SHARINGCITIES

LONDON

WARSAW

BORDEAUX

MILAN

LISBON

BURGAS

D1.8 RISK MANAGEMENT REPORT

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INTRODUCTION

Sharing Cities is an EU Horizon 2020 Smart Cities and Communities programme aimed at changing the way we think about the role of digital technology in our cities and to clarify how we can all benefit from and contribute to this transformation process. The programme vision is of:

"a more agile and more collaborative smart cities market that dramatically increases the speed and scale at which we implement smart solutions across European cities, engaging society in new ways to cause them to play an active role in the transformation of their communities – delivering more vibrant, liveable, economically active, and resource efficient cities."

Underpinning this vision are a set of shared solutions that apply a 'digital first' approach; are more common, integrated, open; and provide the 'building blocks' incorporating European and worldwide leading practices that can be deployed at scale yet tailored to cities of different size and stage of development. The solutions (measures) implemented by the Sharing Cities Programme are shown below.
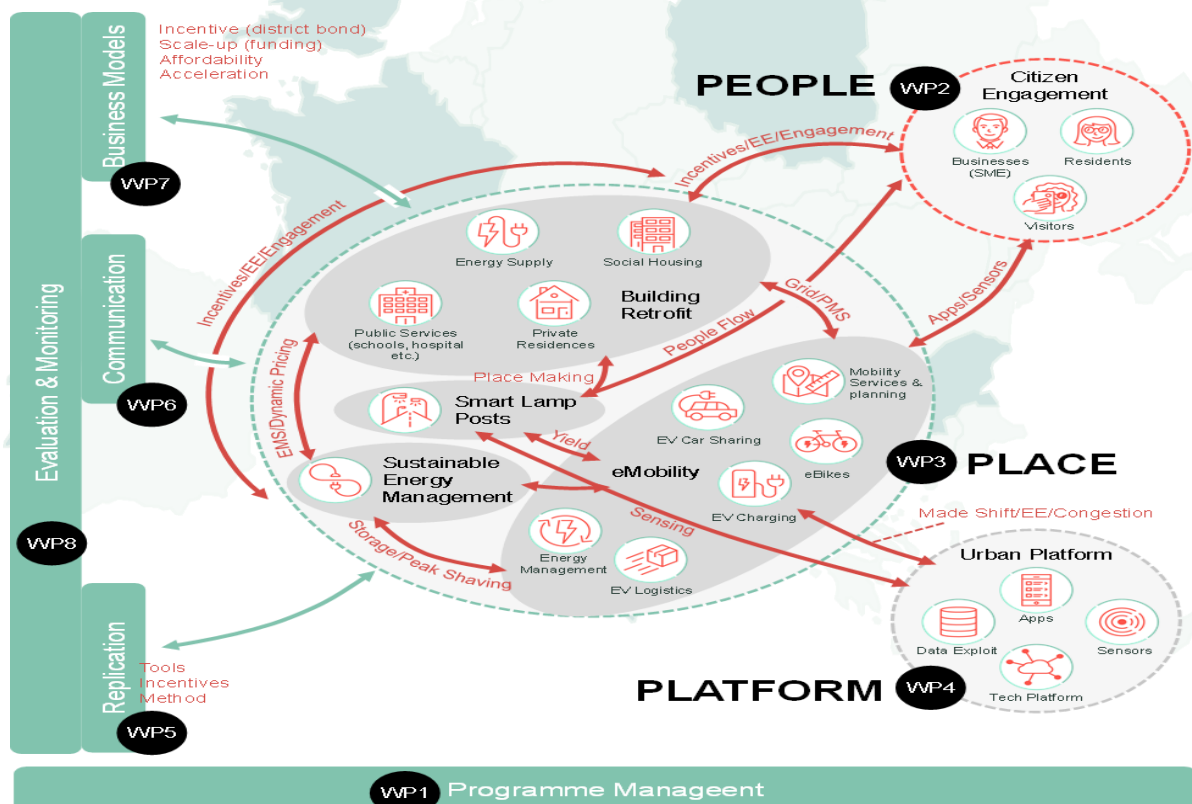
The programme brought together more than 70 people, from 35 partner organisations and 6 countries, to work across 8 highly connected work packages; which broadly focus on the themes of People, Place and Platform:

PEOPLE – Approaches and tools to develop a deep understanding of society, and how citizens can actively participate in making their districts better places, through sharing services, delivering better outcomes.

PLACE – Comprising four main streams of work that address city infrastructure and services that support low energy districts, electrification of mobility, and integration of infrastructures and processes. These include: Building Retrofit; Sustainable Energy Management System; Shared eMobility; and Smart Lampposts.

PLATFORM – An urban sharing platform (USP) that manages data from a wide range of sources, including sensors as well as more traditional data sources. The USP will be built using open technologies and standards, building on London's DataStore expertise, Milan's work on an Application Programming Interface (API) marketplace and Lisbon's work on sensor data and gateways.

Over the course of the last 6 years, these solutions have been implemented in 3 European 'Lighthouse' Cities: Lisbon, London and Milan. In each of these 3 cities there was one demonstration site in which the replicability of these the physical, digital and human systems have been tested, to deliver sustainable place and resource management opportunities. The work has been conducted in a strong collaborative environment between the 3 cities and closely followed by 3 'follower' cities: Bordeaux, Burgas and Warsaw; with whom the ideas, learnings, and support on developing smart city solutions have been shared.

After six years of delivery, the programme has successfully delivered 30 different low carbon and digital infrastructure projects in the international cities of London (Greenwich), Milan, Lisbon, Warsaw, Bordeaux and Burgas. Major successes the programme can point to include retrofitting 67,612 sqm in 34 large buildings including public housing, private housing, schools and civic buildings including Lisbon's historic UNESCO City Hall), six types of electric mobility solutions (including 274 ev charging points, 1,410 e-bikes and 343 smart parking spaces), digital citizen engagement platforms and behaviour change applications, smart street infrastructure (including over 2,400 smart lampposts), 3 city wide data platforms and 4 district/building energy management systems.

However, the programme's successes have not come without challenges and risks. Many of the obstacles faced such as the Coronavirus pandemic, political and regulatory change and other unforeseen events like the Grenfell Tower tragedy and Brexit have seriously compromised the programme's ability to achieve all its objectives.

This document sets out the main challenges and risks encountered by the programme, and recommendations on the corrective actions we used to mitigate them.

The main challenges and risks

The Sharing Cities programme is not unique in facing risk. Like in all programmes, uncertainty is an inherit characteristic. The programme's approach to risk management and the foreseen risks identified at the beginning of the programme are documented in D1.7 and D1.8. The approach to risk management served the programme well by providing a formal structure to identify, escalate and mitigate risks.

It is certainly true that the programme faced many challenges, many of which were external and out of the programme's control. Some were due to our consortium's size and ambition. These risks and issues have led to deviations and delays, some minor and some significant.

The programme's Building Retrofit measure (T3.1) was an area that represented the biggest challenges that the programme faced. These types of complex infrastructure projects typically span years and involve a wide range of stakeholders. As such, they are vulnerable to external factors and disruptions, such as political cycles, challenges from residents, and economic downturns. For example, in London, the Grenfell Tower fire caused unanticipated delays to construction in the ensuing investigations and regulation changes. More recently, the emergence of COVID-19 caused construction work to stop in all cities while social distancing measures were put in place to control the virus' spread.

The main risks/issues encountered in this area fell into four broad groups, these were:

1. The publishing of new national regulations which have had a significant impact on the design and/or implementation of energy measures.
2. Municipal elections and new political decisions that involved services and procedures related to energy retrofit works.
3. Unexpected external events that forced a review of the technical design or financial schemes used.
4. The Coronavirus pandemic, an unforeseen risk, seriously inhibited the programme's ability to undertake the works and bought about significant changes to the usage of our measures and their impact.

The EU approval of the extension of the programme's duration from December 2020 to December 2021 assisted the programme to meet its objectives of completing all outstanding works. Furthermore, the extension also provided an opportunity to mitigate against the impact of the Coronavirus pandemic so that monitoring of our measures could be conducted for an additional year in order to accumulate further information and offset any reductions in demand/usage seen since the start of the pandemic. The extension of the programme also assisted in mitigating the impacts of the Coronavirus pandemic on our scale up ambitions to foster greater city-wide adoption of our measures.

Risks were not confined to the building retrofit action. All areas of the programme encountered challenges. A description of the specific risks and recommendations for each of the programme's measures is presented in D3.15 (publishable report on the implementation of WP3 by the technical lead, highlighting activities that have taken place, risks encountered, corrective actions taken, and lessons learned). Additionally, the programme's Playbook (D1.20) provide valuable information on the challenges to the implementation of a number of key programme measures.

The table below presents a summary of the main general risks we faced on the Sharing Cities Programme, along with recommendations on the corrective actions we used to mitigate them.

Risk Description	Expected Impacts	Recommendation
Delays in delivery of project hardware.	Delays impact seriously on the ability of the programme to fulfil its ambitions and achieved the desired outputs and results.	Projects are constantly being influenced by factors influencing the ability to deliver on time. It is essential to be aware of these factors as early as possible and before they become a real problem. Ensure a constant control and monitoring of the defined timelines, and make sure that there are proper communication tools for this purpose.
Failure on adapting the measures to city's relevant context	Failure to deliver measures would be a fundamental programme failure.	Follow-up and engage with local partners and ensure that necessary expertise is in place. Co-execution of the demonstrative actions and validations along the cities demonstrators, both for tools validation / improvement and also for the implemented actions.
Some measures were discovered to be unviable causing the implementation of other measures to be delayed.	Programme's ambitions and deliverables at risk of not being achieved.	Work closely with local stakeholders to add weight to the case and develop back-up options/plans for the other measures potentially impacted.

Lack of agreement and application of core principles of the measures within the 3 cities.	The project may deliver differently to the expectations with replicability and key learnings being more difficult to be captured.	Risk has been substantially minimised through alignment of designs and procurement. Local partners need to be completely engaged within the alignment discussions.
Tasks do not deliver foreseen results.	The project may deliver differently to the expectations with replicability and key learnings being more difficult to be captured.	Define and apply a continuous quality control mechanism. If necessary, activities can be adjusted or create contingency plans to deal with the new circumstances.
Low acceptance of the outputs of WP3 by third parties not involved in the project.	Serious impact on the ability of the programme to fulfil its commitment.	Enforcement of dissemination activities to encourage local stakeholders' participation in project activities. Organise promotional meetings with local stakeholders to explain the benefits of the project. Prioritise high level commitment solutions arising from local stakeholders and Ensure an institutional recognition for the stakeholders' participation.
Lack of replicability involvement of stakeholders with the project.	Serious impact on the ability of the programme to fulfil its commitment.	Local partners need to have a leading role regarding the activities of implementation at local scale. In addition, the identification of commonalities and to ensure compromise and engagement of local partners is key to achieve high replicable use cases. Reinforce communication strategy, work with citizens associations and create a stakeholders group able to deploy relevant initiatives.
Failure of Cities to aggregate demand locally.	Failure to spread collaboration within cities on procurement for smart solutions foregoing possible savings.	Ensure integration with current city's plans and foster political commitment to implement the desired solutions.