Procurement of Innovation

- An opportunity to introduce innovation to EU's public services.

Despite several setbacks, Public Procurement of Innovation (PPI) is progressively emerging as a decisive factor for fostering the demand of innovative goods and services across Europe, improving the quality of public services destined to EU citizens, while at the same time addressing some major societal challenges.

Its benefits are undeniable. Although public procurement primarily aims at acquiring products, services and works economically, by going beyond the concept of the 'better-price offer' and introducing among the award criteria parameters and notions, public procurers can enhance cost-efficiency over the medium or long term and boost performance, thereby initiating cost savings.

By developing a forward-looking innovation procurement strategy, public procurers can drive innovation from the demand side, thus enabling the public sector to modernise its services faster, while simultaneously creating opportunities for companies in Europe to gain leadership in new markets.





How can it be defined?

An investigation into the national PPI landscape in several European countries clearly demonstrated that PPI has not reached its full potential in Europe yet. One of the barriers identified in the study was the lack of a clear definition of Public Procurement of Innovation.

There exists an obvious confusion as to what Public Procurement of Innovation really means, which is completely understandable if one considers the broad range of different concepts, each with their own associated rationales and approaches, used in literature and practice to describe the stimulation of innovation through public procurement.

2. Ibid.

www.pronto-ppi.eu

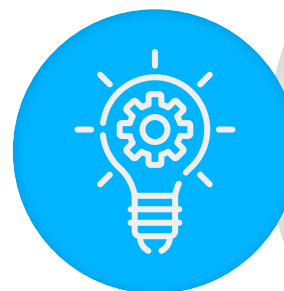


This project has received funding from the European Union's COSME programme under grant agreement No 857810



Is there **common ground** as to what PPI is?

The analysis of various case studies (presented herein) revealed the existence of **common ground*** but also different approaches, ranging from **enhanced collaboration among regional/national stakeholders** in order to define the problem and the perceived outcome to the **purchase of goods/services that are new on the market** (or about to enter the market) or a **new way of using already existing products** to 'solve' a problem (business case). This only adds to the overall confusion.



***Common Ground:**
Focusing on the problem and **opting for a solution** instead of detailing the goods and/or services to be purchased.

To illustrate the different approach adopted by innovation procurement, a number of case studies have been selected and outlined. The list is not exhaustive but aims to stimulate interest and highlight how several public entities

"thinking outside the box"
and involving both key actors at regional/national level and potential providers in order to achieve the desired outcomes.





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Case Study 01

Detmold's concrete solution to reduce air pollution.

Public Entity: City of Detmold, Germany

The challenge and the goal.

The City of Detmold's busy central bus station is used by 2.3 million passengers each year and was last renovated in the early 1960s. The need for renovation and redesign was identified in order to improve traffic flow and accessibility.

The City's Department for Construction and Property Management identified the potential to reduce air pollution in the area.

The proposed solution.

The application of photocatalytic concrete in the pavements and road surfaces.

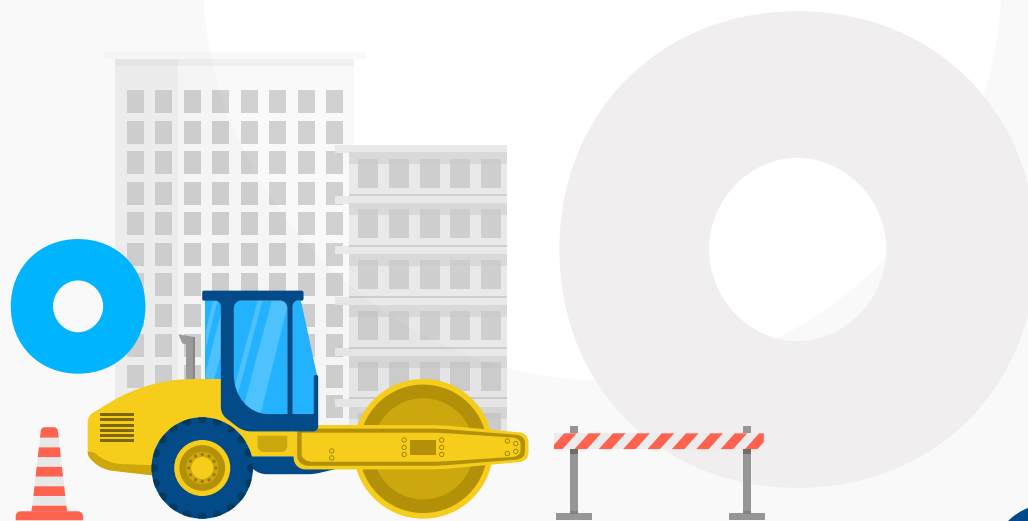
● Strong sunlight or ultraviolet light decomposes many organic materials in a slow, natural process.

Photocatalysts accelerate this process by stimulating a chemical transformation, without being consumed by the reaction. Pollutants are converted into harmless salts which flow through storm water drains. In addition to reducing airborne pollutants, photocatalytic concrete helps to avoid the heat gain associated with dark construction materials like asphalt and reduces the formation of smog. It also reduces the need for building maintenance and the environmental and cost impacts of cleaning.

The outcome.

Based on the daily average of **800 buses** at the station, a reduction of the annual emissions of nitrogen oxides by up to **40%** is to be expected.

The additional cost of using the photocatalytic concrete was relatively low, amounting to **€90,000** within a total project cost of **€2.8 million**.



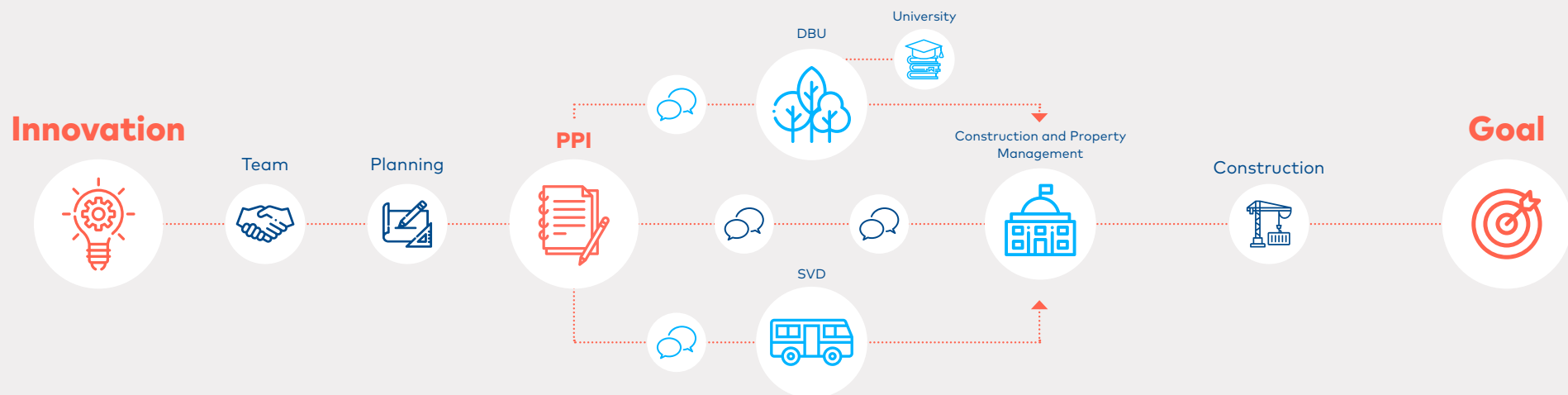
The innovative approach.

After thorough examination, a **cross-disciplinary planning group was formed**, including road planners, concrete technologists, geological engineers, university professors, auditors, officers for the disabled and political representatives.

Following two separate presentations and debates with the City's commissions for construction and property management, the project received the green light. The planning group also had **discussions with the city owned bus company Stadtverkehr Detmold GmbH (SVD)**.

The **German Federal Environmental Foundation (DBU)** supported the project through the **Department of Civil Engineering of the University of East Westphalia-Lippe**.

The cooperation within the project worked well, although the total time required was longer than a traditional procurement. **Planning for the project began in January 2011 with procurement being launched in March 2012. A contract was awarded in May 2012 with construction completed in August 2013.**



Market Consultation.

Several producers were asked to send brochures and information on their product. Producers were then invited separately to a round table with the project group to discuss their solutions and potential applications to meet Detmold's needs. **The wide range of conditions and materials affecting concrete requires a case-by-case approach to ensure the most appropriate application of the technology.**

Technical risks were assessed with reference to published research reports and manufacturer's specifications. Site visits were arranged to production facilities and the approach of different producers compared. A sustainability analysis was carried out based on the expected lifetime of the development of at least fifty years. The results were submitted to the planning group to determine which techniques were most suitable for the project. Approval was received at political level for the approach, taking account of the projected additional costs for use of photocatalytic concrete.

It took around three months to get the information, with expert opinions and communication on the installation of the innovative product. The input of the University's engineers was particularly valuable during this phase.

Procurement.

An open procedure was used and six bids were received from construction contractors. The requirements in the tender documents were formulated in neutral terms so that multiple producers could supply the material – **Detmold's internal auditors were very involved to ensure the transparency of the process.**

Based on the information gathered in the market consultation, the tender documents specified a TiO₂ content of between 3% and 5%. **There were follow up questions to those that submitted an offer to see if they could really fulfil the criteria. Some companies submitted variant solutions with conventional concrete, which were 3.6% cheaper on average.** Samples were evaluated as part of the tender process and following award of contract a test surface was set up to determine the best way of working with the material on site.

Source:

<https://www.pronto-ppi.eu/about/public-results/d21-analysis-of-public-procurement-of-innovation-in-eu/>



Case Study 02

Rawicz County Hospital reducing its carbon footprint with their uniforms.

Public Entity: Rawicz County Hospital, Poland

The challenge and the goal.

As a member of the **LCB-HEALTHCARE** project, Rawicz Hospital had the opportunity to make an innovative purchase to reduce its carbon footprint.

The hospital's CEO recognised the relatively high risk associated with innovative building refurbishment and identified the procurement of new staff uniforms as a suitable pilot project to test new approaches. The previous generation of uniforms had not delivered against user expectations and the costs and environmental impact associated with their purchase and laundering had not been considered.



The proposed solution.

The uniforms purchased by Rawicz hospital contain a fibre made from eucalyptus wood.

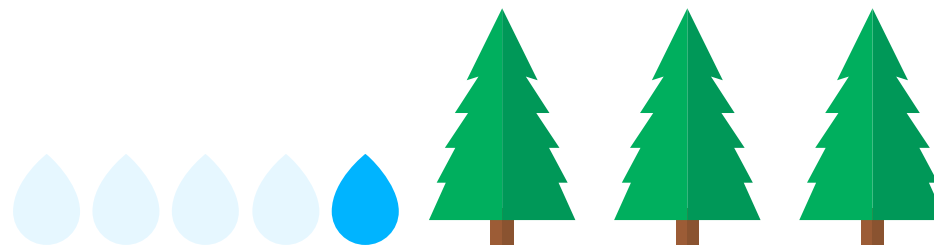
The eucalyptus is certified as originating from sustainable forest plantations and the production process requires only 1% of the water needed for conventional cotton. The resulting textile is resilient and comfortable to wear. The European Commission has entered a public-private partnership with **50+ companies** to accelerate the commercialisation of bio-based products in Europe.

Eucalyptus wood fiber requires only **1% of water** needed for cotton

The outcome.

In October 2012 Rawicz signed an initial contract with a local company that offered to supply clothing made of a mixture of 50% polyester and 50% Tencel (a eucalyptus-based product).

The winning tender was chosen on the basis of best whole life cost, and has demonstrated considerable savings arising from reduced laundering costs and reduced turnover of uniforms. Approximately 80% of the costs associated with uniforms arise not from the initial purchase price but during the use phase - over a six year period an estimated 18% saving will be realised.



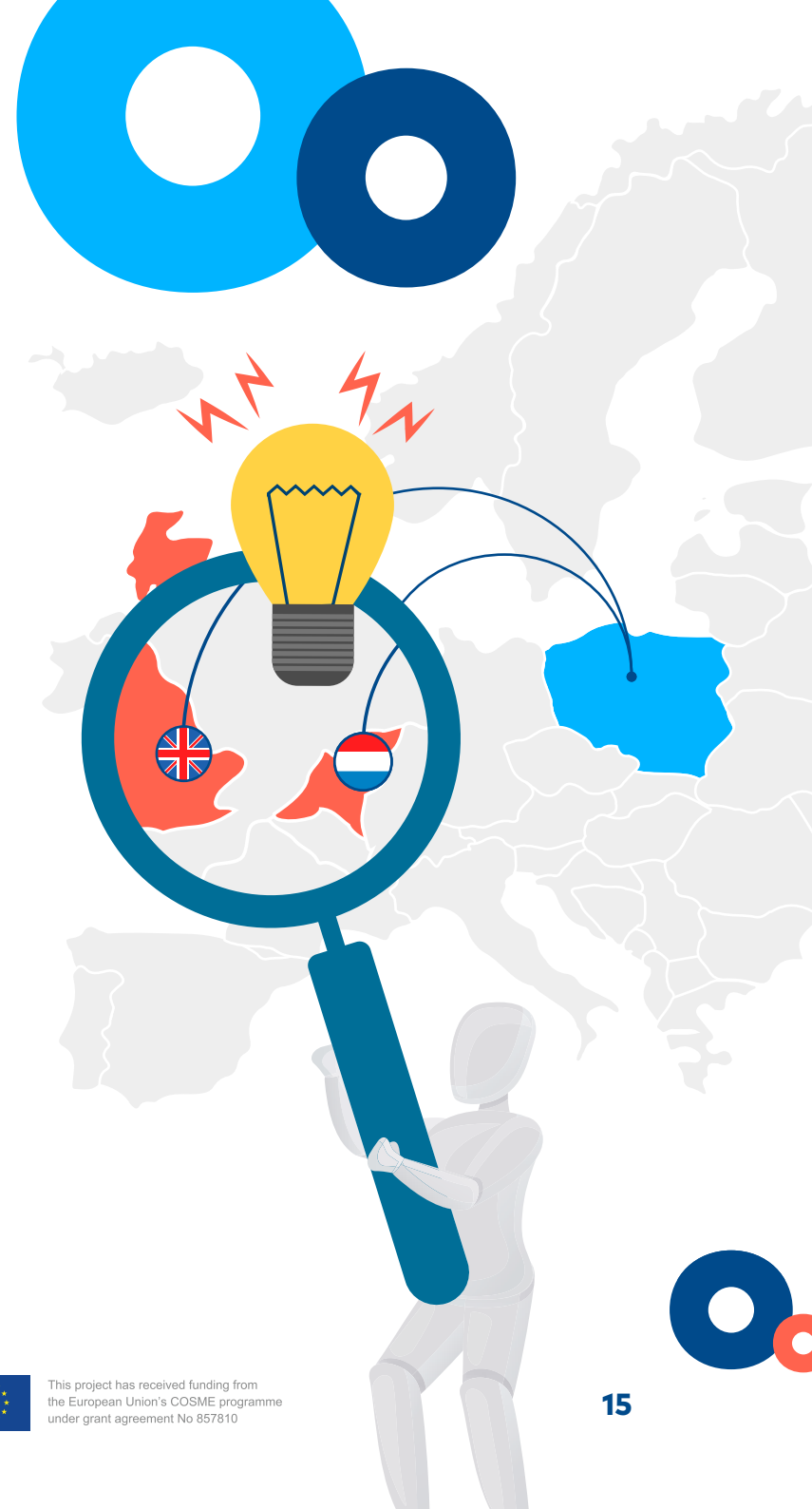


The innovative approach.

The European Commission funded **LCB-HEALTHCARE** network allowed Rawicz Hospital to develop its innovation procurement approach and learn from other network participants.

Peer learning visits to LCB partners at the Erasmus University Medical Centre (The Netherlands) and Nottingham University Hospitals and Rotherham Hospital (UK) allowed staff to overcome their concerns about adopting a new approach, understand the benefits of PPI techniques, and make direct contact with supply chain representatives.

In particular, the use of outcome-based specifications and whole-life costing was new to the procurement team at Rawicz.





Needs Assessment and Building Demand.

The Rawicz project team began by consulting the nurses who would wear the new uniforms. The user consultation gave the project team some clear, well-defined parameters that formed the basis of the outcome-based specification. **The new uniforms had to be functional, attractive, user friendly, easy to clean, durable and cost effective.** The project team recognised that creating a wider market demand would encourage a positive response from suppliers, and contacted other hospitals to explain the project and gauge their interest.

Twelve hospitals employing over 13,000 people declared that they were interested in learning the results of the Rawicz hospital pilot project.

A Prior Information Notice was published in the Official Journal explaining the hospitals' needs and inviting potential suppliers to an open meeting. The project was also publicised at national and international level.

A technical dialogue procedure was launched to gather market knowledge in advance of the tender. Hospital staff were given the opportunity to test the offering of three companies over a period of three months. This phase identified a number of advantages of the fabric proposed for the new uniforms by one of the suppliers:



It was resilient during the washing process, quicker to dry, less prone to staining and received general approval for quality and functionality. The testing phase also included discussions with the suppliers, which resulted in changes to the style and cut of the uniform. For the first time in the hospital's procurement, award criteria were used to assess factors other than purchase price. Whole-life costs were calculated and the environmental performance of the offered textiles was also taken into consideration.

Source:

Guidance for public authorities on Public Procurement of Innovation, Procurement of Innovation Platform, 2014
Greener Textiles in Hospitals - Guide to green procurement, Nordic Council of Ministers, 2017
Case Study: Introducing innovation procurement methods: Rawicz County Hospital, Poland, LCB-HEALTHCARE

Case Study 03

Sucha Beskidzka's fresh approach to cooling down a hospital.

Public Entity: Public hospital in Sucha Beskidzka, Poland

The challenge and the goal.

Cooling hospital wards during summer months.

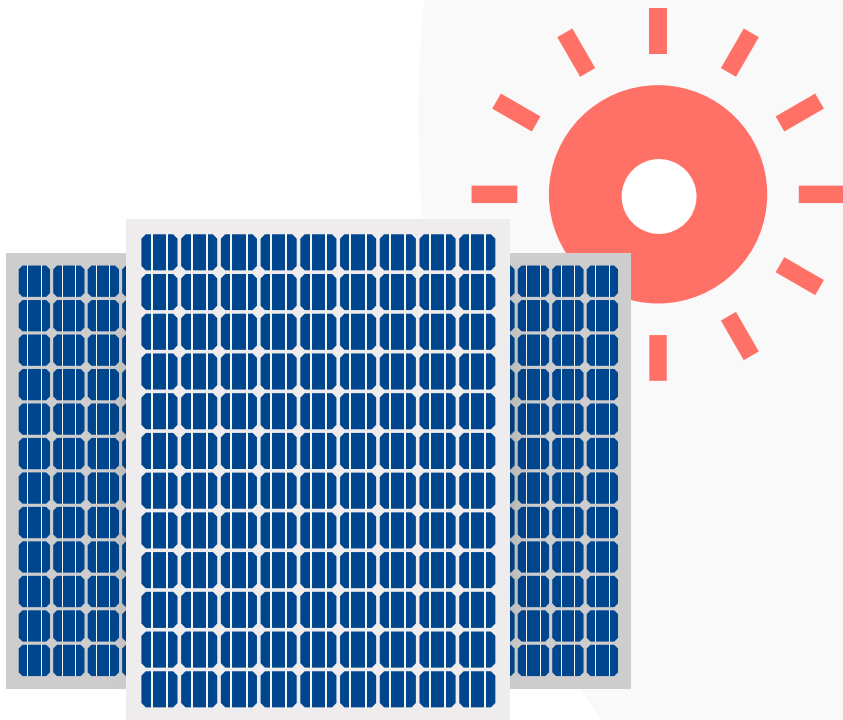
Climate change has made heatwaves more common in Poland. The hospital in Sucha Beskidzka's was one of many Polish hospitals where the impact of elevated room temperatures on staff and patients' well-being, as well as on medical equipment, was of increasing concern. The Ministry of Public Health responded by requiring all health care providers to install "sun-blocking equipment in patients' rooms" exposed to excessive sunlight.

However, air-conditioning patients' rooms in the summer months strained the budget of the Sucha Beskidzka's hospital.



The proposed solution.

The building's façade was equipped with solar panels.



The outcome.

Rather than buying more of the same, the hospital asked the market for available solutions within a technical dialogue.

Then, using functional criteria (temperature reduction of 2°C) instead of prescribing a specific solution in an open procedure, it procured a healthier and more sustainable solution:

- the building's façade was equipped with solar panels, which provide shade without darkening the rooms.



The innovative approach.

Rather than buying more of the same, the hospital asked the market for available solutions within a technical dialogue. Then, using functional criteria (temperature reduction of 2°C) instead of prescribing a specific solution in an open procedure, it procured a healthier and more sustainable solution:

The building's façade was equipped with solar panels, which provide shade without darkening the rooms.

Using a whole-lifecycle-costing model was crucial for a procurement outcome that benefited the hospital patients, staff and management.



Source:

Delivering efficiency, quality and sustainability in healthcare through innovation procurement, EcoQUIP project (<https://www.ecoquip.eu/about-ecoquip/associated-projects.html>)

<https://bit.ly/33hMgZb>

Case Study 04

Illuminating the London Underground.

Public Entity: Integrated transport authority "Transport for London", UK

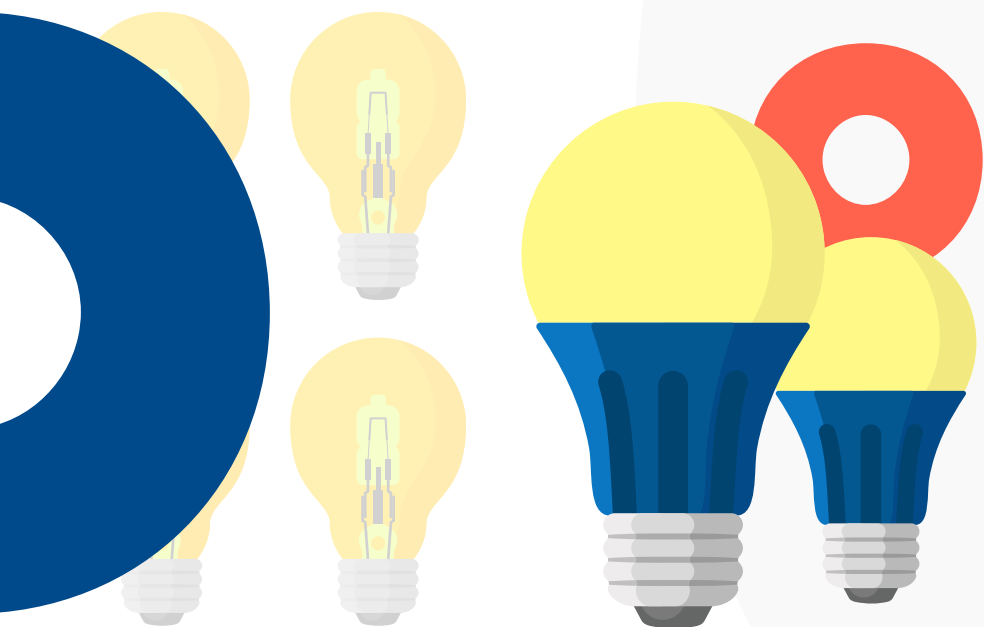
**The
challenge
and the
goal.**

**Making public
service less costly
for taxpayers and
the environment.**



The proposed solution.

Deployment of LED lighting.



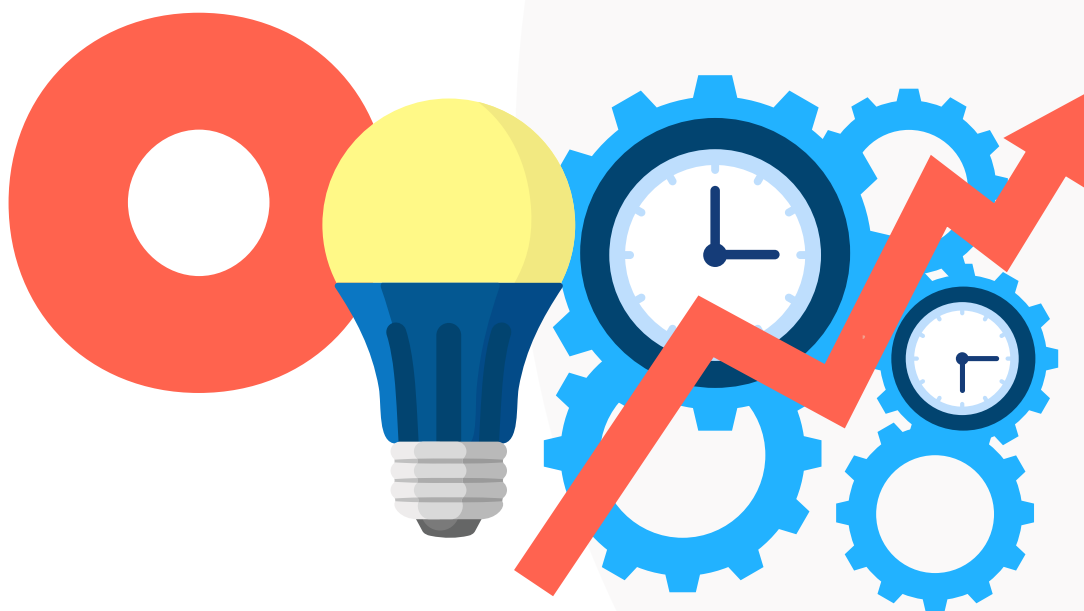
The outcome.

**Over an 8-year, and
£8 million framework
contract, the
introduction of LED
lighting is generating
savings of 50%,**

which amounts to millions of pounds. Assessing the long-term value for money also resulted in a choice of products, which – with five to six times lower energy consumption – are genuinely better for the environment.

The innovative approach.

TfL conducted a business case analysis looking at the life-cycle costs and benefits of LED lighting to establish whether – and if so, when – investment into this newer technology would be returned. **The analysis showed that although the short-term cost of deploying LED lighting would be higher than the status quo, the mid- to long-term benefits, in particular savings on labour and energy costs, would more than compensate the initial expense.**



Source:

http://ec.europa.eu/environment/gpp/pdf/news_alert/Issue64_Case_Study_128_London.pdf

www.pronto-ppi.eu



The analysis also helped the TfL mitigate their upfront investment risk: **LED lighting was at first installed only above escalators and in night-access areas, where the cost of the traditional lighting – and thus the potential for savings – was highest. These early savings could then be used to install LED lighting in other parts of the London Underground network.**



This project has received funding from the European Union's COSME programme under grant agreement No 857810



Case Study 05

Portugal's Car Fleet Shared Management Platform.

Public Entity: Ministry of Health, Portugal

**The
challenge
and the
goal.**

The Portuguese Ministry of Health sought to optimise the route management,

and reduce environmental impact and the overall cost of the car fleet

used by all the services under the umbrella of the Ministry and the Portuguese National Health Service institutions.

The proposed solution.

Setting up an electronic platform.



The outcome.

The platform allows users to share all available resources (vehicles and routes).

This results in a reduced number of vehicles, as well as a reduction of the associated costs (such as insurance, fuel and maintenance costs, etc.) and the environmental impact. It also produces reports on the real-time use of the resources, providing indicators to induce efficient, transparent and conscientious planning, management, use and control of the car fleet.

The innovative approach.

Instead of simply buying new cars, the Ministry of Health rethought the way the car fleet could be deployed.

It envisaged an electronic platform where all the information related to the use of the car fleet would be centralised.

In 2017, the Shared Management of the Car Fleet Platform of the Ministry of Health (GPFMS) was delivered by an external contractor selected through a public procurement procedure in which the desired outcomes were expressed in terms of functional requirements.

Source:

<http://www.spms.min-saude.pt/2016/05/spms-desenvolve-gestao-partilhada-frota-do-ministerio-da-saude/>



Case Study 06

Austrian Mint's Solution for the Residual Water from Coin Production.

Public Entity: Austrian Mint, Austria

**The
challenge
and the
goal.**

**Cleaning up the residual
water left over from the
production of coins in Austria,**
which contained chemicals in excess of the legal limits.

The proposed solution.

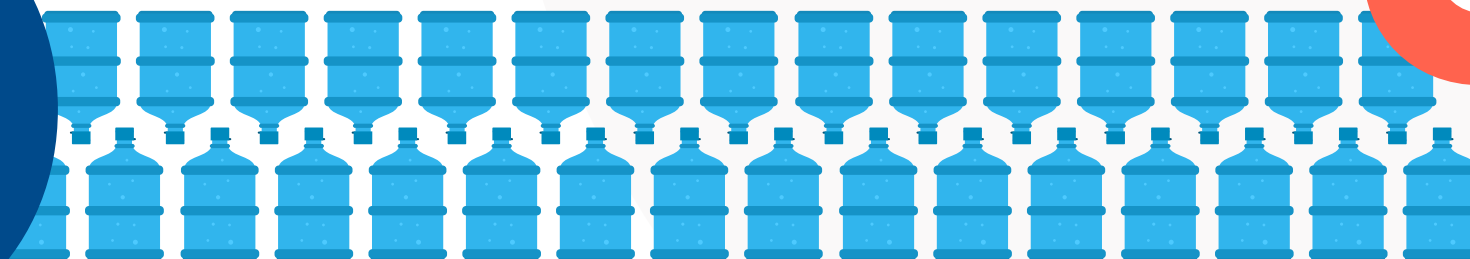
An easy-to-install, vacuum evaporation mechanism that filters a wide range of particles

(including metal, galvanic, photo, print, pharmaceutical and food particles), which makes it suitable for use in a variety of industries.

The outcome.

The residual water is indeed cleaner, with the additional advantage that the

Austrian Mint's need for fresh water has been reduced by 97%, saving 4 million litres of water per year.



-97%
-4.000.000 L



The innovative approach.

Austria's Federal Procurement Agency launched a **three-stage public procurement procedure to find an innovative solution for the Austrian Mint (the entity responsible for coin production).**

Potential suppliers were invited to provide information about innovation track-record. Precise targets for the water treatment were included in the contract terms.



Source:

http://ec.europa.eu/environment/gpp/pdf/news_alert/Issue58_Case_Study117_BBG_Austria.pdf

Case Study 07

Copenhagen's innovative technologies to meet environmental targets.

Public Entity: The city of Copenhagen, Denmark

The challenge and the goal.

Having set the ambitious target of becoming carbon neutral by 2025, Copenhagen set to transform the way it manages energy and **reduce energy consumption from street lighting.**



The proposed solution.

The City replaced nearly 20,000 high-pressure sodium lamps in Copenhagen's residential roads, larger streets and highways.

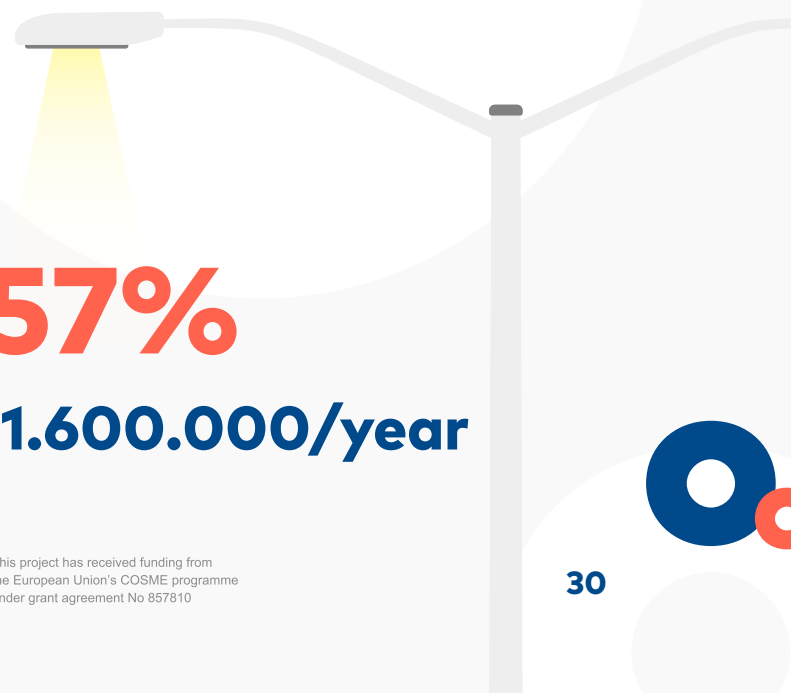
The outcome.

With the change to LED lamps the energy consumption has been **reduced by 57%**, reducing both the carbon footprint and maintenance costs (**€ 1.6 million annually, for an investment of € 26 million EUR**). The quality of street lighting improved, increasing security and comfort. Lighting control was integrated with traffic density data to adapt lighting levels according to road use in the future.



-57%

-€1.600.000/year





The innovative approach.

The procedure took 16 months until the signature of the contract.

The contracting authority opted for a competitive dialogue procedure.

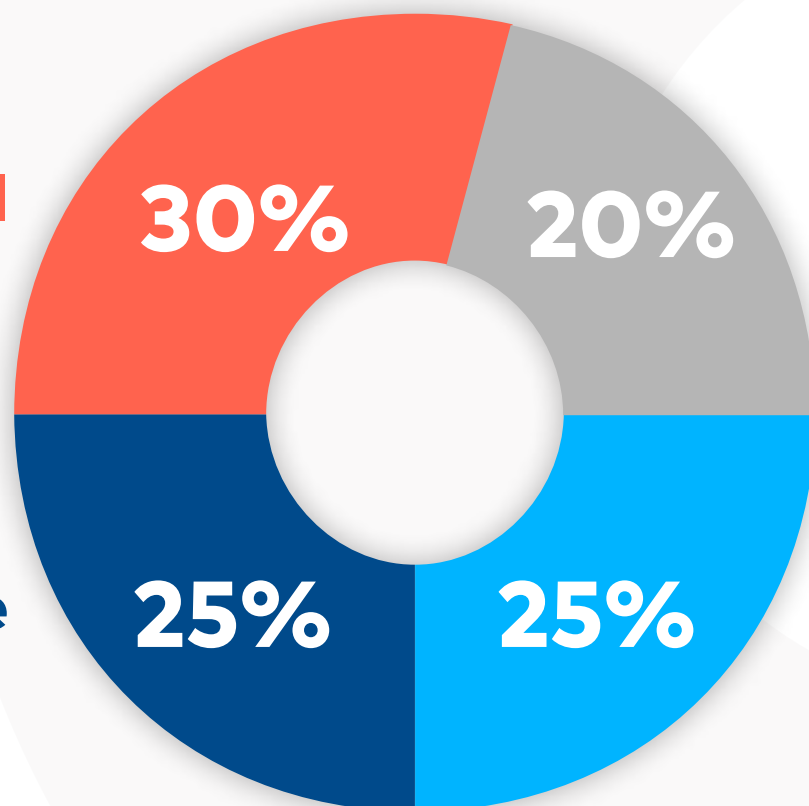
The evaluation criteria were balanced:

**Energy and
environmental
qualities**

Price

**Lighting
Solution**

**Task
Performance
and Organisation**



Source:

https://spice-project.eu/wp-content/uploads/sites/14/2017/07/DRD_RTT-Data-Procurement.pdf



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["Analysis of Public Procurement of Innovation in EU"](#)

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