

# Report on Impacts and Barriers

January 2024

Call  
COS-PPI-2018-2-01

Type of action  
Collaborative Public Procurement Innovation

Topic  
COS-PPI-2018-2-01 Public Procurement Innovation

Duration  
48 months

Start date:  
16 January 2020



This project has received funding from the European Union COSME Programme under grant agreement no 857790.

<b>Grant Agreement No:</b>	857790
<b>Project Acronym:</b>	EcoQUIP Plus
<b>Project Title:</b>	Collaborative Innovation Procurement Action to Improve the Efficiency, Quality and Sustainability of Healthcare
<b>Funding scheme:</b>	COSME Programme
<b>Start date of the project:</b>	16/01/2020
<b>Contractual delivery date:</b>	15/01/2024
<b>Actual delivery date:</b>	15/01/2024
<b>Contributing WP:</b>	WP3
<b>Deliverable Number:</b>	D3.1
<b>Deliverable Name:</b>	Report on Impacts and Barriers
<b>Type:</b>	Report
<b>Dissemination level:</b>	Public
<b>Document description:</b>	Assessment of the outputs, outcomes and potential impacts of the project, with insight into the barriers to collaborative PPI and how these might be overcome.

## Authors

Hayley Welsh, Optimat Ltd

With invaluable contributions from all partners involved in the EcoQUIP Plus project.

## DISCLAIMER

The content of this report represents the views of the authors only and is their sole responsibility; it cannot be considered to reflect the views of the European Commission and/or the European Innovation Council and SME Executive Agency (EISMEA) or any other body of the European Union. The European Commission and the Agency do not accept any responsibility for use that may be made of the information it contains.

## Table of Contents

Introduction .....	4
Context.....	6
Healthcare Challenges .....	6
Public Procurement of Innovation .....	7
Outputs, Outcomes and Impacts.....	8
Project Outputs .....	12
Project Outcomes / Intermediate Impacts.....	18
Barriers to Collaborative PPI .....	25
Recommendations for Policymakers .....	27
Conclusions .....	29

## Introduction

This report has been prepared as a deliverable of the EcoQUIP Plus (EcoQUIP+) project, which is funded by the COSME programme of the European Union. It assesses the outputs, outcomes and potential impacts of the project and will provide insights into the barriers to collaborative PPI. It is difficult to assess this as a whole, however, without understanding the outcomes and potential impacts of the individual procurement projects within EcoQUIP+ and so this report will consider outcomes and impacts from both the individual projects and organisations as well as providing a consolidated view for the project as a whole.

EcoQUIP+ was a four-year project that began in January 2020 and sought to enhance healthcare efficiency, quality, and environmental sustainability through innovation in procurement. It builds on the successful predecessor project (EcoQUIP), which included direct interventions in the procurement processes of individual hospitals and produces some impressive innovation outcomes and learning.

EcoQUIP+ has also intervened in planned procurements but has been more ambitious in terms of seeking to aggregate demand by facilitating collaboration and coordination between hospitals. In addition to developing the pro-innovation capability of individual partner hospitals, it aimed to:

- Connect EU supported R&D to procurement outcomes
- Strengthen market demand for innovation by improving the capability of hospitals to engage in multilateral and collaborative actions
- Improve the use of the innovation potential in SMEs to support healthcare outcomes
- Actively seek options and opportunities for joint procurement where they are feasible and add value in terms of outcomes and innovation

The specific objectives of the project were to:

- Implement five leader-led innovation procurement (PPI) projects within the healthcare sector in important challenge areas that have good potential for aggregation of demand and wider replication
- Develop and test mechanisms for collaborative and joint procurement actions within the consortium and with 3rd party buyers throughout the innovation procurement life cycle
- Implement market engagement actions to catalyse interest from potential solution providers including innovative SMEs and EU-funded project beneficiaries
- Build and enable buyer groups that extend beyond the country, or region, of the lead hospital for each of the leader-led projects

A case-study based publication is available on the EcoQUIP+ website that provides a summary of the innovation procurement process, including the methods, tools and techniques used, as well as case reports for each individual procurement project detailing their experiences, learning and the solutions developed to address their needs. The hospital partners undertaking individual procurement projects are shown in the table below:

Organisation	Challenge area
<b>Parc Tauli University Hospital</b>	Personalised surgical process for joint replacements
<b>University Hospital of Bologna Policlinico Sant’Orsola</b>	Transformation of the Outpatients Journey
<b>Vilnius University Hospital Santaros Klinikos</b>	Smart Emergency Call and Response Solution for Hospitals
<b>University Hospitals Bristol and Weston NHS Foundation Trust</b>	Towards Zero Waste Operating Theatres
<b>University Hospitals Bristol and Weston NHS Foundation Trust</b>	Sustainable Waste Management: Towards Zero Waste and Net Zero Carbon
<b>Sucha Beskidza Hospital, Małopolska Province</b>	Innovative Renovation of the Hospital Ward

## Context

### Healthcare Challenges

The healthcare sector faces a range of challenges that require innovative solutions to improve patient outcomes, reduce costs, enhance access to care, and address various systemic issues. Some of the key challenges include:

- **Aging Population:** As the global population ages, healthcare systems are under increasing pressure to provide care for a growing number of elderly individuals with complex healthcare needs. Innovative solutions are needed to ensure the quality and affordability of care for this demographic.
- **Chronic Disease Management:** Chronic diseases like diabetes, heart disease, and cancer are major contributors to healthcare costs and mortality. Innovative approaches to prevention, early detection, and management of chronic conditions are essential.
- **Healthcare Access:** Disparities in healthcare access persist, both in developed and developing countries. Innovations are needed to expand access to quality care, especially in underserved and remote areas.
- **Healthcare Costs:** Rising healthcare costs are a significant concern worldwide. Innovative solutions can help reduce costs through technology, telemedicine, and more efficient healthcare delivery models.
- **Data Management and Interoperability:** Healthcare generates vast amounts of data, but interoperability challenges persist. Innovations in health information technology, interoperable electronic health records, and data analytics can improve data management and decision-making.
- **Patient Engagement:** Engaging patients in their own care and treatment plans is essential for better health outcomes. Innovative tools and strategies, such as mobile health apps and patient portals, can enhance patient engagement.
- **Mental Health:** Mental health issues have gained recognition as a significant healthcare challenge. Innovative solutions are needed to improve access to mental health services, reduce stigma, and provide more personalised care.
- **Healthcare Workforce:** The healthcare workforce faces shortages in many areas, including primary care providers and nurses. Innovations in training, telehealth, and task-shifting can help address these shortages.
- **Healthcare Fraud and Cybersecurity:** Healthcare systems are vulnerable to fraud and cyberattacks, putting patient data and safety at risk. Innovative cybersecurity measures are necessary to protect patient information and the integrity of healthcare systems.
- **Global Health Threats:** Emerging infectious diseases, pandemics, and global health threats like the COVID-19 pandemic require innovative responses in areas such as vaccine development, diagnostics, and public health surveillance.
- **Personalised Medicine:** Advances in genomics and precision medicine offer opportunities for more personalised and effective treatments. Innovative approaches to tailoring treatments to individual patients are crucial.

- **Drug Pricing and Access:** The high cost of pharmaceuticals and limited access to essential medications are ongoing challenges. Innovative solutions, including drug pricing reform and alternative financing models, are needed.
- **Value-Based Care:** Transitioning from fee-for-service to value-based care models is a priority. Innovative payment and care delivery models that prioritise outcomes and quality are being explored.
- **Environmental and Social Determinants of Health:** Factors like air quality, housing, and socioeconomic status have a significant impact on health. Innovative strategies that address social determinants and promote health equity are critical.

Innovations in healthcare often involve a combination of technology, policy changes, and new care delivery models. Collaboration among healthcare professionals, researchers, technology companies, and policymakers is essential to address these challenges effectively.

## Public Procurement of Innovation

The public procurement of innovation (PPI) aims to create the conditions where innovation can thrive in the economy; suppliers provide the goods and services that society needs, leading to better and affordable public services. Procurement is one of a number of demand side measures that can be used to overcome market failures i.e. where the market alone fails to deliver what society needs.

PPI or innovation procurement refers to the process whereby public sector organisations purchase, or otherwise acquire, innovative goods and services that are not readily available on the market. This approach is used to stimulate the development of innovative products and solutions by leveraging the public sector's significant purchasing power.

Innovation procurement plays a pivotal role in shaping and stimulating innovation across various sectors, not only healthcare. Its impacts are multifaceted and far-reaching, contributing significantly to technological advancement, economic growth, and the addressing of societal challenges.

At its core, PPI acts as a demand-side innovation policy tool. By creating market demand for new and innovative products and services, it encourages private sector investment in research and development. This dynamic not only leads to the emergence of new technologies but also to the enhancement of existing ones, propelling technological progress forward. In addition, PPI is instrumental in creating and expanding markets, particularly for innovative solutions that might otherwise struggle to establish a foothold due to the inherent risks and costs associated with their development and uncertainties in the market.

The role of PPI in driving technological change cannot be overstated. It serves as a catalyst for the adoption and diffusion of new technologies, with government contracts providing a reliable initial market. This reduces the investment risk for businesses, fostering a more widespread adoption of innovative solutions in both the public and private sectors. Furthermore, PPI's contribution to economic growth and competitiveness, especially for small and medium-sized enterprises, is significant. By providing opportunities to develop and scale new solutions, PPI enhances the competitive edge of domestic firms.

One of the most commendable aspects of PPI is its ability to address critical societal challenges. Whether it's tackling climate change, improving healthcare, or advancing sustainable development, PPI enables governments to procure innovative solutions that directly contribute to these goals. This procurement process leads to improved quality and efficiency in public services, as these innovative solutions often offer better performance and enhanced features compared to traditional products.

PPI also allows for the strategic alignment of government procurement practices with broader policy objectives. These objectives can range from sustainability and social inclusion to regional development, integrating these goals seamlessly into the procurement process.

However, while the benefits of PPI are clear, it also presents its own set of challenges and risks. These include higher initial costs, the risks associated with unproven technologies, and the need for specialised procurement skills and knowledge. Moreover, the risk of incorrectly picking winners can lead to resource wastage and missed opportunities. In addition, PPI requires significant changes in ways of working, challenging well-established procurement and procedural practices in public sector organisations. Organisational change, like innovation, takes time and is rarely, if ever, a linear progression; rather it is a matter of trial error and overcoming unexpected problems. It is also true that many public sector organisations operate in a risk averse, conservative culture that rarely rewards risk taking. Another common issue is the pressure on public sector resources, not only with regard to financing innovation but also the lack of human resource to undertake more complex procurements that demand more time.

Despite these challenges, the potential of the role of PPI in catalysing private sector investment is undeniable. The assurance that comes with having a government as a customer significantly reduces the market risk associated with developing new products or services, encouraging firms to invest more confidently in innovation. However, it remains true that awareness of and capability in PPI remains low, and that real learning and change only happens when applying tools and practices of PPI in live projects with the support and encouragement of experienced facilitators.

## Outputs, Outcomes and Impacts

In assessing any project, the terms "outputs," "outcomes," and "impacts" are used to describe different levels and types of results that can be achieved through the project.

The assessment of these tends to fall within the logic model framework, which outlines the connection between the ends and means of an intervention. It shows, in a linear way, how we think our objectives can be pursued by specific activities and their consequent outputs, outcomes and impacts. The diagram below shows the elements of the logic model framework and highlights where the aspects on which this report focusses.



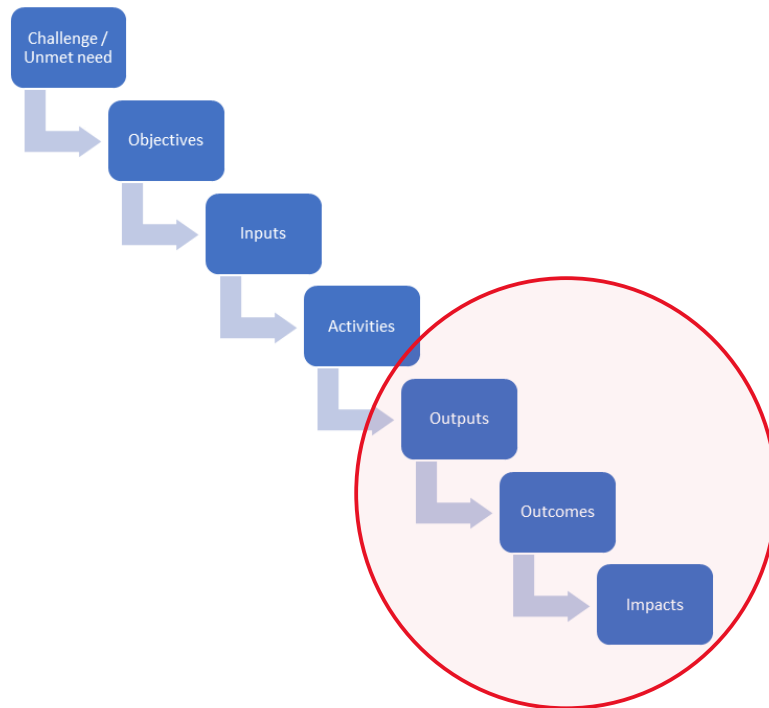


Figure 1: Logic Model Framework

The aspects relevant to this assessment are:

1. **Outputs:** These are the tangible and immediate results of the procurement process and the project activities and include, for example, the market sounding documents, joint statements of demand and ultimately the product or service being purchased or commissioned through the contracts.
2. **Outcomes:** These are the short-term and medium-term effects of the project's outputs on its direct beneficiaries. They indicate the changes or benefits that occur as a result of the project. Outcomes can be both direct (e.g. enhanced capabilities, improved services, etc.) and indirect, which are the broader effects not directly linked to the specific outputs but arise from the overall innovation procurement process (e.g. fostering a culture of innovation, influencing policy and processes, etc.).
3. **Impacts:** These refer to the long-term, broader effects of the project, often at a institutional or societal level. They extend beyond the immediate beneficiaries and indicate significant changes in communities or systems.

These three elements are interconnected, with the items, documents and solutions produced by the project activities leading to outcomes that can have an effect on the organisation, stakeholders and supply chain.

There are also different types of outcomes and impacts to consider, depending on the context of the project such as environmental innovation-related, societal, cultural, etc., as shown below.

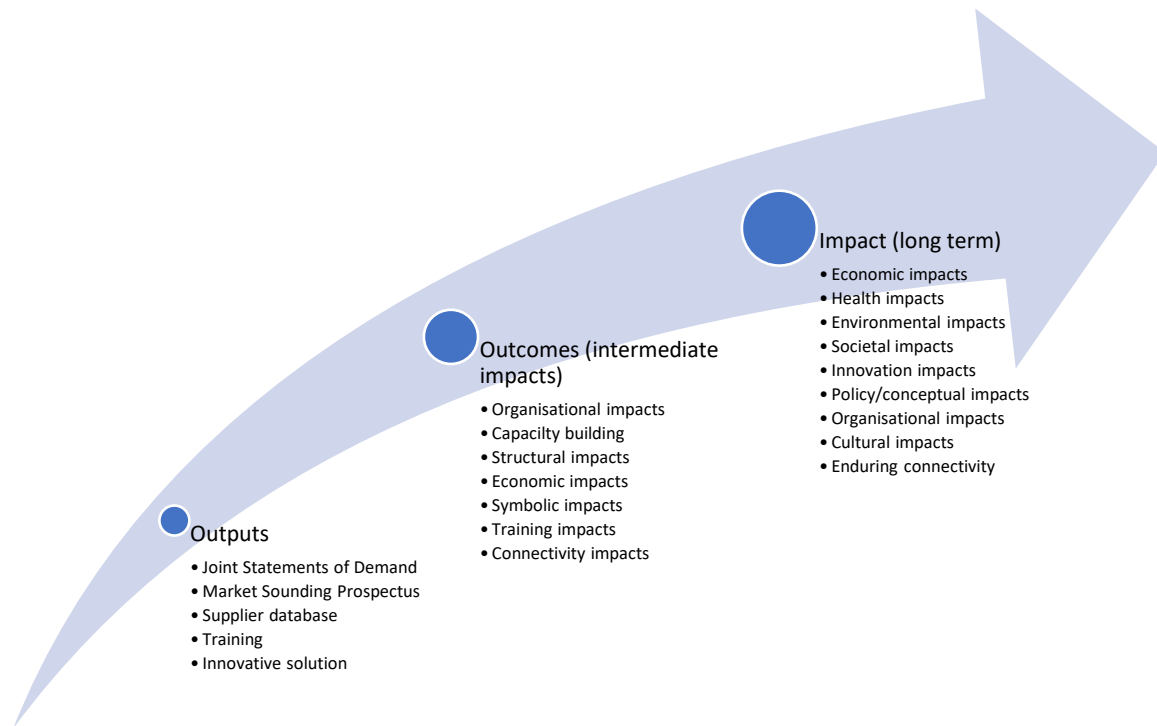


Figure 2: Typology of Impact Types

Some examples of the types of impacts that could emerge are:

- **Economic Impacts:** these are measured by the cost-effectiveness of procured solutions, the budgetary efficiency they bring, and savings across the lifecycle of the contract. At a broader level, these impacts extend to stimulating investments and fostering new market developments through innovative procurement strategies.
- **Health Impacts:** these are related to how procurement decisions affect public health outcomes, such as improved healthcare quality, through the acquisition of innovative health technologies and services.
- **Environmental Impacts:** these are focused on how procurement decisions contribute to sustainable environmental management, resource conservation, and reduction of environmental pollution, aligning with climate and ecological goals.
- **Societal Impacts:** these are observed in the way procured innovations enhance the welfare and quality of life of communities or particular groups of people, influencing social practices and contributing to overall well-being.
- **Innovation Impacts:** In the context of innovation procurement, the impacts are seen in the development of novel products, processes, and services that emerge from research activities. While patents are a traditional indicator, the true measure in procurement is the practical application and market adoption of these innovations.

- Policy / conceptual Impacts: these are seen in how procurement policies evolve based on insights and learning, leading to more informed and effective procurement strategies that align with broader societal goals.
- Organisational Impacts: innovation procurement affects organisational operations, including strategic planning, workflow organisation, administrative efficiency, and human resource management, leading to more streamlined and innovative institutional practices.
- Cultural Impacts: these are reflected in the evolving knowledge and understanding of procurement professionals and stakeholders regarding innovative solutions, influencing their attitudes, values, and decision-making processes.
- Symbolic impacts: these are seen in the enhanced credibility and prestige organizations gain by procuring cutting-edge solutions, positioning themselves as leaders in innovation and attracting potential partners and clients.
- Enduring connectivity: this relates to the on-going communication between the relevant actors and to the follow-on collaborations that continue after the initial activity has been completed. This is connectivity that lasts beyond the first funded relationship.

The assessment of the outputs, outcomes and impacts of EcoQUIP+ is not based on a formal monitoring and evaluation system, rather a qualitative look at the expected and unintended intermediate and long-term impacts of the wider EcoQUIP+ project and the individual procurement projects.

## Project Outputs

As noted previously, EcoQUIP+ had four key objectives at its core:

1. Implement five leader-led innovation procurement (PPI) projects within the healthcare sector in important challenge areas that have good potential for aggregation of demand and wider replication
2. Develop and test mechanisms for collaborative and joint procurement actions within the consortium and with 3<sup>rd</sup> party buyers at different stages of the innovation procurement lifecycle and beyond
3. Implement a wide variety of market engagement actions aimed at catalysing interest from potential solution providers including innovative SMEs and EU-funded project beneficiaries
4. Build and enable buyer groups to extend beyond the country, or region, of the lead hospital for most, if not all, of the leader-led projects

In order to achieve these, a significant level of activity took place, with a number of specific outputs produced that are directly relatable to the objectives and to support the implementation of the procurements. Here we describe the tangible outputs of the project, more details of which can be found in the EcoQUIP+ Case Study Based Report, with original documentation or links found on the EcoQUIP+ website ([ecoquip.eu](http://ecoquip.eu)).

The key strategic outputs that relate to the wider EcoQUIP+ project and its efforts to raise awareness of EcoQUIP+ and innovation procurement more generally and to promote the use and benefits of innovation procurement are described here below. Note that these are in addition to the project website and newsletters (around 450 subscribers) that were key communication and dissemination tools throughout the life of the project and the numerous presentations delivered at both online and physical events over a four-year period.

### *Case Study Based Report: Delivering Quality and Sustainability in Healthcare through Innovation Procurement*

This was the final EcoQUIP+ publication that was launched at an online event on 12 January 2024. It was a key project deliverable and describes the experiences of the six EcoQUIP+ leader-led Innovation Procurement projects that were at the core of the project. It underlines the approach and methods used, the learning gained in the implementation of the projects and the outcomes and benefits realised by each of the participant organisations. The report also summarises a series of new unmet needs that were identified by the project partners in the latter stages of the project, which may provide potential future targets for new innovation procurements.



### *Collaborative Buyers Forum*

EcoQUIP+ experimented with the creation of a LinkedIn group for healthcare buyers to exchange information about their unmet needs and innovative solutions and build collaborative connections

with other buyers. With over 100 members and more than 150 posts, it has provided a platform for healthcare managers, suppliers, SMEs and anyone interested in innovation procurement to find out more and network with other like-minded individuals.

#### *'Innovation Procurement in Practice' Webinars*

A series of webinars was organised and delivered by EcoQUIP+, between June and November 2020, covering key aspects of Innovation Procurement. These were presented by practitioner experts that used case examples to show how innovation can deliver better outcomes and better value for the healthcare sector and wider public services. These webinars supported peer learning among the consortium but also introduced the methodology and concepts to a wider audience in both the public and private sectors.

#### *Webinar Series for Healthcare Managers*

EcoQUIP+ developed and delivered a further series of webinars, with these specifically designed for healthcare managers to demonstrate how healthcare procurement can become more strategic in its approach and more effective at driving innovation, and how beneficial collaboration amongst healthcare providers can be enabled. Experience shows that innovation procurement requires leadership and senior management support, yet their awareness of procurement as a strategic mechanism to deliver better outcomes and best value remains limited across the public sector. Throughout the series, which achieved around 400 registrations, health managers received practical information and tools to help them understand their hospital's innovation potential through improved procurement practices. Each webinar looked at different ways in which innovation procurement could support a more efficient and sustainable approach to healthcare challenges, with a focus on achieving better value for all. Recordings of the webinars are available on the EcoQUIP+ website as well as a report summarising the key messages.



#### *Workshop delivered at the 2023 EHMA Conference*

When considering the strategic application of PPI and how it can be taken forward in the future, the project team explored more widely how to further enable the replication and scaling of innovation in the healthcare sector. Specifically, we considered how the public procurement of innovation (PPI) and Health Technology Assessment (HTA) could work synergistically to this aim. This culminated in a workshop at the European Health Management Association annual conference in 2023 entitled "Optimising the innovation environment to help overcome healthcare challenges through a synergistic application of HTA and PPI". The workshop highlighted the importance of innovation in addressing complex healthcare challenges and the role of PPI and HTA in fostering an innovation-friendly environment that will ultimately lead to an increased uptake of innovative solutions and more value-driven decision-making. By leveraging PPI and HTA, healthcare organisations can drive positive changes, improve patient outcomes, and effectively respond to emerging healthcare needs. Embracing innovation and evidence-based decision-making are key to promoting a more sustainable and competitive healthcare sector. A report of the workshop can be found on the project website.

In addition to the outputs focussed on the wider project aims and objectives, there are some key outputs related specifically to the development and implementation of the individual procurement projects that are important to note as these were key to achieving the outcomes and potential impacts discussed in the next sections of the report.

### *EcoQUIP+ Innovation Procurement Methodology*

An innovation procurement methodology based on good practice and the prior experience gained from the EcoQUIP project, was developed by EcoQUIP+ and used by each individual procurement



project to implement their actions. It was based on experience of undertaking PPI projects in the past across different sectors and in different types of organisations. The good practice innovation pathway involves a step-by-step process moving from defining needs, building a wider market demand, consulting the marketplace and then implementing a pro-innovation tendering process.

### *Joint Statements of Demand*

Joint Statements of Demand are an important tool in the EcoQUIP+ innovation procurement process. They are a vehicle by which healthcare providers can articulate a common need to the market. They describe the current situations, limitations and why innovation is needed, as well as outcomes required of the new solutions. The idea is that communicating an unmet need, shared by multiple buyers, will offer increased incentive for suppliers to develop solutions to meet this need. Each of the innovation procurement projects secured support from other potential buyers and interest groups and published Joint Statements of Demand.



### *Market Sounding Prospectus*

A Market Sounding Prospectus was developed and used by each individual procurement project. It provided the main communication tool in the Open Market Consultation phase of the methodology, setting out the unmet need, the need for innovation, the outcomes required of the new solution, and the context of the forthcoming procurement. The launch of the market sounding was via the publication of a Prior Information Notice (PIN) in the OJEU and on local procurement platforms. An online market response form provided a means to gather and analyse market feedback.

### *Outcome based Requirements and Specifications*

This aspect of the pro-innovation tendering strategy is a cornerstone of innovation procurement. When buyers specify what they want in terms of outputs or outcomes, it creates opportunities for new solutions to be presented. An outcome-based specification focuses on the desired outcomes that are required from goods or services rather than a detailed technical specification. It provides

suppliers with scope to propose innovative solutions that might not have occurred to the delivery team, giving companies the freedom to innovate and explore new technologies and design concepts rather than being constrained by what has gone before.

In addition to the formal project outputs, the partner organisations have been communicating the results of their work, and that of the wider project, within their own countries via their own networks and channels. This has included the publication of articles in official healthcare management journals as well as presentations at international conferences and events and smaller, more targeted online and physical events where there was an opportunity to raise awareness and understanding of PPI and EcoQUIP+.

The ultimate output and the motivation for each hospital's involvement in EcoQUIP+, however, was to find solutions to address the unmet need and deliver the defined outcomes identified at the beginning of this process. At the time of writing, three of the six procurement projects had completed the purchase of their solutions, and these are summarised here:

### Parc Taulí University Hospital (Spain)

The Aim: to find new solutions that would enable the personalisation of replacement joints, shifting from a 'best fit' scenario to tailor-made joints for each patient to improve patient outcomes and increase the effectiveness and efficiency of the surgical process.

The Solution: an integrated approach that brings together services and equipment to streamline the surgical process for customised joint replacements. The purchased solution is a set of tools and software that work together seamlessly to streamline and improve the quality of digital surgical processes for custom made joint replacements. The solution includes the following elements:

- Additive manufacturing tools to facilitate the design and on-demand manufacturing of custom joint replacements and patient-specific instrumentation
- The technological capability to widen the scope of the 3-D lab to encompass other areas of need within the hospital
- 3D scanning tools for preoperative precision measurement that incorporates whole body assessment to optimise personalised biomechanical performance
- Software tools to monitor and fully trace both the manufacturing and surgical processes

The solution delivers a myriad of benefits for the hospital, surgeons and, most importantly, patients. The integrated solution promises to offer the following benefits:

- Demonstrable benefits in clinical, cost and resource terms, which translates into greater sustainability, effectiveness and quality of the health system.
- A comprehensive, personalised and quality response to the volume of prosthetic, and other, surgeries expected over the coming period, with the potential to be applied to other areas of elective surgery.
- Widening the application of 3DLab services to more patients and speeding up the surgical process of joint replacements. The additive manufacturing equipment will reduce the time required from a request for an implant until the personalised medical product reaches the surgeon.

## University Hospital of Bologna Policlinico Sant'Orsola (Italy)

The Aim: to transform the outpatient's journey, creating an easy pathway from appointments through to orientation and wayfinding on the hospital site.

The Solution: a digital pathway providing a smart, integrated appointment management and wayfinding solution for outpatients. The solution is a cloud and AI enabled smart integrated outpatient management and wayfinding solution. The cloud-based platform provides a means to manage a complex network of data, integrating the functions of three new patient facing and enabling technologies:

- Easy Hospital App,
- Welcome and support virtual assistant (Avatar),
- Physical 'totems' where assistance and support can be accessed.

Together, this technology provides a seamless digital pathway for the whole outpatient journey, incorporating regional booking systems, ticket payment verification, the outpatient call system, orientation navigation app, and a virtual assistant that is capable of providing information and personalised assistance to the patient via a totem and within the app.

## Sucha Beskidzka Hospital (Poland)

The Aim: implement an innovative solution for the renovation of hospital wards ensuring minimal disruption to the functioning of the entire unit, economic efficiency and sustainable development.

The Solution: a two-stage modernisation contract that represents a step-change in the quality of services provided by the hospital. The first stage of the contract included works and installation solutions for intelligent lighting and modern sanitary fittings. Air conditioning was installed, and bactericidal elements were used in the assembled furniture. The walls and floors are covered with a jointless system using modern carpets. The construction of modern infrastructure is being implemented, the effect of which will be fully visible once the entire refurbishment works are completed. It will include ventilation units with heat recovery, the use of a magnetic loop for hearing-impaired people, an individual wristband for the patient to measure vital signs, and signs describing rooms in Braille.

The project will lead to a significant improvement in the comfort and productivity of staff and, importantly, the comfort of the patient's stay in the hospital. The solutions implemented are more patient friendly and make the work of staff easier, especially for nurses and cleaning staff. Reducing the number of beds in the ward has also made more space available, resulting in an ease of movement around the ward, which greatly improves logistics.

The remaining three projects are continuing to implement their projects, with the tenders fully completed within the EcoQUIP+ timeframe. One of the projects, in Vilnius University Hospital Santaros Klinikos (Lithuania), is seeking to install a smart emergency call and response solution for the hospital that improves the management of life-threatening emergencies, leading to better patient outcomes and staff experience. Its tender was launched in November 2023 on both local



and European tendering portals, with bids being submitted until mid-January 2024. The hospital has been at the forefront of the adoption of innovation procurement in Lithuania, providing an important reference case and experience for subsequent innovation procurements.

The final project partner, University Hospitals Bristol and Weston NHS Foundation Trust (UK) has been involved in implementing two projects. The aim of the first was to drive the transition to circular solutions and reduce single use plastics (SUP) in operating theatres with the ambition to move progressively towards zero waste operating theatres. The market consultation from this process led to the development of a Theatres Action Plan to enable meaningful progress to be made towards achieving the zero waste theatres ambition, which has led to opportunities for the co-development and trialling of new innovative solutions and new decision-making pathways being developed. The second project aimed to re-orientate the Trusts' waste management services to reduce the volume of waste arisings, reduce carbon emissions in line with net zero, enable a transition to circular waste management, increase traceability and transparency. A tender is in progress (at January 2024) for sustainable waste management services, with the pro-innovation procurement approach enabling a challenge to the status quo and positive steps taken towards more transparent, sustainable and lower carbon waste management solutions and service delivery.

## Project Outcomes / Intermediate Impacts

As noted previously, outcomes can be considered the intermediate impacts of a project. Given that this report is being written as EcoQUIP+ is ending, these intermediate impacts will be the focus of the discussion. The outcomes and impacts presented in this report have been identified through discussions with consortium members and project partners, through the development of detailed case reports and from the collective knowledge and awareness of the overall project activities and results. They are qualitative in nature due to the recent completion of the project and lack of available quantitative data at this stage.

Overall, it is clear that there has been a significant shift in the behaviour, mindset and motivation of participating organisations towards innovation, sustainability, and strategic long-term thinking. Each project team, while facing unique challenges, has contributed to a collective advancement in their knowledge and understanding of innovation procurement and, indeed, their application of this knowledge. The intermediate impacts of these projects are far-reaching, influencing not only internal processes but also market dynamics and stakeholder perceptions.

### Organisational Impacts

The journey that the project partners have gone through in EcoQUIP+ is considerable and for some it has led to the transformation of processes and behaviours and an embedding of innovation procurement practices in their core operations. One of the most significant organisational changes, which is a direct result of the knowledge and experience gained and demonstrated through EcoQUIP+, is the creation of a new transversal unit – Digital Surgery - within Parc Tauli University Hospital, which will be responsible for the application of the new tools and techniques, purchased as part of the EcoQUIP project, throughout the hospital. The technical capabilities made available as a direct result of the hospital's innovation procurement project have exceeded the expectations of the project team and brought about the unforeseen benefit that the innovative solution actually increases the range of manufacturing materials that can be used, which, in turn, enables the provision of solutions across the hospital, not only in traumatology but ones that encompass many different types of surgeries. Furthermore, there is a desire to create a decentralised 3D laboratory network as a result of the EcoQUIP+ support, with the idea of being able to share resources in a common way to reduce implementation costs and ensure that this type of solutions can reach all patients and not only hospitals that have large numbers of surgeries, such as in Parc Tauli University Hospital. These changes will have wide and long-lasting impacts on the processes and procedures within the hospital and it is envisaged that, in the longer term, there will be positive health impacts for patients both in terms of surgical outcomes and in their confidence in the healthcare sector.

All organisations involved in EcoQUIP+ agree that there has been an increased level of interest in innovation procurement within their organisations and, for some, this extends to the wider regional or national healthcare systems. In Parc Tauli University Hospital, for example, there have been changes in the way that tendering and purchasing is undertaken as the benefits of using the innovation procurement process and adopting a value-based approach are being realised, particularly in relation to sustainability. In Vilnius University Hospital Santaros Klinikos, other ambitious procurements (such as the modernisation of laboratory infrastructure) are already

adopting EcoQUIP+ methodologies to undertake new procurement projects, such was the impact demonstrated; this is particularly significant in a culture where processes tend to be highly formal.

In the University Hospitals Bristol and Weston NHS Foundation Trust, some real institutional changes have begun to be implemented as a direct result of EcoQUIP+, with changes now being considered in how procurement is delivered. An example of this is a new procedure being introduced, at Trust level, for all complex procurements over £100,000 that will now require an agreed procurement strategy to be put into place as the first step in the process. Internal collaboration among NHS Trusts is also being observed at a project and contractual level to achieve better economic and social value for both the organisation and suppliers as well as the wider community. This is, again, thanks to the pro-innovation procurement approach taken.

Traditionally, procurement is seen as a transactional process but the EcoQUIP+ journey has resulted in it being more widely regarded, among participant organisations, as a strategic lever for innovation, sustainability and value creation. By altering their approach to tendering and purchasing, partner organisations have exemplified how innovation procurement can lead to significant internal collaboration and behavioural change. The result is a more towards more informed and responsive procurement process that are capable of addressing complex healthcare challenges through innovative solutions.

## Capacity Building

Innovation procurement is not just about acquiring new technologies, products and services; it's about developing the capacity to undertake the procurement in a strategic way that promotes innovation from the supply chain to achieve better outcomes for the buyer. Capacity building within EcoQUIP+ has been significant, with some 69 people (new to PPI) within the consortium member organisations having been introduced to, and supported to understand, innovation procurement, the process and the different tools and mechanisms to achieve more strategic and innovative outcomes to address unmet needs. This development has been crucial for navigating the complexities of introducing innovative solutions within healthcare settings. All project participants report that the learning and training gained through taking part in EcoQUIP+ has been one of the most significant intermediate impacts as integrating new skills has been essential for driving innovation in the procurement process. All of the work done on capacity building has led to a diffusion of awareness of innovation procurement across the participating hospitals and in different disciplines and some have observed a cascading effect of the learning across the organisation and their wider healthcare systems as personnel approach problems and process differently.

The project team within the University Hospital of Bologna Policlinico Sant'Orsola, for example, notes how its project is being held up as an example of how things can be done more innovatively, and this has resulted in the creation of a forum to take forward the ideas developed in EcoQUIP+ and continue this diffusion more widely. It will also be used to support the development of new unmet needs and the projects resulting from these.

Other project partners acknowledge, specifically, that what has been learned from the project has given the teams the confidence and knowledge to challenge current practice and ask for new

procurement approaches and procedures where they are relevant and will create significant positive change within the organisation. Indeed, they highlight that the new knowledge and capabilities allow them to push for what they want, rather than accepting the way things have always been done.

Training emerged as a critical need throughout the project, and a great deal of time and effort was invested in this, with some future needs already identified in areas such as tender writing for pro-innovation procurement strategies. The reliance on external expertise has underscored the theory's assertion that innovation procurement is a learning process that requires continuous skills development and knowledge exchange. Through numerous workshops, seminars, and direct engagement with internal and external stakeholder and innovative suppliers, EcoQUIP Plus has fostered a culture of inquiry and experimentation, crucial for keeping pace with the rapid advancements in healthcare technology and services.

The EcoQUIP+ project, therefore, has not only enhanced individual skills sets but also strengthened team capacities and capabilities, building a more robust foundation for future innovation in healthcare procurement.

## Economic Impact

Economic impacts, particularly in relation to market dynamics, were notable as a result of participation in EcoQUIP+, echoing the theory of innovation procurement's emphasis on economic development. First of all, it is important to note the difficulty in making any assessment of potential job creation as a result of EcoQUIP+ as the project has only just completed and the procurements are being newly implemented. No new jobs were created as a direct result of the procurements, within the period of the Grant Agreement, as they were resourced from within the individual organisations and the focus was initially on training and capacity building for existing personnel. There is the potential, however, for future job creation as a result of EcoQUIP+ as changes are implemented in the participating hospitals in relation to procedures, processes and organisational change more widely. For example, Parc Tauli University Hospital has, as mentioned, created a new Digital Strategy unit to take forward the learning and development from EcoQUIP+ and build a new service for the hospital, and it recognises that it will need highly skilled engineers to staff the unit in future as demand grows for its services. The changes in procurement practices have led to the contracting of additional resource, which may ultimately become a full-time employed role. These highly skilled and high value jobs are an important legacy of EcoQUIP+ but will be a longer-term impact that cannot be measured at this stage.

Another important economic impact to note relates to the supply chain and the facilitation of market access for new suppliers into large, often bureaucratic organisations such as those involved in EcoQUIP+. The wider project sought to ensure that each procurement carefully considered the tendering and pro-innovation procurement strategies that would not only ensure a level playing field for those suppliers offering more novel approaches and innovative solutions but that would also ensure that SMEs and other players in the supply chain had the same level of access, information and opportunity to compete as the more traditional suppliers to the hospitals. In general, this was successfully achieved but the impact in some organisations was quite significant. The project team at Parc Tauli University Hospital, for example, note the changes observed in terms of suppliers being able to access the hospital procurement process that they weren't previously

able to, which they credit to the market engagement and communication activities that will now be taken forward into new projects. Moreover, the procurement created a new market for commercial solutions and brought an unexpected increase in capability to the 3D lab. Suppliers now have more knowledge about the hospital and how to work with them to deliver what is needed, and crucially they have an understanding of how to work with the hospital administration, regardless of their size or sector (the project involved using technologies developed for industrial manufacturing processes). Significant changes have also been highlighted by the team at University Hospitals Bristol and Weston NHS Foundation Trust (UK), where increased market engagement is being encouraged in the early stage of the development of new projects and tenders due to the success of these activities in EcoQUIP+. Through the market consultation exercise, the team became aware of many more small companies and new solutions and was able to understand better the barriers they face in a market dominated by a few large suppliers and how these could be addressed through changes in the procurement approach.

EcoQUIP+ has, therefore, resulted in an increased level of market access for new suppliers, demonstrating how innovation procurement can diversify and enrich the supplier base and opened the eyes of the buyers to the potential of SMEs to provide the solutions they need and the means to enable their access to procurement opportunities.

## Policy Impacts

EcoQUIP+'s influence extended to national strategies, illustrating how innovation procurement can be a powerful tool to support policy implementation, as can be seen quite starkly in the case of the Lithuanian project. When the project began, innovation procurement was largely unknown in Lithuania. As it progressed, the concept gained ground and, in early 2023, guidelines were issued by the Ministry of economy and learning material was published by the national procurement office (PPO). As such, Vilnius University Hospital Santaros Klinikos has been at the forefront of the adoption of innovation procurement in Lithuania, providing an important reference case and experience for subsequent innovation procurements. Furthermore, the skills, knowledge and experience gained from working on the EcoQUIP+ project has enabled the organisation to support the achievement of the new national goal of 20% of all procurements being innovative procurements by 2030.

Another example of the impact on sustainability related policy can be seen in the outcomes of the project in the University Hospitals Bristol and Weston NHS Foundation Trust. A significant result of the project was to formalise the link between cost savings and sustainability, changing the terms of reference for the Trust wide non-pay savings group to include sustainability. This now guarantees the opportunity to take sustainability related projects through an established Trust governance route and ensures that all relevant stakeholders are included in the process. This is an important change in policy for the Trust and one that will have a lasting positive impact.

The project's impact, as noted, extends to fostering a culture that values innovation, sustainability, and efficiency, and this is aligned with and supports the enhancement of existing policies aimed at improving healthcare outcomes and economic efficiency.

## Connectivity Impacts

The EcoQUIP+ project significantly enhanced connectivity among organisations, suppliers, and stakeholders, facilitating a collaborative environment essential for innovation procurement. This can be seen in the fact that 171 participants were involved in the market workshops carried out by the project teams; more than 50 public buyers endorsed the Joint Statements of Demand, which are a key communication tool for the market; more than 300 potential suppliers were directly alerted to the procurement opportunities; 25 countries were involved in the market engagement stage of the process; 69 people (new to PPI) within the consortium organisations were introduced to innovation procurement through capacity building activities; more than 500 delegates registered for two webinar series designed and implemented by EcoQUIP+; and the final case study publication was sent to a targeted group of 223 health managers. This is in addition to the activities that took place across social media and via other communication tools such as the website and newsletters. This level of continued connectivity has reaped benefits for multiple organisations and brought about lasting connections between stakeholders. A specific example of this is where HCWH Europe not only supported one of the UK projects to widen its outreach to potential buyers through a joint webinar organised with EcoQUIP Plus, but the two organisations have developed a long-lasting relationship where they are continuing to be involved in other initiatives and projects to reduce single use plastics in healthcare.

EcoQUIP+ also involved building connections with other relevant projects in the PPI space to take advantage of potential synergies and build new relationships. This was successfully achieved through a number of joint events and webinars, with projects such as RaDAR, Big Buyers Group, PRONTO, iProcureNet, Procure2Innovate and Prominent Med, with partners from some of these projects supporting the delivery of the EcoQUIP+ webinar series. These types of activities that sought to build connections actually achieved a wider impact beyond the project itself. For example, representatives from NHS England approached EcoQUIP+ for support in understanding how to adopt innovation procurement principles and methods to address their unmet need for the 'circular supply and reuse of walking aids'. Furthermore, an NHS-led working group on greening nephrology services adopted innovation procurement approaches and the Joint Statement of Demand methodology as part of their work to understand the wider need for innovation to address their needs. The EcoQUIP+ innovation procurement expert provided guidance to these groups as part of the objective to share the lessons from the project with other stakeholders and thus multiply the overall impacts of the project.

It also important to note the enduring connectivity of the work of the individual procurement projects as each of them seek to replicate and/or scale up the work started in EcoQUIP+. Specifically, the current aims of the hospital partners are to:

- University Hospital of Bologna Policlinico Sant'Orsola is planning and extension of the procured solution across the hospital campus
- University Hospital Santaros Klinikos has already initiated the adoption of innovation procurement processes within two new projects
- Parc Tauli University Hospital is aiming to apply and integrate similar solutions across the hospital, but adapted to all types of surgeries, so that they can be offered as a cross-cutting service throughout the hospital, available to all types of medical units

- University Hospitals Bristol and Weston NHS Foundation Trust is considering and planning the further adoption of innovation procurement to low carbon catering and low carbon laundry services in addition to the wider expansion of the 'towards zero waste' solutions
- Sucha Beskidzka Hospital has already contracted a further stage in the renovation of its hospital ward to improve the patient experience

The improved connectivity achieved in the project not only enabled better communication and understanding between hospitals and the market but also fostered cross-border collaborations, enriching the procurement process with diverse insights and expertise. Such an environment is crucial for identifying and implementing innovative solutions that meet the complex needs of healthcare organisations, showcasing the project's pivotal role in driving forward the practice of innovation procurement.

## Environmental Impacts

The EcoQUIP+ project has made a noteworthy impact on environmental practices within the context of innovation procurement, emphasising sustainability as a core criterion in procurement processes. This focus has led to significant advancements in embedding environmental considerations into contracts, specifically targeting issues like the reduction of single-use plastics and the minimization of carbon footprints.

One of the projects that had sustainability indicators at its heart was that of University Hospitals Bristol and Weston NHS Foundation Trust. While waste service tenders remain in progress at time of writing and were not completed in the timeframe of the contract, the importance of the challenge areas and the societal impacts that could be achieved were considered paramount.

One of the procurements is for the transition to reusable sharps bins that will lead to considerable lifecycle carbon savings and a volume reduction in waste, while also delivering a cost saving and increased staff safety. The estimated savings are:

- Lifecycle carbon reduction on Sharps waste – estimated 88%
- Waste reduction (weight) – estimated 29%
- Cost reduction – estimated 12%
- Needle stick injury reduction – estimated 27% reduction

Furthermore, its 'Towards Zero Waste and Net Zero Carbon' contract will require suppliers to identify and commit to measures and deliver KPIs that enable the waste services to progressively innovate and improve to: reduce waste volumes; decarbonise waste services; improve air quality; support and improve the health and wellbeing of staff working on the contract; improve visibility of the supply chain; and provide accurate and timely data for accountability. The immediate impacts will be to eliminate waste to landfill and to carbon footprint the service.

The other projects implemented have also included sustainability indicators and objectives to improve sustainability across their organisations and for the wider environment, and include, for example the requirement for waste reduction through the circular use of equipment; energy saving and reduced use of clinical materials; energy saving through the adoption of smart solutions; improved air quality; and increased energy efficiency.

Through these efforts, EcoQUIP+ has not only supported organisations in achieving their environmental goals but also sets a precedent for how procurement can be leveraged to foster a more sustainable healthcare system.

## Health Impacts

It is believed that EcoQUIP+ will have a significant impact on health outcomes by fostering innovation procurement practices that directly benefit patient care and healthcare delivery. Through the project, organisations have been able to adopt innovative solutions and technologies that have the potential to personalise patient care, enhance patient safety, improve treatment outcomes, and importantly increase overall efficiency in healthcare services.

First level indicators include a reduction in missed appointments and increased patient satisfaction (AOU\_BO), reduction in surgical revisions and improved patient outcomes (CSPT), reduction in waste volumes, air pollution and carbon emissions (UHBW), reduction in serious incidents, improved patient outcomes, reduction in staff stress (VUHSK), and increased patient and staff satisfaction (SUCHA).

The health impacts of the innovation procurements undertaken as part of EcoQUIP+ cannot yet be quantified as the projects have only just been (or are being) implemented and some of them are indirect (e.g. reduced air pollution). The teams will, however, monitor impacts across several indicators over the coming years.

The strategic approach to procurement underlines the crucial link between innovative practices and future tangible health benefits, showcasing the potential for targeted investments can lead to significant improvements in patient care quality and health system sustainability.

By reshaping organisational structures, building capacity, influencing policies, and fostering a culture of innovation and sustainability, EcoQUIP+ not only aligns with but also vividly brings to life the principles of innovation procurement theory. It underscores the shift towards innovative practices that not only meet immediate procurement needs but also align with broader societal and environmental objectives, paving the way for a more sustainable and innovation-driven future in healthcare procurement.



## Barriers to Collaborative PPI

As noted, collaborative public procurement of innovation involves public sector organisations working together to purchase innovative goods and services. This approach can stimulate innovation, improve public services, and boost economic growth. To navigate the complexities of collaborative PPI, understanding and addressing the barriers is crucial. Some important barriers to consider include:

1. **Regulatory and Legal Constraints:** The maze of regulations and legal frameworks that oversee public procurement is often designed with traditional procurement in mind, lacking the flexibility needed for innovative approaches. These constraints can inadvertently deter the adoption of innovative solutions by imposing rigid procedures that are not suited to the dynamic nature of innovation. Reforming these frameworks to be more adaptable can enable a more supportive environment for innovation.
2. **Risk Aversion:** Public sector entities frequently exhibit a natural caution towards risks associated with new, unproven innovations. This caution, while prudent, can also prevent the exploration and adoption of potentially groundbreaking solutions. The challenge lies in shifting this mindset towards a more balanced view of risk, where the potential benefits of innovation are also considered, and failures are seen as learning opportunities.
3. **Lack of Expertise:** The rapid pace of technological advancement means that public entities often find themselves without the necessary knowledge or skills to effectively identify, evaluate, and procure innovative solutions. Overcoming this barrier involves investing in ongoing training, fostering partnerships with academic and research institutions, and possibly creating dedicated teams focused on innovation procurement.
4. **Fragmented Demand:** When public entities operate in silos, their individual procurement efforts can lead to fragmented demand for innovative solutions, weakening their collective bargaining power and diluting the incentive for suppliers to innovate. A coordinated approach that consolidates demand can enhance the market's ability to respond with innovative solutions tailored to public sector needs.
5. **Budget Constraints:** Innovation often requires upfront investment without the guarantee of immediate returns, a proposition that can be challenging within the budgetary constraints of the public sector. Developing innovative funding models and exploring alternative financing options, such as public-private partnerships, can provide the necessary financial support for innovation procurement.
6. **Complex Collaboration Mechanisms:** Collaboration across multiple public entities and with external partners is essential for driving innovation but can be hindered by bureaucratic hurdles and complex administrative processes. Streamlining these processes and fostering a culture of collaboration can facilitate more effective partnerships and innovation.
7. **Resistance to Change:** Institutional inertia and resistance to changing established practices can be significant barriers to adopting innovative procurement practices. Overcoming this resistance requires leadership commitment, cultural change initiatives, and the demonstration of the value that innovation can bring to public services.
8. **Intellectual Property Concerns:** Navigating intellectual property (IP) rights in the context of innovation procurement can be complex, particularly when collaborations involve multiple

- stakeholders. Clear agreements and an understanding of IP rights are essential to ensure that innovations can be developed and utilised effectively while respecting the rights of all parties.
9. **Measuring Impact:** Demonstrating the tangible benefits and impact of innovation procurement is challenging but essential for justifying the investment in innovation. Developing clear metrics and evaluation frameworks that can quantify the outcomes of innovation procurement initiatives is crucial for building support and ensuring continued investment.
  10. **Sustainability:** Ensuring that innovation procurement practices are sustainable over the long term requires not just initial enthusiasm but ongoing commitment and integration into the strategic planning of public entities. This means securing not only the funding but also the institutional support needed to embed innovation as a core component of procurement strategies.

Addressing these barriers requires a concerted effort from all stakeholders involved in public procurement. By acknowledging and actively working to overcome these obstacles, policymakers and healthcare managers can foster an environment that is more conducive to innovation, ultimately leading to improved public services and outcomes.

While procurement of innovation itself has many challenges, joint procurement, in particular joint cross border public procurement, also has considerable challenges and complexities, even without introducing the concept of innovation. As previously noted, large complex administrations, established procurement procedures, risk aversion, as well as conflicting priorities and language and cultural barriers come into play.

On the other hand, collaborative procurement of innovation offers many of the benefits of joint procurement. For example, as demonstrated in EcoQUIP+, proactively seeking out other buyers with the same or similar needs and making this wider demand visible to the market in the form of Joint Statements of Demand creates confidence in the market that there is a genuine credible demand and it is worth them investing resources to meet the need.

EcoQUIP+ explored the concept and practicality of joint versus collaborative procurement of innovation with the organisation RESAH, who had prior experience of joint procurement in the HAPPI project, and this led to a joint webinar. The take home message is that joint procurement is complex, in particular cross border procurement involving innovation; there has to be a compelling reason to undertake a joint procurement. On the other hand, collaborative procurement establishes positive and creative connections in the design and implementation of an innovation procurement and is sufficient to motivate suppliers based on evidence of a wider demand. Informal feedback from suppliers, in particular smaller suppliers, is that the joint procurement of innovation presents challenges such as too rapid an expansion and expectation of supply at the early stages of tooling up manufacturing capacity, and complex client management relations that can be difficult to manage.

The exception, in the case of EcoQUIP+, was the joint innovation procurement by UHBW and NBT of waste management services. In this case, it made sense, being in the same city, having the same ambitious environmental targets and ambitions, and sharing the same procurement service.

## Recommendations for Policymakers

To address the issues and barriers facing those seeking to increase the uptake of PP, a multifaceted strategy is essential. It is important that stakeholders, from policymakers to public sector organisations, can work together to overcome the barriers that typically hinder the adoption and implementation of innovative procurement practices.

Important in this transformation is the need for further regulatory reform. The current legal frameworks governing public procurement are often rigid, stifling innovation rather than fostering it. Recognising this, a concerted effort is required to revise these laws, injecting much-needed flexibility into the system. This should seek to create an environment where innovative solutions are not just welcomed but actively sought after. The innovation procurement targets set at a national level, while helpful, risk being 'tick box' exercises rather than reflecting real change without the experienced support for those embarking on PPI for the first time. This highlights the need to examine the professional training of procurers to increase the focus on the strategic, supply chain management role of public procurers to address societal challenges

Understanding that innovation thrives in a culture that embraces risk and values forward-thinking, public-sector entities are beginning to shift their mindset. This cultural change, however, needs to be supported by targeted training programs designed to build expertise in innovative procurement. Procurement teams and those driving innovation procurement in their organisations would then feel empowered by having the knowledge and skills to identify, evaluate, and procure cutting-edge solutions, moving away from the traditional, conservative approach that have favoured proven but potentially outdated technologies.

It is important to note that innovation procurement is still a new and developing tool, and creating capacity and capability will take time, the right support measures and appropriate funding structures. EcoQUIP Plus was supported under COSME as a co-ordination action, together with co-financing to support the procurement of the solution that the projects delivered. This mix of funding provided the support needed to enable partners to participate fully and actively in the essential capacity building and network development actions and to engage experienced local facilitators from outside the procuring organisation (effecting change from within an organisation is notoriously difficult). The financial contribution for the hospital partners proved to be an effective incentive (and perhaps the initial draw for the administrators).

The flexibility of the call meant that rather than directing buyers to a particular solution or technology, i.e. picking the answer, they had the freedom and resource to identify genuine needs as part of the action. This project was originally planned to last for 3.5 years, and even with the six-month extension, the timing was challenging. Organisational change and innovation take time!

Recognising the power of collaboration, proponents of PPI should also establish platforms for information sharing. These forums could then become a treasure trove of best practice, successful models, and lessons learned, which would enable organisations to learn from one another and avoid common pitfalls.

To address the inherent risks associated with innovation, new risk-sharing mechanisms could be introduced. Such innovative financial models, while not easy to set up or administer, could provide a safety net, encouraging both public buyers and suppliers to take the leap into uncharted territories of innovation together. Pilot projects and phased implementation could be a way to address this type of approach, offering a proof of concept for innovative solutions and building confidence for the broader adoption and replication elsewhere.

Amidst these structural and cultural shifts, however, there would be a need for a clear framework for dealing with intellectual property (IP). If successfully implemented, such guidelines could ensure that collaborations with private sector partners are not bogged down by disputes over IP rights, which would work to foster a spirit of cooperation and mutual benefit.

Policymakers clearly play a crucial role in the innovation procurement ecosystem. If there could be an organisation or stakeholder that champions policies that support and incentivise PPI projects and initiatives, it would ensure that the public sector has both the mandate and the resources to pursue innovation. Dedicated funds would, however, be required for such projects, and partnerships across the public, private, and academic sectors would need to be encouraged in order to bring together the diverse array of expertise and perspectives required for successful implementation.

Transparency and accountability measures are a key component in overcoming barriers to the implementation for collaborative PPI. Such measures would need to ensure that the procurement process is open to scrutiny. This would not only build public trust but also ensure that procurement decisions are made in the best interest of all stakeholders.

These types of concerted efforts are significant and require a huge commitment and resource to manage but they are essential to support the transformation of the innovation procurement landscape. The barriers that once stifled innovation could eventually be dismantled by considering such approaches, paving the way for a future where public sector organisations are not just passive consumers of technology but active drivers of innovation.

## Conclusions

The EcoQUIP+ project, funded by the European Union's COSME programme, represents an important initiative aimed at enhancing healthcare efficiency, quality, and environmental sustainability through innovative procurement. Over its four-year span, EcoQUIP+ built upon the foundation laid by its predecessor, EcoQUIP, by not only intervening in planned procurements at individual hospitals but ambitiously seeking to aggregate demand through collaboration among healthcare institutions. The project connected EU-supported R&D outcomes with procurement processes, strengthened market demand for innovation, and leveraged the innovation potential in SMEs to bolster healthcare outcomes. Additionally, it explored joint procurement opportunities to maximise outcomes and innovation benefits.

As the project concludes, it leaves behind a legacy of lessons learned, achievements to celebrate, and a path forward that is rich with potential for systemic transformation. EcoQUIP+ has showcased how, through strategic innovation and sustainability-driven procurement practices, significant advancements in healthcare efficiency and quality can be realised. It has provided an experiential learning opportunity for the partners, guiding them towards practices that not only meet their immediate needs but also align with broader societal goals and environmental stewardship.

This report has highlighted the essential role of policymakers in nurturing an ecosystem conducive to innovation. It has underscored the necessity of addressing and dismantling the barriers to innovation procurement—ranging from regulatory constraints to risk aversion and beyond. The successes of EcoQUIP+ serve as a call for a continued and enhanced focus on innovation procurement, advocating for policies and practices that encourage flexibility, collaboration, and a forward-thinking mindset.