



EIP-SCC

European Innovation Partnership
on Smart Cities and Communities



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Analysing the potential for wide scale roll out of integrated Smart Cities and Communities solutions

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The study

Contractor: DG Energy – European Commission

Duration: January 2015 – June 2016

Objectives:

The first objective of the study was to foster the knowledge base of the European Innovation Partnership on Smart Cities and Communities by analysing smart city solutions and initiatives that are linked to the Strategic Implementation Plan. In addition, it aims to promote scalable and transferable solutions and to contribute reaching the EU's 20/20/20 climate action goals.

Best practices identification



Main Partners



Subcontractors












Business Model Canvas

The project has utilised the Business Model Canvas to collect and summarise the information on Business Models.

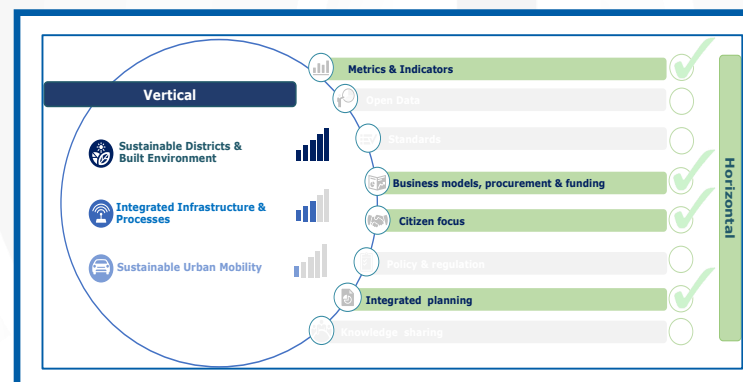
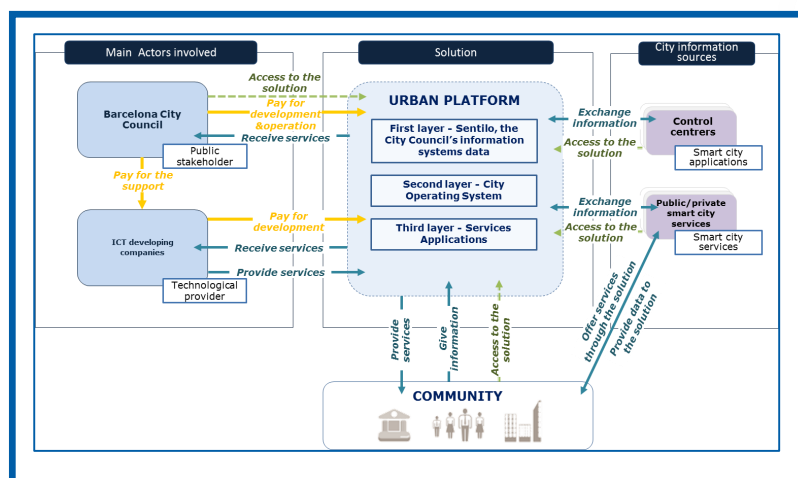
The canvas is divided in 9 categories:

- Key partnerships
- Key activities
- Value proposition
- User relationships
- User segments
- Key resources
- Channels
- Cost structure
- Revenues streams










Key partnerships 	Key activities 	Value propositions 	User relationships 	User segments 
<ul style="list-style-type: none"> Partnership and engagement of the several municipal departments and public / private involved entities Big ICT companies: Cisco, IBM, Accenture, DGS, Cellnex telecom, Open trend, Abertis and Indra, etc Local ICT companies Companies from other sectors (GDF Suez) 	<ul style="list-style-type: none"> Involvement of the political side Blueprint design of the solution Implementation and operation of the ICT solution Big data management Coordination across the various city departments Silos breaking and sharing of the data Involvement of citizens, public and private actors, increasing communication and transparency Be able to deal with large multinational companies 	<p>Barcelona urban platform, is a open source, interoperable solution which allows to integrate current and new public services with the aim of improving efficiency in their management and quality of the services offered to citizens</p>	<ul style="list-style-type: none"> Citizens are actively involved promoting the concept of civic innovation by the use of the Open Government platform A complete informational campaign has been launched Data can be accessed by the citizens and are open source 	<p>Whole environment of Barcelona, constituted by the citizens of Barcelona and both public or private entities</p>
		Key resources 	Channels 	
		<p>ICT solutions:</p> <ul style="list-style-type: none"> First layer: Sentilo open source sensor and actuator platform Second layer: City OS - the intelligence layer Third layer: Situation - Room - platform for integration and sharing of information Strong collaboration among the involved human resources both from public and private companies 	<ul style="list-style-type: none"> Barcelona Smart city website 	
Cost structure 		Revenue streams 		
<ul style="list-style-type: none"> For the sensor layer (Sentilo): development 80,000€, 60,000€ and 80,000€ for the first and the second years and then 120,000€ for the following years for annual operation and maintenance For the second and third layers of the solution: 1,050,000€ for development and an annual operation and maintenance of 20,000€ in 2016; 30,000€ in 2017, 100,000€ in 2018 and 200,000€ in 2019 		<ul style="list-style-type: none"> The developing costs of the different parts of the solution (Sentilo, City OS and Situation room) has been funded mainly by Barcelona City Council and in a part by ICT private companies The operation revenues have not been assessed at the moment in a quantitative way, they will come from optimisation of city management, silos breaking and new offered services 		

Additional representations

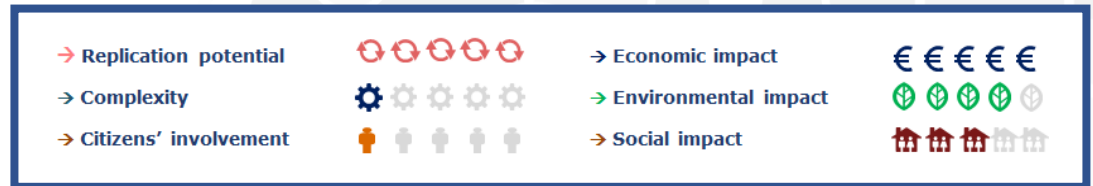
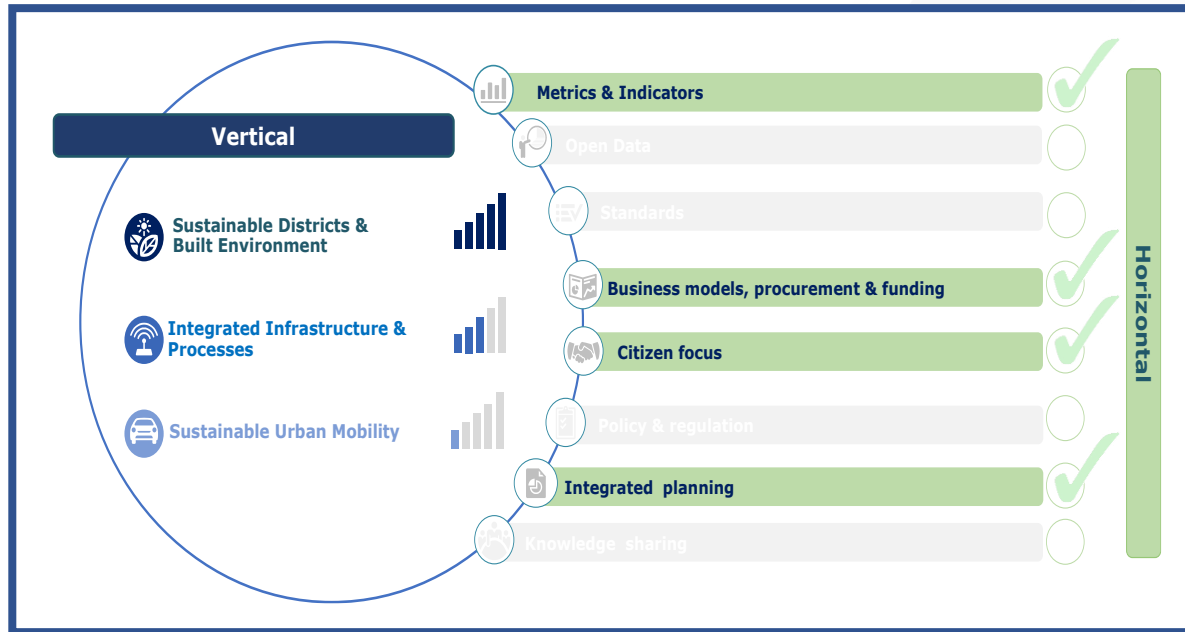
The analysis, to better represent the project needs and peculiarities, has utilized additional graphic elements to display the main elements of the projects and make information easy to access: SCC solution Integration Dashboard, Rich picture approach and some depending on the project



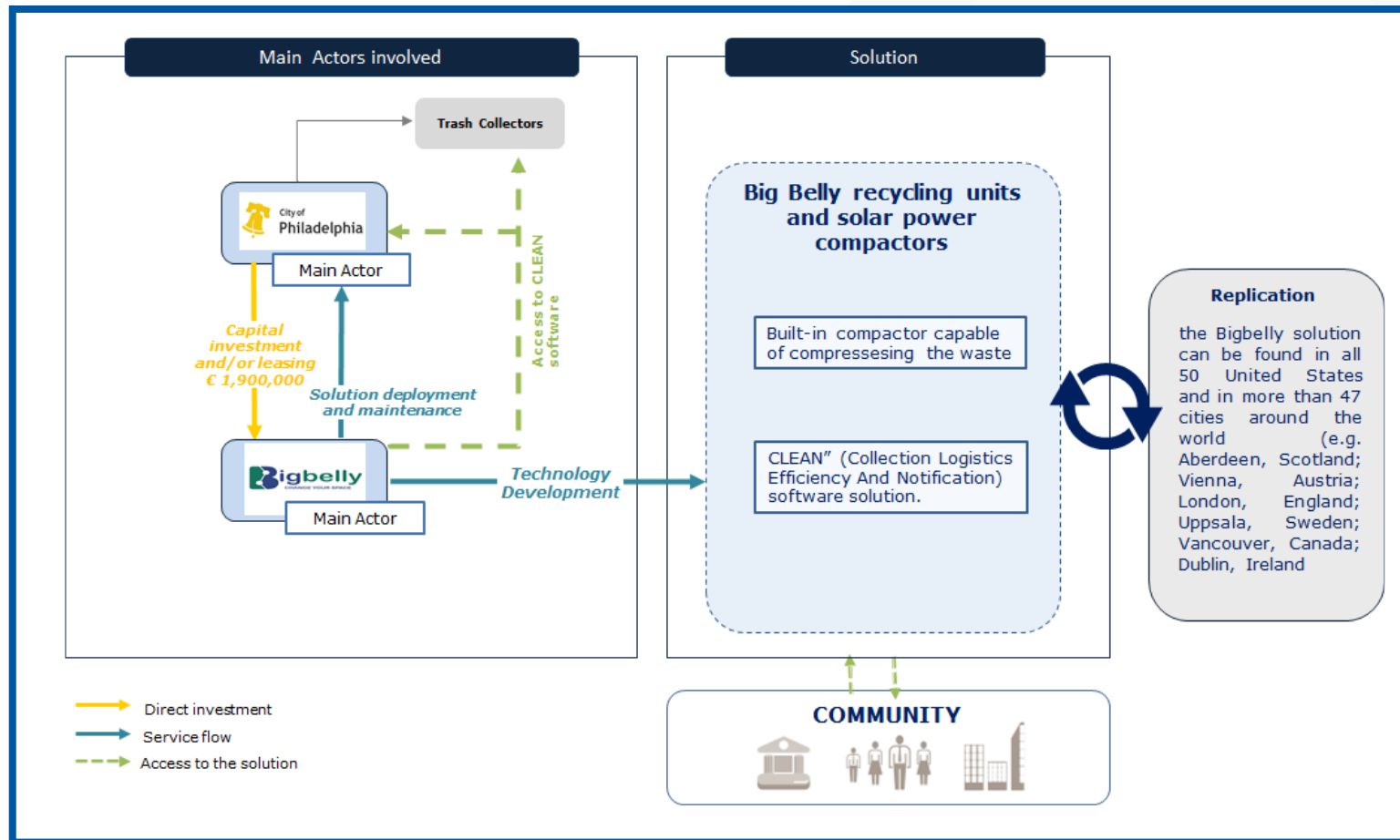
BigBelly, Philadelphia, Usa

Key partnerships 	Key activities 	Value propositions 	User relationships 	User segments 
<ul style="list-style-type: none">Public work departmentCity's sanitation groupsFinancial departmentsMajors	<ul style="list-style-type: none">Evaluation of the current waste management situationCapacity planning completionProvision of trainings to trash collectorsDesign of maintenance plan for hardware and software components	<ul style="list-style-type: none">Solar-powered compactors, garbage bin equipped with solar photovoltaic panel that turns daylight into electricity, and that enable the automatic compaction of wasteRecycling units, attached to the solar powered compactors to facilitate separation of trash from recyclingCLEAN software, which sends signals to the waste department for notification that collection is imminent to reduce unnecessary collection journeys to non-fully garbage units	<ul style="list-style-type: none">Scarce involvement of the community in the decision making of the solution's adoption schemesThought some community groups have funded the purchase of their own units through the City which the City collects and maintains.	<ul style="list-style-type: none">City governmentsLarge companiesPrivate trash collectorsColleges and universitiesAirportsLarge retailersCorporate and government campuses
	Key resources  <ul style="list-style-type: none">Human: Bigbelly customer service team, the account manager team as well as the city maintenance team.Physical: recycling units and compactors.		Channels  <ul style="list-style-type: none">DistributorsManufactures	
Cost structure 		Revenue streams 		
<ul style="list-style-type: none">High fixed costs including the manufacturing of the bins, the solar technology, network infrastructure and assembly coupled with maintenance and support costs		<ul style="list-style-type: none">For Bigbelly company: licenses for technologies and softwareFor costumers (e.g. cities): operational savings and advertising revenue potential		










SCC Solution Integration Dashboard



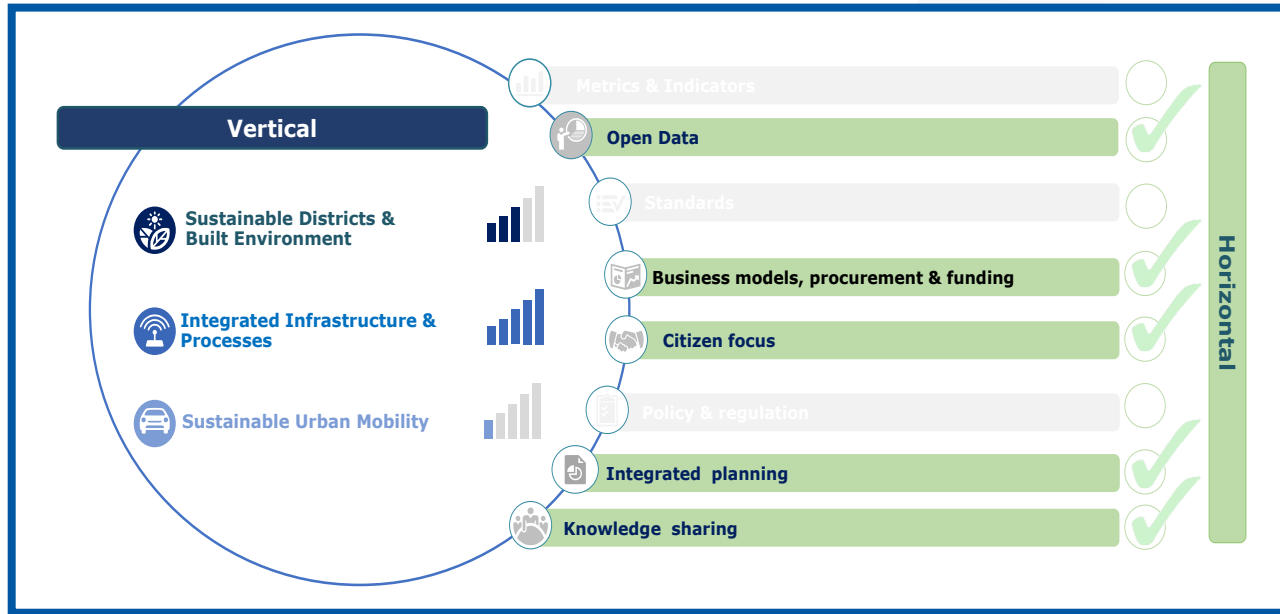
Approach of BigBelly



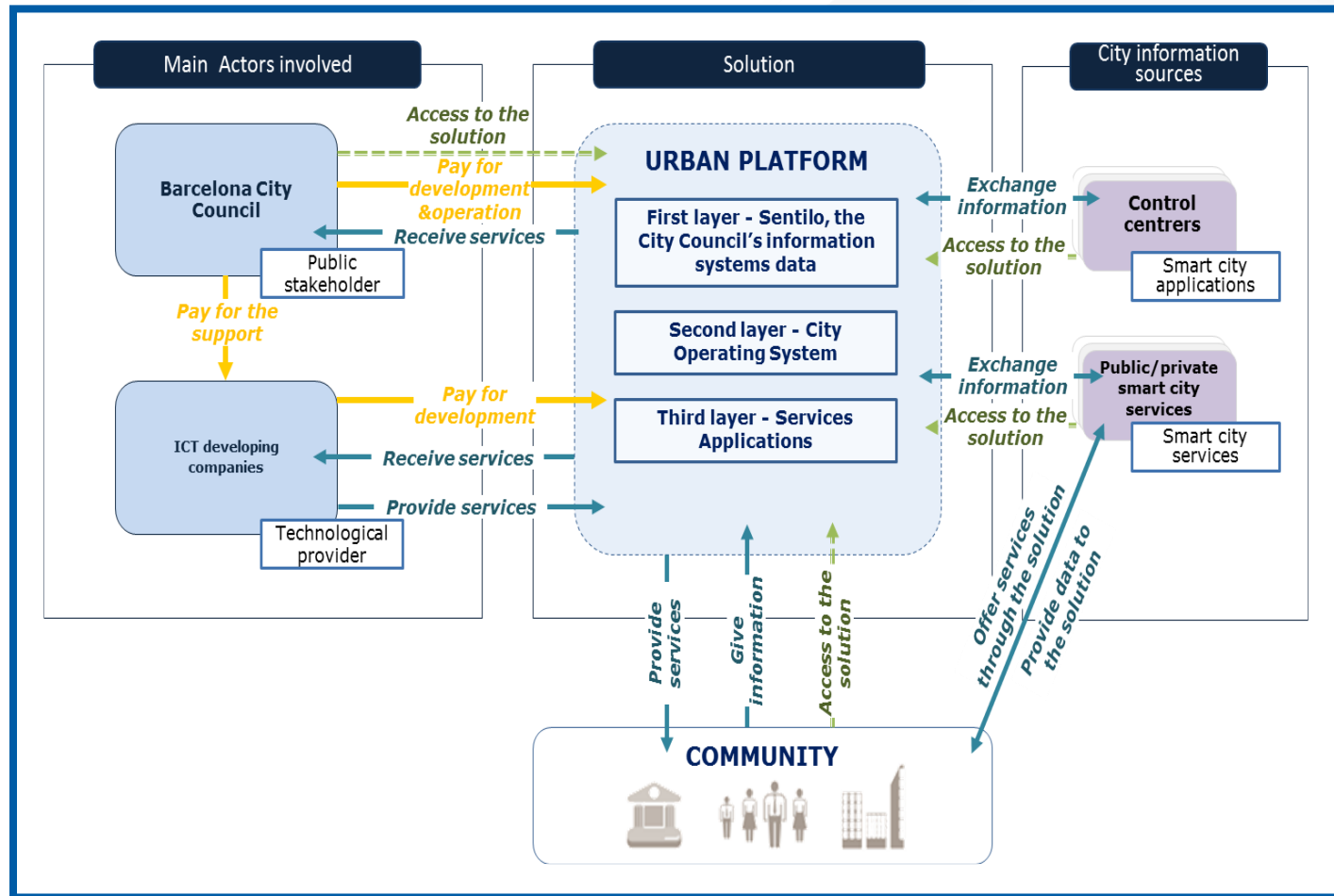
Urban Platform, Barcelona, Spain

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SCC Solution Integration Dashboard



Approach of Urban Platform



Emerging elements



SCC solutions develop new strategies and models

Finance

The possibility to measure and monetize positive externalities from investing in smart infrastructure enables a radical change in the funding and financing opportunities. Hence, the private involvement and the development of new tools is making necessary a deeper analyses of the financial instruments

Procurement

The public administration can involve several service providers and stimulate innovation through innovative public procurement. Opening up procurement mechanisms to make them accessible to younger, smaller businesses require additional attention and a particular focus.

Thank you!



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