



## IRIS Smart cities

## Workshop Smart City Business Modelling

February 4<sup>th</sup>, 2021

#### **Moderator**

Jonas Norrman, Innovation Expert IMCG International Email: jonas.norrman@imcginternational.com

#### Dr. Paraskevi GIOURKA Innovation Strategist,

Centre for Research and Technology Hellas (CERTH), Chemical Process and Energy Resources Institute (CPERI) Email: <u>giourka@certh.gr</u> | Skype ID: paraskevi.giou.

Mark Sanders Associate Professor Economics of Innovation and Transition, Utrecht University, School of Economics Email: m.w.j.l.sanders@uu.nl | Skype ID: mark1sanders.



## **Food for Thought**

Which ways is the SC-BMC useful for you? How do you intend to use it within the framework of IRIS project or your future business activities?

## business model





## **BUSINESS MODEL**

EC2B creates value for property developers by offering them a platform service through which their tenants/occupants can access mobility services of third parties. These property developers have an extra argument to negotiate a rebate on the parking norm for new developments with city government



## business model canvas

by Alex Osterwalder and Yves Pigneur (2005)





©Strategyzer strategyzer.com

Come Come Come Commons. Attribution-Charte Allie 3.0 Unported License. To View a copy of this license, visit: http://weatwecommons.attribution-Charte Allie 3.0 Unported License. To View a copy of this license, visit: http://weatwecommons.attribution-Charte Allie 3.0 Unported License. To View a copy of this license, visit: http://weatwecommons.attribution-Charte Allie 3.0 Unported License. To View a copy of this license, visit: http://weatwecommons.attribution-Charte Allie 3.0 Unported License. To View a copy of this license, visit: http://weatwecommons.attribution-Charte Allie 3.0 Unported License. To View a copy of this license, visit: http://weatwecommons.attribution-Charte Allie 3.0 Unported License. To View a copy of this license, visit: http://weatwecommons.attribution-Charte Allie 3.0 Unported License. To View a copy of this license, visit: http://weatwecommons.attribution-Charte Allie 3.0 Unported License. To View a copy of this license, visit: http://weatwecommons.attribution-Charte Allie 3.0 Unported License. To View a copy of this license, visit: http://weatwecommons.attribution-Charte Allie 3.0 Unported License. To View a copy of this license, visit: http://weatwecommons.attribution-Charte Allie 3.0 Unported License. To View a copy of this license, visit: http://weatwecommons.attribution-Charte Allie 3.0 Unported License. To View a copy of the license, visit: http://weatwecommons.attribution-Charte Allie 3.0 Unported License. To View a copy of the license, visit: http://weatwecommons.attribution-Charte Allie 3.0 Unported License. To View a copy of the license.

## Smart Cities business model canvas

Source: Giourka, P.; Sanders, M.W.J.L.; Angelakoglou, K.; Pramangioulis, D.; Nikolopoulos, N.; Rakopoulos, D.; Tryferidis, A.; Tzovaras, D. (2019) The Smart City Business Model Canvas—A Smart City Business Modeling Framework and Practical Tool. Energies, 12, 4798. doi: 10.3390/en12244798

8

Key Actors	Key Activities	Value Proposi	ition	Actor Relationships	Network Beneficiaries
Who are the smart city network key actors? (Completed by the solution provider in collaboration with the City) •Actor 1 (city) •Actor 2 (end-user) •Actor 4 (supporting partner) Who are the key suppliers? (Completed by the smart city solution provider) •Supplier 1 •Supplier 2 •Supplier 3	Which key activities are required to realize the value proposition (i.e. build distribution channels, customer relationships, revenue streams, build product/sevrices/platforms, install equipment) (Completed by each actor involved in realizing the smart city solution) Actor 1 (city): Actor 2 (end-user): Actor 3 (core partner): Actor 4 (supporting partner):	What value does delivers? Which of the enn problems is the : project helping t What bundles of services does the each end user? Which end-user project satisfying performance, cu price, getting th reduction, risk r accessibility, convenience/usas What are the ress What are the ress (Completed by each in the smart city p value) Actor 1 (city): Actor 2 (end-user Actor 3 (core parth Actor 4 (cupportin)	s each actor d users' smart tity to solve? f products and p project offers to s needs is the g? (i.e. stomization, e job done, cost eduction, bility) spective target ls/KPIs to be ch actor involved project creating ): ner): ng partner):	Which type of relationship does each actor expect within the network? Which ones are established? How are they integrated with the rest of our business model? (Completed by each actor involved in realizing the smart city solution) Actor 1 (city): Actor 2 (end-user): Actor 3 (core partner): Actor 4 (supporting partner):	Which target users is the value created for? How the target users beneffrom the value created and what are their needs? What specific values each network beneficiary gets? ( Community, business, research organizations, decision-making bodies/government and no profit). (Completed by the smart city solution provider in collaboration with each actor involved in realizing the project) Actor 1 (city): Actor 2 (end-user): Actor 3 (core partner): Actor 4 (supporting partner):
Var Aston Offarings (*)	Koy Recourses and	Data (*)	is purmer).	Danloymant Channels	
What offerings does each actor deliver? (i.e. technology, development of products/processes/services, R&D, Citizen Engagement) (Completed by the smart city Key Actors in collaboration with the city) Actor 1 (city): Actor 2 (end-user): Actor 4 (supporting partner): Actor 4 (supporting partner): Key Actors Co-creation Operations (*) Which key operations do the key actors perform? (i.e. sourcing of materials, systems's design, operation and monitor and impact monitoring of the smart city solutions, deliver value, city coverage and links to other stakeholders e.g. innovation hubs) (Completed by the smart city Key Actors in collaboration with the city) Actor 1 (city): Actor 2 (end-user): Actor 3 (core partner): Actor 4 (supporting partner): Redeat Cex	Infrastructure What key resources are required to realize the Value Proposition (buildings, vehicles, machines, systems, point-of-sale systems, and distribution, networks) Our deployment channels? Our actor relationships? Revenue streams? (Completed by the smart city solution provider in collaboration with the city) Actor 1 (city): Actor 2 (end-user): Actor 4 (supporting partner):	Actor 3 (core partner): Actor 4 (supporting partner): Data (*) What data will be made available from the services designed? To whom and under what conditions? Availability and types of Open Data (i.e. energy efficiency, climate indicators, traffic etc) (Completed by the smart city solution provider in collaboration with the city and actors involved) Actor 1 (city): Actor 2 (end-user): Actor 3 (core partner): Actor 4 (supporting partner):		Through which channels do or reached? How are we reaching them no How are our channels integrat Which ones work best? Which ones work best? Which ones work best? Which ones are most cost effici How are they integrating with (Completed by the smart city solu with the city and actors involved) Actor 1 (city): Actor 2 (end-user): Actor 3 (core partner): Actor 4 (supporting partner):	ur customers want to be w? ed? ent? u the customer routines? ( <i>tion provider in collaboration</i> )
Budget Cost			Kevenue Strea	ams	
What are the most important costs inherent for each actor deploying a smart city solution? Which key resources are the most expensive? Which key activities are the most expensive? What cost can be covered by each actor? Is there opportunity for blending public funding with private financing? Which costs are or each mechanism? (Completed by the smart city solution provider in collaboration with the city) Actor 1 (city): Actor 2 (end-user): Actor 3 (core partner): Actor 4 (supporting partner):		n? re covered by	For what value are the network beneficiaries really willing to pay For what do they currently pay? How are they currently paying? How much would they prefer to pay? How much does each revenue stream contributing to overall rever Which actors have revenues? What are the non-monetary revenues? (Completed by the smart city solution provider in collaboration with the Actor 1 (city) Actor 2 (cont-lesser) Actor 3 (core partner)		ally willing to pay? ing to overall revenues? ollaboration with the city)
Environmental Impacts: Costs and Renefits			Social Impact	e Values and Coste	

## **12+2** Building Blocks

Smart City - Business Model Canvas					Network Beneficiaries
Key Actors	Key Activities	Value Proposi	tion	Actor Relationships	Which target users is the
Who are the smart city network key actors? (Completed by the solution provider in collaboration with the City) *Actor 1 (city) *Actor 2 (cone partner) *Actor 4 (supporting partner) Who are the key suppliers? (Completed by the smart city solution provider) *Supplier 2 *Supplier 3	Which key activities are required to realize the value proposition (i.e. build distribution channels, customer relationships, revenue streams, build products/services/platforms, install equipment) (Completed by each actor involved in realizing the smart city solution) Actor 1 (city): Actor 2 (and-user): Actor 3 (care partner): Actor 4 (supporting partner):	What value does each actor delivers? Which of the end users' problems is the smart diy project helping to solve? What bundles of products and services does the project offers to each end user? Which end-users needs is the project satisfying? (i.e. performance, customization, price, getting the job done, cost reduction, risk reduction, accessibility, convenience/usability) What are the respective target values/thresholds/KPIs to be reached? (Completed by each actor involved in the smart city project creating value) Actor 1 (city): Actor 3 (core partner): Actor 4 (capporting partner):		Which type of relationship does each actor expect within the network? Which ones are established? ' How are they integrated with the rest of our business model? How costly are they? (Completed by each actor involved in realizing the smart city solution) Actor 1 (city): Actor 2 (end-user): Actor 3 (core partner): Actor 4 (supporting partner):	value created for? How the target users benefit from the value created and what are their needs? What specific values each network beneficiary gets? (i.e. Community, business, research organizations, decision-making bodies/government and non- profit). (Completed by the smart city solution provider in collaboration with each actor involved in realizing the project) Actor 1 (city): Actor 3 (core partner): Actor 4 (supporting partner):
		Data (0)	S. Print Inter Jr.		
What offerings does each actor deliver? (i.e. technology, development of products/processes/services, R&D, Clitzen Engagement) (Completed by the smart city Key Actors in collaboration with the city) Actor 1 (city): Actor 2 (ind-user): Actor 2 (ind-user): Actor 4 (supporting partner): Key Actors Co-creation Operations (*) Which key operations do the key actors perform? (i.e. sourcing of materials, systems's design, operation and monitor and impact monitoring of the smart city solutions, deliver value, city coverage and links to other stakeholders e.g. innovation hubs) (Completed by the smart city Key Actors in collaboration with the city) Actor 1 (city): Actor 2 (end-user): Actor 4 (supporting partner):	Infrastructure What key resources are required to realize the Value Proposition (buildings, vehicles, machines, systems, point-of-sale systems, and distribution, networks) Our deployment channels? Our actor relationships? Revenue streams? (Completed by the smart city solution provider in collaboration cuith the city) Actor 1 (city): Actor 2 (end-user): Actor 3 (compartner): Actor 4 (supporting partner):	Actor 4 (supporting partner): Data (?) What data will be made available from the services designed? To whom and under what conditions? Availability and types of Open Data (i.e. energy efficiency, climate indicators, traffic etc) (Completed by the smart city solution provider in collaboration with the city and actors involved) Actor 1 (city): Actor 3 (core partner): Actor 4 (supporting partner):		Through which channels do or reached? How are we reaching them no How are our channels integrat Which ones are most cost effici How are they integrating with (Completed by the smart city solu with the city and actors involved) Actor 1 (city): Actor 2 (ant-user): Actor 3 (core partner): Actor 4 (supporting partner):	ur customers want to be w? ed? ent? the customer routines? tion provider in collaboration
Budget Cost			Revenue Strea	ims	
What are the most important costs inherent for each actor deploying a smart city solution? Which key resources are the most expensive? Which key activities are the most expensive? What cost can be covered by each actor? Is there opportunity for blending public funding with private financing? Which costs are each mechanism? (Completed by the smart city solution provider in collaboration with the city) Actor 1 (city): Actor 2 (end-user): Actor 3 (core partner):			For what value are the network beneficiaries really willing to pay? For what do they currently pay? How much would they prefer to pay? How much does each revenue stream contributing to overall revenues? Which actors have revenues? What are the non-monetary revenues? (Completed by the smart city solution provider in collaboration with the city) Actor 1 (city) Actor 2 (cnd-user) Actor 4 (cmd-user) Actor 4 (cmd-user)		ally willing to pay? ing to overall revenues? Allaboration with the city)
Environmental Impacts: Costs and Benefits What is the ecological cost of the smart city solution? (i.e. Greenhouse g What is the ecological benefit of the smart city solutions? % of reducing energy consumption % reducing the environmental footprint	as emissions, land use, energy and wate	r used)	Social Impacts What is the negative (i.e. Social exclusion, What is the positive (i.e. Growth, job crea	5: Values and Costs social value generated by the Smart Ci digital illiteracy, accessibility to advance social value generated by the Smart Cit tion, air quality, less traffic etc.)	ity Solutions? ed services etc.) y Solutions?

## Network Beneficiaries

Which target users is the value created for? How the target users benefit from the value created and what are their needs? What specific values each network beneficiary gets? (i.e. Community, business, research organizations, decision-

making bodies/government and non-profit).

Actor 1 (city): Less cars in the area, which fulfils policy goals. Possibly increased use of public transportation. However, from the municipalities perspective an integrated MaaS solution is not necessary. Mobility offerings by itself (not integrated into one platform) would also be a solution if certain criteria is fulfilled. Decisions about these criteria are made on a per project basis. Actor 2 (end-user): Property Developers are an intermediate end user of this business model by purchasing mobility solutions from Trivector. There is a financial incentive, it's cheaper for them to build the MaaS solution compared to a car garage. Actor 3 (core partner): EC2B obtains income and

Actor 3 (core partner): EC2B obtains income and further expertise for their next projects. Possibly new connections, expanding the company network.

Actor 4 (supporting partners): Access to a bigger market by integration into the mobility offering. So far no fee is charged for participation in the project.

Key Actors	Key Activities	Value Propos	ition	Actor Relationships	Network Beneficiaries
Who are the smart city network key actors? (Completed by the solution provider in collaboration with the City) •Actor 1 (city) •Actor 2 (cnd-user) •Actor 3 (core partner) •Actor 4 (supporting partner) Who are the key suppliers? (Completed by the smart city solution provider) •Supplier 1 •Supplier 2 •Supplier 3	Which key activities are required to realize the value proposition (i.e. build distribution channels, customer relationships, revenue streams, build products/services/platforms, install equipment) (Completed by each actor involved in realizing the smart city solution) Actor 1 (city): Actor 2 (end-user): Actor 3 (compartner): Actor 4 (supporting partner):	What value does each actor delivers? Which of the end users' problems is the smart city project helping to solve? What bundles of products and services does the project offers to each end user? Which end-users needs is the project satisfying? (i.e. performance, customization, price, getting the job done, cost reduction, risk reduction, accessibility, convenience/usability) What are the respective target values/thresholds/KPIs to be reached?		Which type of relationship does each actor expect within the network? How are they integrated with the rest of our business model? How costly are they? (Completed by each actor involved in realizing the smart city solution) Actor 1 (city): Actor 2 (end-user): Actor 3 (care partner): Actor 4 (supporting partner):	Which target users is the value created for? How the target users benefit from the value created and what are their needs? What specific values each network beneficiary gets? (i.e. Community, business, research organizations, decision-making bodies/government and non-profit). (Completed by the smart city solution provider in cellaboration with each actor involted in realizing the project) may a rearge.
		(Completed by ea in the smart city value) Actor 1 (city): Actor 2 (end-user Actor 3 (core part Actor 4 (supporti	ch actor involved project creating ): ner): ng partner):		Actor 2 (end-user): Actor 3 (core partner); Actor 4 (supporting partner):
Key Actors Offerings (*) What offerings does each actor deliver? (i.e. technology, development of products/processes/services, R&D, Citizen Engagement) (Completed by the smart city Key Actors in collaboration with the city) Actor 2 (end-user): Actor 4 (supporting partner): Key Actors Co-creation Operations (*) Which key operations do the key actors perform? (i.e. sourcing of materials, systems's design, operation and monitor and impact monitoring of the smart city solutions, deliver value, city coverage and links to other stakeholders e.g. innovation hubs) (Completed by the smart city Key Actors in collaboration with the city) Actor 4 (supporting partner): Actor 4 (supporting partner): Actor 4 (supporting the smart city Key Actors in collaboration with the city) Actor 4 (core partner): Actor 4 (supporting partner):	Key Resources and Infrastructure What key resources are required to realize the Value Proposition (buildings, vehides, machines, systems, point-of-sale systems, and distribution, networks) Our actor relationships? Revenue streams? (Completed by the smart city solution provider in collaboration with the city) Actor 1 (cup): Actor 2 (end-user): Actor 3 (core partner): Actor 4 (supporting partner):	Actor 3 (core partner): Actor 4 (supporting partner): Data (*) What data will be made available from the services designed? To whom and under what conditions? Availability and types of Open Data (i.e. energy effidency, climate indicators, traffic etc) (Completed by the smart city solution provider in collaboration with the city and actors involved) Actor 1 (city): Actor 3 (core partner): Actor 4 (supporting partner):		Deployment Channels Through which channels do or reached? How are we reaching them no How are our channels integrat Which ones are most cost effici- How are they integrating with (Completed by the smart city solu- with the city and actors involved) Actor 1 (city): Actor 2 (end-user): Actor 4 (supporting partner):	
What are the most important costs inherent for each acte Which key resources are the most expensive? Which key activities are the most expensive? What cost can be covered by each actor? Is there opportunity for blending public funding with p each mechanism? (Completed by the smart city solution provider in collat Actor 2 (calusor): Actor 3 (care partner): Actor 3 (care partner): Actor 4 (supporting partner): Environmental Impacts: Costs and Benefits What is the ecological benefit of the smart city solution? So a reducing energy consumption	or deploying a smart city solution private financing? Which costs a poration with the city) gas emissions, land use, energy and wate	in? ire covered by er used)	For what value For what value For what do the How are they cu How much wou How much does Which actors ha What are the no (Completed by th Actor 1 (city) Actor 2 (end-user Actor 3 (one part Actor 4 (support) Social Impact (i.e. Social exclusion, What is the negative (i.e. Generit hole one)	are the network beneficiaries re y currently pay? irrently pay? id they prefer to pay? each revenues stream contribut ve revenues? n-monetary revenues? : smart city solution provider in co ) ter) ty partner) scial value generated by the Smart Ci digital illeracy, accessibility to advanc social value generated by the Smart Ci then art quality, set strift ect.	ally willing to pay? ing to overall revenues? allaboration with the city) hy Solutions? ed services etc.) y Solutions?
(Completed by the smart city solution provider and the smart city)					

## Value Proposition

What value does each actor delivers?

Which of the end users' problems is the smart city project helping to solve?

What bundles of products and services does the project offers to each end user?

Which end-users needs is the project satisfying? (i.e. performance, customization, price, getting the job done, cost reduction, risk reduction, accessibility, convenience/usability)

What are the respective target values/thresholds/KPIs to be reached?

Actor 1 (city): reduce congestion, parking and emissions by reducing car ownership and increasing car occupancy.

Actor 2 (end-user): one-stop-shop platform to organize getting from A to B using a fitting transportation mode.

Actor 3 (core partner): integrates services on platform delivered to tenants/occupants, negotiates/lobbies for parking rebate

Actor 4 (supporting partner): Property developers offer housing Software developers build the platform Service providers/public transport offer mobility solutions to tenants and link to platform

Key Actors	Key Activities	Value Proposi	tion	Actor Relationships	Network Beneficiaries
Who are the smart dity network key actors? (Completed by the solution provider in collaboration with the City) *Actor 1 (city) *Actor 2 (end-user) *Actor 4 (supporting partner) *Actor 4 (supporting partner) Who are the key suppliers? (Completed by the smart city solution provider) *Supplier 1 *Supplier 2 *Supplier 3	Which key activities are required to realize the value proposition (i.e. build distribution channels, customer relationships, revenue streams, build products/vervices/platforms, install equipment) (Completed by each actor involved in realizing the smart city solution) Actor 1 (city): Actor 2 (end-user): Actor 3 (core partner): Actor 4 (supporting partner):	What value does delivers? Which of the enc problems is the 2 project helping to What bundles of services does the each end user? Which end-susers project satisfying performance, cus price, getting the reduction, risk re accessibility, convenience/usal What are the ress what are the ress what ere the	each actor I users' smart city o solve? products and projects and project share (i.e. stomization, b done, cost eduction, b bility) pective target s/KCPs to be h actor involved moject creating terp: g partnery:	Which type of relationship does each actor expect within the network? How are they integrated with the rest of our business model? How costly are they? (Completed by each actor involved in realizing the smart city solution) Actor 1 (city): Actor 2 (end-user): Actor 3 (core partner): Actor 4 (supporting partner):	Which target users is the value created for? How the target users benefit from the value created and what are their needs? What specific values each network beneficiary gels? (i.e. Community, business, research organizations, decision-making bodies/government and non- profit). (Completed by the smart city solution provider in collaboration with each actor involved in realizing the project) Actor 1 (city): Actor 3 (core partner): Actor 4 (supporting partner):
Key Actors Offerings (*) What offerings does each actor deliver? (i.e. technology, development of products/processes/services, R&D, Citizen Engagement)	Key Resources and Infrastructure What key resources are required to realize the Value Proposition (buildings,	Data (*) What data will be made available from the services designed? To whom and under what conditions? Availability and types of Open Data (i.e. energy efficiency, climate indicators, traffic etc) (Completed by the smart city solution provider in collaboration with the city and actors involved) Actor 1 (city): Actor 2 (end-user): Actor 4 (supporting partner):		Deployment Channels Through which channels do our customers want to be mached? How are we reaching them now?	
(Completed by the smart city Key Actors in collaboration with the city) Actor 1 (city): Actor 2 (cnd-user): Actor 3 (core partner): Actor 4 (supporting partner): Key Actors Co-creation Operations (*) Which key operations do the key actors perform? (i.e. sourcing of materials, systems's design, operation and monitor and impact monitoring of the smart city solutions, deliver value, city coverage and links to other stakeholders e.g. innovation hubs)	vehicles, machines, systems, point-of-sale systems, and distribution, networks) Our actor relationships? Revenue streams? (Completed by the smart city solution provider in collaboration teith the city) Actor 1 (city): Actor 2 (cnd-user): Actor 3 (core partner): Actor 4 (supporting partner):			Which ones are most cost efficient? Which ones are most cost efficient? How are they integrating with the customer routines? (Completed by the smart city solution provider in collaboration with the city and actors involved) Actor 1 (city): Actor 2 (cnt-user): Actor 3 (core partner): Actor 4 (supporting partner):	
(Completed by the smart city Key Actors in collaboration with the city) Actor 1 (city): Actor 2 (cond-user): Actor 3 (core partner): Actor 4 (supporting partner):					
Budget Cost What are the most important costs inherent for each acto Which key resources are the most expensive? Which key activities are the most expensive? What cost can be covered by each actor? Is there opportunity for blending public funding with p each mechanism? (Completed by the smart city solution provider in collab Actor 1 (city): Actor 2 (cnit-user): Actor 4 (supporting partner):	get Cost t are the most important costs inherent for each actor deploying a smart city solution? ch key resources are the most expensive? it cost can be covered by each actor? ere opportunity for blending public funding with private financing? Which costs are covered by mechanism? appleted by the smart city solution provider in collaboration with the city) r 1 (city): r 2 (cind-user): r 3 (core partner): r 4 (supporting partner):		Revenue Streams For what value are the network beneficiaries really willing to pay? For what do they currently pay? How are they currently paying? How much would they prefer to pay? How much does each revenue stream contributing to overall revenues? Which actors have revenues? What are the non-monetary revenues? (Completed by the smart city solution provider in collaboration with the city) Actor 2 (end-user) Actor 3 (core partner)		cally willing to pay? ing to overall revenues? ellaboration with the city)
Environmental Impacts: Costs and Benefits What is the ecological cost of the amart city solution? (i.e. Greenhouse p What is the ecological benefit of the amart city solutions? % of reducing energy consumption % reducing the environmental footprint (Commissed by the mart city solution emotion and the average whether the commission of the type smart city solution emotion and the average whether the commission of the type smart city solution emotion and the average whether the commission of the type smart city solution emotion and the average whether the commission of the type smart city solution and the average whether the commission of the com	gas emissions, land use, energy and wat		Social Impact: What is the negative (i.e. Social exclusion, What is the positive (i.e. Growth, job creation) (Completed by the small	s: Values and Costs social value generated by the Smart Ci digital lilteracy, accessibility to advance social value generated by the Smart Cit ttion, air quality, less traffic etc.) rrt city solution provider and the smart city	ity Solutions? ed services etc.) y Solutions? 1)

### Data

#### What data will be made available from the services designed?

To whom and under what conditions? Availability and types of Open Data (i.e. energy efficiency, climate indicators, traffic etc)

Actor 1 (city): transparent parking norm rebate regulation

Actor 2 (end-user): data on travel, modality use and willingness to pay is disclosed via platform

Actor 3 (core partner): this data can be anonymised and shared upstream, but interviews gave no indication this is part of the package.

Actor 4 (supporting partner): property developers exit upon completion of the project unless they rent out, then data on rent, but not shared. Service providers collect and keep their own data. No data sharing agreements involved.

Key Actors	Key Activities	Value Propos	ition	Actor Relationships	Network Beneficiaries
Who are the smart dity network key actors? (Completed by the solution provider in collaboration with the City) *Actor 2 (citd-user) *Actor 3 (core partner) *Actor 4 (supporting partner) Who are the key suppliers? (Completed by the smart city solution provider) *Supplier 1 *Supplier 2 *Supplier 3	Which key activities are required to realize the value proposition (i.e. build distribution channels, customer relationships, revenue streams, build products/services/platforms, install equipment) (Completed by each actor involved in realizing the smart city solution) Actor 1 (city): Actor 1 (city): Actor 3 (core partner): Actor 4 (supporting partner):	Value Proposition What value does each actor delivers? Which of the end users' problems is the smart city project helping to solve? What bundles of products and services does the project offers to each end user? Which end-users needs is the project satisfying? (i.e. performance, customization, price, getting the job done, cost reduction, risk reduction, accessibility, convenience/usability) What are the respective target values/thresholds/KPIs to be reached? (Completed by each actor involved in the smart city project creating value) Actor 1 (city): Actor 2 (citi-user): Actor 3 (core partner):		Which type of relationship does each actor expect within the network? Which ones are established? How are they integrated with the rest of our business model? How costly are they? (Completed by each actor involved in realizing the smart city solution) Actor 1 (city): Actor 3 (core partner): Actor 4 (supporting partner):	Which target users is the value created for? How the target users benefit from the value created and what are their needs? What specific values each network beneficiary gets? (i.e. Community, business, decision-making bodies/government and non- profit). (Completed by the smart city solution provider in collaboration with each actor involved in realizing the project) Actor 1 (city): Actor 2 (end-user): Actor 3 (core partner): Actor 4 (supporting partner):
Key Actors Offerings (*)	Key Resources and	Data (*)	ig partnery.	Deployment Channels	
What offerings does each actor deliver? (i.e. technology, development of products/processes/services, R&D, Citizen Engagement) (Completed by the smart city Key Actors in collaboration with the city) Actor 1 (city): Actor 2 (cnd-user): Actor 3 (core partner): Key Actors Co-creation Operations (*) Which key operations do the key actors perform? (i.e. sourcing of materials, systems's design, operation and monitor and impact monitoring of the smart city solutions, deliver value, city coverage and links to other stakeholders e.g. innovation hubs) (Completed by the smart city Key Actors in collaboration with the city) Actor 2 (cnd-user): Actor 3 (core partner): Actor 4 (cupy):	Infrastructure What key resources are required to realize the Value Proposition (buildings, vehicles, machines, systems, point-of-sale systems, and distribution, networks) Our actor relationships? Revenue streams? (Completed by the smart city solution provider in collaboration with the city) Actor 1 (city): Actor 2 (cnd-user): Actor 4 (supporting partner):	Data (*) What data will be made available from the services designed? To whom and under what conditions? Availability and types of Open Data (i.e. energy efficiency, climate indicators, traffic etc) (Completed by the smart city solution provider in collaboration with the city and actors involved) Actor 1 (city): Actor 2 (end-user): Actor 4 (supporting partner):		Through which channels do or reached? How are we reaching them no How are our channels integrat Which ones work best? Which ones are most cost effici How are they integrating with (Completed by the smart city solu with the city and actors involved) Actor 1 (city): Actor 2 (cnd-user): Actor 3 (core partner): Actor 4 (supporting partner):	rr customers want to be w? ed? ent? the customer routines? thion provider in collaboration
Budget Cost			Revenue Strea	ims	
What are the most important costs inherent for each actor deploying a smart city solution? Which key resources are the most expensive? Which key activities are the most expensive? What cost can be covered by each actor? Is there opportunity for blending public funding with private financing? Which costs are covered by ach mechanism? Completed by the smart city solution provider in collaboration with the city) <i>Ictor 1 (city):</i> <i>Ictor 2 (end-user):</i> <i>Ictor 3 (core partner):</i> <i>Ictor 4 (supporting partner):</i>		n? re covered by	For what value are the network beneficiaries really willing to pay? For what do they currently pay? How much would they prefer to pay? How much does each revenue stream contributing to overall revenues? Which actors have revenues? What are the non-monetary revenues? (Completed by the smart city solution provider in collaboration with the city) Actor 1 (city) Actor 2 (cnd-user) Actor 3 (core partner) Actor 4 (core partner)		ally willing to pay? ing to overall revenues? illaboration with the city)
What is the ecological cost of the smart city solution? (i.e. Greenhouse ; What is the ecological cost of the smart city solution?	gas emissions, land use, energy and wate	er used)	What is the negative (i.e. Social exclusion, What is the positive	s: v alues and Costs social value generated by the Smart Ci digital illiteracy, accessibility to advance social value generated by the Smart Cit	ty Solutions? ed services etc.) y Solutions?
% of reducing energy consumption % reducing the environmental footprint			(i.e. Growth, job crea	ttion, air quality, less traffic etc.)	

## Deployment Channels

Through which channels do our customers want to be reached? How are we reaching them now? How are our channels integrated? Which ones work best? Which ones are most cost efficient? How are they integrating with the customer routines?

Actor 1 (city): To date only webinars and seminars are mentioned. Cities communicate their intentions, then EC2B can pitch the idea of parking norm rebates in exchange for integrated MaaS with offer of housing.

Actor 2 (end-user): End-users are informed via website, flyers and information events organized by EC2B as part of package. Also communicate through property developers' channels. The complexity demands face-to-face contact.

Actor 3 (core partner): Organises information events for (prospective) tenants and keeps communication channels open after deployment (helpdesk). EC2B is contact point for end-users through platform. Actor 4 (supporting partner): Do not communicate about EC2B

## Break

KeyActorsy - Business Model Canvas					
Who are the smart city network key actors?	Key Activities	Value Propos	ition	Actor Relationships	Network Beneficiaries
Completed by the solution provider in collaboration with the City) •Actor 1 (city) •Actor 2 (end-user) •Actor 3 (one partner) •Actor 4 (supporting partner) Who are the key suppliers? (Completed by the smart city solution provider) •Supplier 2 •Supplier 3	Which key activities are required to realize the value proposition (a.e. build distribution channels, austomer relationships, revenue streams, build products/services/platforms, install equipment) <i>Completed by some the somer aty solution</i> ) <i>Actor 1 (city)</i> <i>Actor 2 (cond-user):</i> <i>Actor 3 (core partner):</i> <i>Actor 4 (supporting partner):</i>	What value does each actor delivers? Which of the end users' problems is the smart city project helping to solve? What bundles of products and services does the project offers to each end user? Which end-users needs is the project satisfying? (i.e. performation sustained in the reduction, risk reduction, accessibility, convenience/usability) What are the respective target values/thresholds/KPIs to be reached? (Completed by each actor involved in the smart city project creating value) Actor 1 (city): Actor 2 (cond-user): Actor 3 (core partner): Actor 4 (supporting partner): Date (9)		Which type of relationship does each actor expect within the network? Which ones are established? How are they integrated with the rest of our business model? How coally are they? (Completed by each actor involved in realizing the smart city solution) Actor 2 (end-user): Actor 3 (core partner): Actor 4 (supporting partner):	Which target users is the value created for? How the target users benefit from the value created and what are their needs? What specific values each network, beneficiary gets? (i.e. Community, business, research organizations, decision-making bodies/government and non- profit). (Completed by the smart city softment, ider in cellaboration with electric involved in realizing the project) Actor 2 (city): Actor 3 (core partner): Actor 4 (supporting partner):
ey Actors Offerings (*)	Key Resources and	Data (*)		Deployment Channels	
Vhat offerings does each actor deliver? (i.e. technology, evelopment of products/processes/services, R&D, Titzen Engagement) Completed by the smart city Key Actors in collaboration iith the city) ktor 1 (city): ktor 2 (end-user): ktor 4 (supporting partner): Cey Actors Co-creation Operations (*) Vhich key operations do the key actors perform? (i.e. ourcing of materials, system's design, operation and nonitor and impact monitoring of the smart city olutions, deliver value, city coverage and links to other takeholders e.g. innovation hubs) Completed by the smart city Key Actors in ollaboration with the city) ktor 1 (city): ktor 3 (core partner): ktor 4 (supporting partner):	Mirastructure What key resources are required to realize the Value Proposition (buildings, vehicles, machines, systems, point-of-sale systems, and distribution, networks) Our deployment channels? Our actor relationships? Revenue streams? (Completed by the smart city solution provider in collaboration with the city) Actor 1 (city): Actor 2 (end-user): Actor 3 (core partner): Actor 4 (supporting partner):	Data (*) What data will be made available from the services designed? To whom and under what conditions? Availability and types of Open Data (i.e. energy efficiency, climate indicators, traffic etc) (Completed by the smart city solution provider in collaboration with the city and actors involved) Actor 1 (city): Actor 2 (end-user): Actor 3 (core partner): Actor 4 (supporting partner):		Through which channels do or reached? How are we reaching them no How are our channels integrat Which ones work best? Which ones are most cost efficit How are they integrating with (Completed by the smart city sols with the city and actors involved) Actor 1 (city): Actor 2 (and-user): Actor 3 (core partner): Actor 4 (supporting partner):	
Sudget Cost			Revenue Stre	ams	
What are the most important costs inherent for each acto Which key resources are the most expensive? Which key activities are the most expensive? What cost can be covered by each actor? s there opportunity for blending public funding with p ach mechanism? Completed by the smart city solution provider in collab <i>kcior 1 (city):</i> <i>kcior 2 (cni-user):</i> <i>kcior 3 (core partner):</i> <i>kcior 4 (supporting partner):</i> <i>kcior 4 (supporting partner):</i>	Cost the most important costs inherent for each actor deploying a smart city solution? yr resources are the most expensive? y activities are the most expensive? ton be covered by each actor? portunity for blending public funding with private financing? Which costs are covered by hanism? de by the smart city solution provider in collaboration with the city) tup: ud-seer: are partner: upporting partner: partal Immacks: Costs and Benofits		For what value are the network beneficiaries really willing to pay? For what do they currently pay? How much would they prefer to pay? How much does each revenue stream contributing to overall revenues? Which actors have revenues? What are the non-monetary revenues? (Completed by the smart city solution provider in collaboration with the city) Actor 1 (city) Actor 2 (end-user) Actor 3 (eng partner) Actor 4 (supporting partner)		ally willing to pay? ing to overall revenues? ollaboration with the city)
What is the ecological cost of the smart city solution? (i.e. Greenhouse p What is the ecological benefit of the smart city solutions? 6 reducing energy consumption 5 reducing the environmental footprint	gas emissions, land use, energy and wab		What is the negative social value generated by the Smart City Solutions? (i.e. Social exclusion, digital illiferacy, accessibility to advanced services etc.) What is the positive social value generated by the Smart City Solutions? (i.e. Growth, job creation, air quality, less traffic etc.)		

## **Key Actors**

Who are the smart city network key actors?

•Actor 1 (city): Goteborg/Lund/?

•Actor 2 (end-user): Property developers and tenants/occupants using the platform.

•Actor 3 (core partner): EC2B and Trivector

•Actor 4 (supporting partners): Service providers

Who are the key suppliers?

Supplier 1: Software Developers Supplier 2: Service provider e-cars Supplier 3: Service provider Public Transport Supplier 4: Service provider e-bikes

Key Actors	Key Activities	Value Proposi	ition	Actor Relationships	Network Beneficiaries
Who are the smart dity network key actors? (Completed by the solution provider in collaboration with the City) *Actor 1 (city) *Actor 2 (end-user) *Actor 4 (supporting partner) Who are the key suppliers? (Completed by the smart city solution provider) *Supplier 1 *Supplier 3	Which key activities are required to realize the value proposition (i.e. build distribution channels, customer relationships, revenue streams, build products/services/platforms, install equipment) (Completed by each actor involved in realizing the smart city solution) Actor 1 (city): Actor 2 (cmd-user): Actor 3 (care partner): Actor 4 (supporting partner):	Value Proposition What value does each actor delivers? Which of the end users' problem is the smart city project helping to solve? What bundles of products and services does the project offers to each end user? Which end-users needs is the project satisfying? (i.e. performance, customization, price, getting the job done, cost reduction, risk reduction, accessibility, convenience/usability) What are the respective target values/thresholds/KPIs to be reached? (Completed by each actor involved in the smart city project creating value; Actor 3 (core partner): Actor 4 (supporting partner):		Which type of relationship does each actor expect within the network? How nes are established? How are they integrated with the rest of our business model? How costly are they? (Completed by each actor involved in realizing the smart city solution Actor 1 (city): Actor 2 (end-user): Actor 3 (cme partner): Actor 4 (supporting partner):	Which target users is the value created for? How the target users benefit from the value created and what are their needs? Whot peofit values each network users benefit and the second
Key Actors Offerings (*)	Key Resources and	Data (*)	ng puriner).	Deployment Channels	
What offerings does each actor deliver? (i.e. technology, development of products/processes/services, R&D, Citizen Engagement) (Completed by the smart city Key Actors in collaboration with the city) Actor 1 (city): Actor 2 (cmt-user): Actor 3 (cme partner): Actor 4 (supporting partner): Key Actors Co-creation Operations (*) Which key operations do the key actors perform? (i.e. sourcing of materials, wystems's design, operation and monitor and impact monitoring of the smart city solutions, deliver value, city coverage and links to other stakeholders e.g. innovation hubs) (Completed by the smart city Key Actors in collaboration with the city) Actor 1 (city): Actor 2 (cmt-user): Actor 4 (supporting partner):	Infrastructure What key resources are required to realize the Value Proposition (buildings, vehicles, machines, systems, point-of-sale systems, and distribution, networks) Our actor relationships? Revenue streams? (Completed by the smart city solution provider in collaboration with the city) Actor 1 (city): Actor 2 (end-user): Actor 4 (supporting partner):	Actar 4 supporting partners: Data (*) What data will be made available from the services designed? To whom and under what conditions? Availability and types of Open Data (i.e. energy efficiency, climate indicators, traffic etc) (Completed by the smart city solution provider in collaboration with the city and actors involved) Actor 2 (mil-user): Actor 3 (ore partner): Actor 4 (supporting partner):		Through which channels do or reached? How are we reaching them no How are our channels integrat Which ones work best? Which ones are most cost effici How are they integrating with (Completed by the smart city solu- with the city and actors involved) Actor 1 (city): Actor 2 (and-user): Actor 3 (core partner): Actor 4 (supporting partner):	rr customers want to be w? ed? ent? the customer routines? <i>tien provider in collaboration</i>
What are the most important costs inherent for each acto Which key resources are the most expensive? Which key activities are the most expensive? What cost can be covered by each actor? Is there opportunity for blending public funding with p each mechanism? (Completed by the smart city solution provider in collab Actor 7 (city): Actor 2 (enil-user): Actor 3 (engenter): Actor 4 (supporting partner): Environmental Impacts: Costs and Benefits What is the ecological cost of the smart city solution? What is the ecological cost of the smart city solution?	e deploying a smart city solution private financing? Which costs a coration with the city) gas emissions, land use, energy and wat	er used)	For what value . For what do the, How are they co. How much does Which actors has What are the no (Completed by thi Actor 1 (city) Actor 2 (end-user Actor 3 (core part Actor 3 (core part Actor 3 (core part Actor 4 (supporting Social Impact) What is the negative (c. Social exclusion, What is the positive of core of the social social social social social in the positive of the social social social social social social social social social social social social social social social social so	are the network beneficiaries re y currently pay? irrently paying? Id they prefer to pay? each revenue stream contribut ve revenues? esmart city solution provider in co ) ner) us partner) s: Values and Costs secial value generated by the Smart Ci digital illieracy, accessibility to advance social value generated by the Smart Ci who advances the staffic act.	ally willing to pay? Ing to overall revenues? <i>Ilaboration with the city)</i> ysolutions? of envices etc.) ysolutions?

## Actor Relationships

What type of relationship does each actor expect within the network? Which ones are established? How are they integrated with the rest of our business model? How costly are they?

Actor 1 (city): City is linked to the business model directly and crucially. Without the parking norm rebate the business model is hard/impossible to implement.

Actor 2 (end-user): The tenants are (interestingly) not so involved and crucial in the network. As property developers argue, housing is scarce and tenants will self-select. They are marginal in the network.

Actor 3 (core partner): EC2B is the integrator. All network partners are linked through their platform and contracting goes through them, except when it comes to the (important) deal between property developer and city.

Actor 4 (supporting partner): See above. Service providers are linked to the network relatively loosely. In the past they have been changed. Public transport engages through resale agreement. Maintaining keeping network relations up to date is costly.

Key Actors	Key Activities	Value Proposi	tion	Actor Relationships	Network Beneficiaries
Who are the smart diy network key actors? (Completed by the solution provider in collaboration with the City) *Actor 1 (city) *Actor 2 (end-user) *Actor 3 (core partner) *Actor 4 (supporting partner) Who are the key suppliers? (Completed by the smart city solution provider) *Supplier 1 *Supplier 3	Which key activities are required to realize the value proposition (i.e. build distribution channels, customer relationships, revenue streams, build products/vervices/platforms, install equipment) (Completed by each actor involved in realizing the smart city solution) Actor 1 (city): Actor 2 (end-user): Actor 3 (core partner): Actor 4 (supporting partner):	Value Proposition What value does each actor delivers? Which of the end users' problems is the smart city proiet helping to solve? What bundles of products and services does the project offers to each end user? Which end-users needs is the project satisfying? (i.e. performance, customization, price, getting the job done, cost reduction, risk reduction, accessibility, convenience/usability) What are the respective target values/thresholds/KPIs to be reached? <i>(Completed by each actor involved in the smart city project creating rulue)</i> Actor 1 (city): Actor 3 (core partner): Actor 4 (supporting partner):		Which type of rolationship does each actor expect within the network? Which ones are established? How are they integrated with the rest of our business model? How costly are they? (Completed by each actor involved in realizing the smart city solution) Actor 1 (city): Actor 2 (end-user): Actor 3 (core partner): Actor 4 (supporting partner):	Which target users is the value created for? How the target users benefit from the value created and what are their needs? What specific values each network beneficiary gelts? (i.e. Community, business, research organizations, decision-making bodies/government and non-profit). (Completed by the smart city solution provider in collaboration with each actor involved in realizing the project) Actor 1 (city): Actor 2 (cnd-user): Actor 4 (supporting partner):
Key Actors Offerings (*)	Key Resources and	Data (°)		Deployment Channels	
What offerings does each actor deliver? (i.e. technology, development of products/processes/services, R&D, Citizen Engagement)	Infrastructure What key resources are required to realize the Value Proposition (buildings,	What data will be made available from the services designed? To whom and under what			
Icomparing of the small city key Actors in connormation with the city) Actor 1 (city): Actor 3 (core partner): Actor 4 (supporting partner): Key Actors Co-creation Operations (*) Which key operations do the key actors perform? (i.e. sourcing of materials, systems's design, operation and monitor and impact monitoring of the smart city solutions, deliver value, city coverage and links to other stakeholders e.g. innovation hubs)	Teinces, in: spoint-of-sale systems, and distribution, networks) Our deployment channels? Our actor relationships? Revenue streams? (Completed by the smart city solution provider in collaboration with the city) Actor 1 (city): Actor 2 (end-user): Actor 3 (end-user): Actor 4 (supporting partner):	on dimensional Accellability and types of Open Data (i.e. energy efficiency, climate indicators, traffic etc) (Completed by the smart city solution provider in collaboration with the city and actors involved) Actor 1 (city): Actor 2 (end-user): Actor 3 (over partner): Actor 4 (supporting partner):		Which ones are most cost efficient? How are they integrating with the customer routines? (Completed by the smart city solution provider in collaboration with the city and actors involved) Actor 1 (city): Actor 2 (cal-user): Actor 3 (core partner): Actor 4 (supporting partner):	
(Completed by the smart city Key Actors in collaboration with the city) Actor 7 (city): Actor 3 (core partner): Actor 4 (supporting partner):					
Budget Cost			Revenue Stre	ams	
What are the most important costs inherent for each actor deploying a smart city solution? Which key resources are the most expensive? Which key activities are the most expensive? What cost can be covered by each actor? Is there opportunitly for blending public funding with private financing? Which costs are covered each mechanism? (Completed by the smart city solution provider in collaboration with the city) Actor 1 (city):		m? are covered by	For what value are the network beneficiaries really willing to pay? For what do they currently pay? How are they currently paying? How much would they prefer to pay? How much does each revenue stream contributing to overall revenues? Which actors have revenues? What are the non-monetary revenues?		ally willing to pay? ing to overall revenues? Alaboration with the city)
Actor 3 (core partner): Actor 4 (supporting partner):					
Environmental Impacts: Costs and Benefits			Social Impact	s: Values and Costs	
What is the ecological cost of the smart city solution? (i.e. Greenhouse What is the ecological benefit of the smart city solutions? % of reducing energy consumption % reducing the environmental footprint	gas emissions, land use, energy and wat		What is the negative (i.e. Social exclusion, What is the positive (i.e. Growth, job crea		ty Solutions? ed services etc.) y Solutions?

## Key Actors Offerings

What offerings does each actor deliver? (i.e. technology, development of products/processes/services, R&D, Citizen Engagement)

Actor 1 (city): Support for the EC2B concept to be viable. Local authorities need to be supportive of the idea of exchanging parking lots for a MaaS. In this case a policy-based innovation was neccessary.

Actor 2 (end-user): Willingness to pay for the service. Some tenants are more likley to use new vehicles than others. In this case when using light e-vehicles there is a certain customer group that thinks the vehicles are "cool".

Actor 3 (core partner): Development of the EC2B application to be used was procured by Trivector within the IRIS project. However, the main focus of the EC2B demonstration in IRIS is not on the app or the ICT scheme behind it. Rather, the focus is on designing a service that responds to the needs all actors involved: end-users as well as property developers and transport service providers, in order to find a working business model.

Actor 4 (supporting partner): Development of the housing complex, focusing on solutions to integrate MaaS and other offerings for new tenants.

Key Activities	Value Propos	ition	Actor Relationships	Network Beneficiaries
Which key activities are required to realize the value proposition (i.e. build distribution channels, customer relationships, revenue streams, build products/ørvices/platforms, install equipment) (Completed by each actor involved in realizing the smart city solution) Actor 1 (city): Actor 2 (end-user): Actor 3 (core partner): Actor 4 (supporting partner):	Value Proposition What value does each actor delivers? Which of the end users' problems is the smart dry project helping to solve? What bundles of products and services does the project offers to each end user? Which end-users needs is the project satisfying? (i.e. performance, customization, price, getting the job done, cost reduction, risk reduction, accessibility, convenience/usability) What are the respective target values/thresholds/KPIs to be reached? (Completed by each actor involved in the smart city project creating value) Actor 1 (city): Actor 2 (core partner): Actor 4 (supporting partner):		Which type of relationship does each actor expect within the network? How are they integrated with the rest of our business model? How costly are they? (Completed by each actor involved in realizing the smart city solution) Actor 1 (city): Actor 2 (end-user): Actor 3 (core partner): Actor 4 (supporting partner):	Which target users is the value created for? How the target users benefit from the value created and what are their needs? What specific values each network beneficiary gels? (i.e. Community, business, research organizations, decision-making bodies/government and non- profit). (Completed by the smart city solution provider in collaboration with each actor involved in realizing the project) Actor 1 (city): Actor 3 (cone partner): Actor 4 (supporting partner):
Key Resources and Infrastructure What key resources are required to realize the Value Proposition (buildings, vehicles, machines, systems, point-of-sale systems, and distribution, networks) Our actor relationships? Revenue streams? (Completed by the smart city solution provider in collaboration with the city) Actor 1 (city); Actor 3 (core partner): Actor 4 (supporting partner):	Actor 3 (core partner): Actor 4 (supporting partner): Data (*) What data will be made available from the services designed? To whom and under what conditiona? Austlability and types of Open Data (i.e. energy efficiency, climate indicators, traffic etc) (Completed by the smart city solution provider in collaboration with the city and actors involved) Actor 2 (cond-user): Actor 3 (core partner): Actor 4 (supporting partner):		Deployment Channels Through which channels do or reached? How are we reaching them no How are our channels integrat Which ones are most cost effici How are they integrating with ( <i>Completed by the smart city solu</i> <i>usith the city and actors involved</i> ) Actor 1 (city): Actor 2 (cm-user): Actor 4 (supporting partner):	r customers want to be w? ed? ent? the customer routines? tion provider in collaboration
Budget Cost What are the most important costs inherent for each actor deploying a smart city solution? Which key resources are the most expensive? Which key activities are the most expensive? What ost can be covered by each actor? Is there opportunity for blending public funding with private financing? Which costs are covered by each mechanism? (Completed by the smart city solution provider in collaboration with the city) Actor 1 (city): Actor 2 (cnul-user): Actor 4 (supporting partner): Environmental Impacts: Costs and Benefits What is the ecological cost of the smart city solution? (What is the ecological cost o		For what value - For what do the How much would How much would How much does Which actors ha What are the no (Completed by the Actor 1 (city) Actor 2 (end-user Actor 3 (core part) Social Impact What is the negative (i.e. Social exclusion, What is the positive (i.e. Growth, job cred)	ams are the network beneficiaries re y currently paying? if they prefer to pay? each revenue stream contribut ve revenues?	ally willing to pay? ing to overall revenues? dlaboration with the city) ty Solutions? el services etc.) y Solutions?
	Key Activities Which key activities are required to realize the value proposition (i.e. build distribution channels, customer relationships, revenue streams, build products/vervices/platforms, install equipment) (Completed by each actar involved in realizing the smart city solution Actor 1 (city): Actor 2 (end-user): Actor 4 (supporting partner): What key resources are required to realize the Value Proposition (buildings, vehicles, machines, systems, point-of-sale systems, and distribution, networks) Our deployment channels? (Completed by the smart city solution provider in collaboration with the city) Actor 1 (city): Actor 2 (end-user): Actor 4 (supporting partner): r deploying a smart city solution rivate financing? Which costs a oration with the city) paremissions, land use, energy and wat	Key Activities     Value Proposi       Which key activities are required to realize the value probability (i.e. build distribution channels, customer relationships, revenue streams, build products/services/platforms, install equipment)     What value dee disvers?       (Completed by each actor inclusion of the statisty in products/services/platforms, exit, setting the smart (ity solution)     What buildes over the statisty in products/services/platforms, exit, setting the smart (ity solution)       Actor 1 (city):     Actor 4 (supporting partner):       Actor 4 (supporting partner):     What are the revalues/threshold reached?       Infrastructure     Data (*)       What data will available from taising protochasie systems, and distribution, networks)     Data (*)       Our actor relationships?     To whom and u endition available from taising available from taising available from taising available from taising?       Completed by the smart city solution provider in custom?     Completed by the smart city solution provider in custom?       Completed by the smart city solution provider in custom?     Completed by the smart city solution?       Actor 1 (city):     Actor 1 (city):       Actor 4 (supporting partner):     Actor 4 (supporting partner):       Actor 4 (supporting partner):     Actor 4 (supporting partner):       Actor 4 (supporting partner):     Actor 4 (supporting partner):       Actor 4 (supporting partner):     Actor 4 (supporting partner):	Key ActivitiesValue PropositionWhich key activities are required to realize the value proposition (i.e. build distribution channels, customer relationships, revenue streams, build products/services/platforms, install equipment)What value dees each actor delivers? What bundles of products and project helping to solve? What bundles of products and ervices does the project defars to actor 1 (city): Actor 2 (cual-user): Actor 4 (supporting partner): Actor 4 (supporting partner): Actor 4 (supporting partner):What value dees each actor delivers? What bundles of products and project helping to solve? What bundles of products and project helping to solve? What actor inveloed for a destribution, cost reduction, risk reduction, convenience/usability) What are the respective target values/threshold/KIPIs to be reached?Key Resources and InfrastructureData (*) What data will be made available from the services designed? To whom and under what conditions, systems, point-of-sale systems, and distribution, networks) Cur actor relationships? Revenue streams?Data (*) Completed by the smart city solution provider in editory inducts are draw and used in the city and actors intedeed) Actor 1 (city): Actor 4 (supporting partner): Actor 3 (core partner): Actor 4 (supporting partner): Actor 3 (core partner): Actor 4 (supporting partner): Actor 4 (cury- Actor 3 (core partne	Key Activities     Value Proposition     Actor Relationships       Which key activities are required to realize the value distribution channels, catamer relationships, revenue stream, built exclusion productive for leading to adve? Which ones are established? What buildes of protuces and cheen 1 (inty): Attar 2 tendiaert? Attar 4 tarpporting partner? Attar 4 tarppartner? Attar 4 tarpporting pa

### Key Resources and Infrastructure

What key resources are required to realize the Value Proposition (buildings, vehicles, machines, systems, point-of-sale systems, and distribution, networks) Our deployment channels? Our actor relationships? Revenue streams?

Actor 1 (city): density and extensive public transport infrastructure are required, coupled with a political ambition to reduce congestion and willingness and legal ability to change the parking norm for that purpose.

Actor 3 (core partner): The core partners needs to have credibility and trust among the extensive and complex network of involved partners. Interviewees mention importance of Trivector as respected traffic consultancy and importance of trusted EC2B employees.

Actor 2 (end-user): Cultural attitudes towards car ownership and willingness to experiment.

Actor 4 (supporting partner): A strong software developer is needed to integrate the services on the platform. Now the "platform" sends the user to the service provider website. More integration desirable. Also service providers take a rather arms' length approach now, but need to be present and willing to connect.

Key Actors	Key Activities	Value Propos	ition	Actor Relationships	Network Beneficiaries
Who are the smart dity network key actors? (Completed by the solution provider in collaboration with the City) *Actor 1 (city) *Actor 2 (end-user) *Actor 4 (supporting partner) *Actor 4 (supporting partner) Who are the key suppliers? (Completed by the smart city solution provider) *Supplier 1 *Supplier 2 *Supplier 3	Which key activities are required to realize the value proposition (i.e. build distribution channels, customer relationships, revenue streams, build products/ervices/platforms, install equipment) (Completed by each actor involved in realizing the smart city solution) Actor 1 (city): Actor 2 (end-user): Actor 3 (core partner): Actor 4 (supporting partner):	Value Proposition What value does each actor delivers? Which subseend users' problems is incourted ty project helping to said What bundles of products and services does the project afters to each end user? Which end-users needs is the project satisfying? (i.e. ( performance, customization, price, getting the job done, cost reduction, risk reduction, accessibility, convenience/usability) What are the respective target values/thresholds/KPIs to be reached? (Completed by each actor involved in the smart city project creating value) Actor 1 (city): Actor 2 (core partner): Actor 4 (supporting partner):		Which type of relationship does each actor expect within the network? Which ones are established? How are they integrated with the rest of our business itel? How cost are they? (Completed by each actor involved in realizing the smart city solution) Actor 1 (city): Actor 2 (end-user): Actor 3 (core partner): Actor 4 (supporting partner):	Which target users is the value created for? How the target users benefit from the value created and what are their needs? What specific values each network beneficiary gels? (i.e. Community, business, research organizations, decision-making hodies/government and non- prose (Completed by final at citus solution provider in callaboration with each actor involved in realizing the project) Actor 1 (city): Actor 2 (end-user): Actor 3 (core partner): Actor 4 (supperting partner):
Key Actors Offerings (*) What offerings does each actor deliver? (i.e. technology, development of products/processes/services, R&D, Citizen Engagement) (Completed by the smart city Key Actors in collaboration teith the city) Actor 1 (city): Actor 2 (end-seer): Actor 3 (core partner): Key Actors Co-creation Operations (*) Which key operations do the key actors perform? (i.e. sourcing of materials, systems's design, operation and monitor and impact monitoring of the smart city solutions, deliver value, city coverage and links to other stakeholders e.g. innovation hubs) (Completed by the smart city Key Actors in collaboration with the city) Actor 1 (city):	Infrastructure What key resources are required to realize the Value Proposition (buildings, vehicles; machines, systems, point-of-sale systems, and distribution, networks) Our actor relationships? Revenue streams? (Completed by the smart city solution provider in collaboration with the city) Actor 1 (city): Actor 2 (cmt-partner): Actor 4 (supporting partner):	Actor 3 (core partner): Actor 4 (supporting partner): Data (*) What data will be made available from the services designed? To whom and under what conditions? Availability and types of Open Data (i.e. energy efficiency, climate indicators, traffic etc) (Completed by the smart city solution provider in collaboration with the city and actors involved) Actor 1 (cut): Actor 2 (cud-user): Actor 3 (core partner): Actor 4 (supporting partner):		Deployment Channels Through which channels do or reached? How are we reaching them no How are our channels integrat Which ones work besi? Which ones work besi? Which ones work besi? How are they integrating with (Completed by the smart city solu with the city mit actors involved) Actor 1 (city): Actor 2 (end-user): Actor 3 (core partner): Actor 4 (supporting partner):	ar customers want to be w? ed? ent? the customer routines? tion provider in collaboration
In a finite section of the section o			Revenue Stree For what value - For what do the How are they cu How much does Which actors ha What are the no (Completed by th Actor 1 (city) Actor 2 (end-user Actor 4 (sumoriti Social Impact	<pre>ims are the network beneficiaries re y currently pay? itently pay? id they prefer to pay? id they prefer to pay? each revenues? n-monetary revenues? ; smart city solution provider in co ) ner) is pattner) s: Values and Costs</pre>	ally willing to pay? ing to overall revenues? Slaboration with the city)
What is the ecological cost of the smart city solution? (i.e. Greenhouse What is the ecological benefit of the smart city solutions? % of reducing energy consumption % reducing the environmental footprint	gas emissions, land use, energy and wate		What is the negative (i.e. Social exclusion, What is the positive (i.e. Growth, job crea		ty Solutions? ed services etc.) y Solutions?

## **Key Activities**

Which key activities are required to realize the value proposition (i.e. build distribution channels, customer relationships, revenue streams, build products/services/platforms, install equipment)

Actor 1 (city): In the use of the solution offered by EC2B there is no role for the city. But in the property development stage the city needs to negotiate the parking rebate and in doing so suggest or even require the property developers to use (a service such as) EC2B.

Actor 2 (end-user): Interestingly, the end user is not involved until all the deals have been made. The user uses the services through the platform, which, if it operates smoothly, does not involve further activities except maintenance and explaining the service to new users.

Actor 3 (core partner): EC2B needs to connect all partners in this complex web of interrelationships that, in addition, spans several years. This highly complex and idiosyncratic network building activity is hard to describe in specifics.

Actor 4 (supporting partner): The software developer needs to develop and maintain a platform that multiple MaaS service providers can offer their services upon. This will involve frequent updating and maintenance to ensure compatibility. The MaaS-service providers and public transportation see EC2B as an additional resale channel for their services and will not undertake activities to promote or ensure its continued operations.

Key Actors	Key Activities	Value Proposi	ition	Actor Relationships	Network Beneficiaries
Who are the smart diy network key actors? (Completed by the solution provider in collaboration with the City) *Actor 1 (city) *Actor 2 (end-user) *Actor 3 (core partner) *Actor 4 (supporting partner) Who are the key suppliers? (Completed by the smart city solution provider) *Supplier 1 *Supplier 2 *Supplier 3	Which key activities are required to realize the value proposition (i.e. build distribution channels, customer relationships, revenue streams, build products/vervices/platforms, install equipment) (Completed by each actor involved in realizing the smart city solution) Actor 1 (city): Actor 2 (end-user): Actor 3 (core partner): Actor 4 (supporting partner):	Value Proposition What value does each actor delivers? Which of the end users' problems is the smart diy project helping to solve? What bundles of products and services does the project offers to each end user? Which end-users needs is the project satisfying? (i.e. ) project satisfying? (i.e. ) performance, customization, price, getting the job done, cost reduction, risk reduction, accessibility, convenience/usability) What are the respective target values/thresholds/KPIs to be reached? (Completed by each actor involved in the smart clip project creating value) Actor 1 (city): Actor 3 (care partner): Actor 4 (supporting partner):		Which type of relationship does each actor expect within the network? Which ones are established? How are they integrated with the rest of our business model? How costly are they? (Completed by each actor involved in realizing the smart city solution) Actor 1 (city): Actor 2 (end-user): Actor 3 (core partner): Actor 4 (supporting partner):	Which target users is the value created for? How the target users benefit from the value created and what are their needs? What specific values each network beneficiary gets? (i.e. Community, business, research organizations, decision-making bodies/government and non- profit). (Completed by the smart city solution provider in collaboration with each actor involved in realizing the project) Actor 2 (end-user): Actor 3 (core partner): Actor 4 (supporting partner):
Key Actors Offerings (*) What offerings does each actor deliver? (i.e. technology, development of products/processes/services, R&D, Citizen Engagement) (Completed by the smart city Key Actors in collaboration with the city) Actor 1 (city): Actor 2 (cnd-user): Actor 3 (core partner): Key Actors Co-creation Operations (*) Which key operations do the key actors perform? (i.e. sourcing of materials, systems's design, operation and monitor and impact monitoring of the smart city solutions, deliver value, city coverage and links to other stakeholders e.g. innovation hubs) (Completed by the smart city Key Actors in collaboration with the city) Actor 2 (cnd-user): Actor 3 (cne partner):	Key Resources and Infrastructure What key resources are required to realize the Value Proposition (buildings, vehicles, machines, systems, point-of-sale systems, and distribution, networks) Our actor relationships? Revenue streams? (Completed by the smart city solution provider in collaboration with the city) Actor 1 (city): Actor 2 (cnel-user): Actor 4 (supporting partner):	Actor 3 (core partner): Actor 4 (supporting partner): Data (*) What data will be made available from the services designed? To whom and under what conditions? Availability and types of Open Data (i.e. energy efficiency, climate indicators, traffic etc) (Completed by the smart city solution provider in collaboration neith the city and actors involved) Actor 2 (end-user): Actor 3 (core partner): Actor 4 (supporting partner);		Deployment Channels Through which channels do or reached? How are we reaching them no How are our channels integrat Which ones work besi? Which ones work besi? Which ones work besi? How are they integrating with How are they integrating with <i>How are they integrating with</i> <i>How are they integrating with</i> <i>How are they integrating with</i> <i>Actor 1 (city):</i> <i>Actor 1 (city):</i> <i>Actor 3 (core partner):</i> <i>Actor 4 (supporting partner):</i>	ar customers want to be w? ed? ent? ethe customer routines? ation provider in collaboration
Actor 4 (supporting partner): Budget Cost			Revenue Stre	ams	
That are the most important costs inherent for each actor deploying a smart city solution? Thich key resources are the most expensive? Thich key activities are the most expensive? That cost can be covered by each actor? there opportunity for blending public funding with private financing? Which costs are covered by ch mechanism? Completed by the smart city solution provider in collaboration with the city) ther 1 (city): ther 2 (cinducer): char 3 (core partner): that 4 (supporting partner):		m? ire covered by	For what value are the network beneficiaries really willing to pay? For what do they currently pay? How are they currently paying? How much would they prefer to pay? How much does each revenue stream contributing to overall revenues? What actors have revenues? What are the non-monetary revenues? (Completed by the smart city solution provider in collaboration with the city) Actor 1 (city) Actor 2 (cnd-user) Actor 3 (core partner)		ally willing to pay? ing to overall revenues? ollaboration with the city)
Environmental Impacts: Costs and Benefits What is the ecological cost of the smart city solution? (i.e. Greenhouse gas emissions, land use, energy and water used) What is the ecological benefit of the smart city solutions? "5" of reducing neargy consumption 5" of reducing the environmental footprint		What is the negative (i.e. Social exclusion, What is the positive (i.e. Growth, job creation)	social value generated by the Smart Ci digital illiteracy, accessibility to advance social value generated by the Smart Cit tion, air quality, less traffic etc.)	ity Solutions? ed services etc.) y Solutions?	

## **Revenue Streams**

For what value are the network beneficiaries really willing to pay for?

For what value do they currently pay? How are they currently paying? How much would they prefer to pay? How much does each revenue stream contribute to overall revenues? Which actors have revenues? What are the non-monetary revenues?

Actor 1 (city): No revenue or costs accrue to the city.

Actor 2 (end-user): No revenue accrues to the end users. They pay for the services they book through the platform offered by EC2B, but not for the platform services.

Actor 3 (core partner): Currently the business model is "on steroids" and being subsidized in kind and cash by Trivector and IRIS. No revenue has been generated yet. Trivector envisions property developers paying something for EC2B service, as well as (commercial) MaaS providers.

Actor 4 (supporting partner): Property developers have been granted the parking norm rebates, such that their development costs have been substantially lower. In current projects none of that cost saving is turned into an out of pocket expense on EC2B services. Mobility service providers have their own revenue streams and do not (yet) pay for EC2B services either.

Key Activities	Value Proposi	tion	Actor Relationships	Network Beneficiaries
Which key activities are required to realize the value proposition (i.e. build distribution channels, customer relationships, revenue streams, build product/services/platforms, install equipment) (Completed by each actor involved in realizing the smart city solution) Actor 1 (city): Actor 2 (end-user): Actor 3 (core partner): Actor 4 (supporting partner):	Value Proposition What value does each actor delivers? Which of the end users' problems is the smart diy project helping to solve? What bundles of products and services does the project offers to each end user? Which end-users needs is the project satisfying? (i.e. performance, customization, price, getting the job done, cost reduction, risk reduction, accessibility, convenience/usability) What are the respective target values/thresholds/KPIs to be reached? (Completed by each actor involved in the smart city project creating value) Actor 1 (city): Actor 2 (end-user): Actor 4 (supporting partner):		Which type of relationship does each actor expect within the network? Which ones are established? How are they integrated with the rest of our business model? How costly are they? (Completed by each actor involved in realizing the smart city solution) Actor 1 (city): Actor 2 (end-user): Actor 3 (core partner): Actor 4 (supporting partner):	Which target users is the value created for? How the target users benefit from the value created and what are their needs? What specific values each network beneficiary gets? (i.e. Community, business, research organizations, decision-making bodies/government and non-profit). (Completed by the smart city solution provider in collaboration unific each actor involved in realizing the project) Actor 1 (city): Actor 2 (end-user): Actor 3 (core partner): Actor 4 (supporting partner):
Key Resources and Infrastructure What key resources are required to realize the Value Proposition (buildings, vehicles, machines, systems, point-of-sale systems, and distribution, networks) Our deployment channels? Our actor relationships? Revenue streams? (Completed by the smart city solution provider in collaboration with the city) Actor 1 (city): Actor 2 (ant-user): Actor 3 (core partner): Actor 4 (supporting partner):	Actor 4 (supporting partner): Data (*) What data will be made available from the services designed? To whom and under what conditions? Availability and types of Open Data (i.e. energy efficiency, climate indicators, traffic etc) (Completed by the smart city solution provider in collaboration with the city and actors involved) Actor 1 (city): Actor 2 (end-user): Actor 4 (supporting partner):		Deployment Channels Through which channels do or reached? How are our channels integrat Which ones work best? Which ones work best? Which ones work best? Which ones work best? How are they integrating with (Completed by the smart city solu with the city and actors involved) Actor 1 (city): Actor 2 (end-user): Actor 4 (supporting partner):	ar customers want to be w? ed? ent? the customer routines? then provider in collaboration
r deploying a smart city solutio private financing? Which costs a oration with the city)	n? rre covered by er used)	Revenue Street For what value For what dennie How are never con- How and would be fund actors ha What are the no Completed by the Actor 1 (citly) Actor 1 (citly) Actor 1 (citly) Actor 3 (core part Social Impact What is the negative (i.e. Social exclusion, What is the positive (i.e. Growth, job creative)	ams re the network beneficiaries re y currently pay? wrently paying? id they prefer to pay? each revenue stream contribut we revenues? monetary revenues? : smart city solution provider in co ) uer) is partner) : <b>Values and Costs</b> social value generated by the Smart Cit digital illeracy, accessibility to advance coial value generated by the Smart Cit then, air quality, less traffic etc.)	ally willing to pay? ing to overall revenues? illaboration with the city) ty Solutions? ed services etc.) y Solutions?
	Key Activities Which key activities are required to realize the value proposition (i.e. build distribution channels, customer relationships, revenue streams, build products/services/platforms, install equipment) (Completed by each actor involved in realizing the smart city solution) Actor 1 (city): Actor 2 (end-user): Actor 3 (ene pattient): Actor 4 (supporting partner):  Key Resources and Infrastructure What key resources are required to realize the Value Proposition (buildings, vehicles, machines, systems, point-of-sale systems, and distribution, network(s) Our actor relationships? Revenue streams? (Completed by the smart city solution provider in collaboration with the city) Actor 4 (supporting partner): Actor 4 (	Key Activities     Value Proposi       Which key activities are required to realize the value proposition (i.e. build distribution channels, customer relationships, install equipment)     What value does delivers?       (Completed by each actor involved in realizing the smart dy solution)     What bundles of services does the each end user?       Actor 1 (city): Actor 2 (end-user): Actor 4 (supporting partner):     Which end-users in the end-user?       Actor 4 (supporting partner): Actor 4 (supporting partner):     What are the rest values/threshold reached?       What key resources and Infrastructure     Data (*) What data will be available from th designed?       What key resources are required to realize the Value Proposition (buildings, point-of-sale systems, point-of-sale systems, point-of-s	Key ActivitiesValue PropositionWhich key activities are required to realize the value proposition (i.e. build distribution channels, customer relationships, revenue streams, build product/services/plotforms, install equipment)What value dees each actor delivers? What bundles of products and pervices does the project assistying? (i.e. epformanoe, customization, price, getting the job done, cost reduction, risk reduction, actor 2 (cul-user); Actor 4 (supporting partner);(Completed by cach actor involved in realizing the samar (Ly solution); Actor 3 (cure partner); Actor 4 (supporting partner);Date (?) What are the respective target values/threshold/KIPIs to be reached?Key Resources and InfrastructureDate (?) What data willows? Actor 3 (cure partner); Actor 4 (supporting partner);Mat actor involved m the smart city project creating values/threshold/KIPIs to be reached?Key Resources and InfrastructureDate (?) What data willows? Net at a subsolition of the excitors, cord elions? Availability and types of Open Data (i.e. energy efficiency, climate indicators, rafice (c)(Completed by the samart city solution provider in collaboration values/thread (cul-user); Actor 2 (cul-user); Actor 3 (cure partner); Actor 3 (cure partner); Actor 4 (supporting partner);(Card-leasity Actor 3 (cure-user); Actor 4 (supporting partner); Actor 3 (cure-user); Actor 3 (cure-user); Actor 4 (supporting partner); Actor 3 (cure-user); Actor 3 (cure-user); Actor 3 (cure-user); Actor 4 (supporting partner);(Card-leasity Actor 3 (cure-user); Actor 4 (supporting partner); Actor 3 (cure-user); Actor 3 (cure-user); Actor 3 (cure-user); <b< td=""><td>Key Activities     Value Proposition     Actor Relationships       Which key activities are required to realize the value distribution channels, consomer relationship, revenue streams, build enclosed in redings (balance) install equipment)     What value does each actor diversities the smart dip roblems is the smart dip roblems is the smart dip roblems in the entrop of the revenue streams, build enclosed in redings the sum chy duitor) Actor 2 (and-user): Actor 3 (ang-partner): Actor 4 (ang-partner): Act</td></b<>	Key Activities     Value Proposition     Actor Relationships       Which key activities are required to realize the value distribution channels, consomer relationship, revenue streams, build enclosed in redings (balance) install equipment)     What value does each actor diversities the smart dip roblems is the smart dip roblems is the smart dip roblems in the entrop of the revenue streams, build enclosed in redings the sum chy duitor) Actor 2 (and-user): Actor 3 (ang-partner): Actor 4 (ang-partner): Act

## **Budget Cost**

What are the most important costs inherent for each actor deploying a smart city solution?

Which key resources are the most expensive? Which key activities are the most expensive? What cost can be covered by each actor? Is there opportunitiy for blending public funding with private financing? Which costs are covered by each mechanism?

Actor 1 (city): Complementary infrastructure to make MaaS a possible solution for citizens, thereby providing a real alternative to car ownership. This means that cities who do not have a certain amount of infrastructure might not be able to integrate MaaS solutions effectively.

Actor 3 (core partner): Developing and integration the mobility solution. Payment for the maintenance of the vehicles? Very close connection to tenants providing mobility coaching.

Actor 4 (property developers): Building the development with the right infrastructure to provide the EC2B service. Building an underground garage is a very expensive endeavour in Sweden, so property developers are interested in forgoing the cost. Furthermore there are now incentives by the government to fund such projects (savings through car-free housing are about 90-95% of conventional parking requirements). Currently, property developers would be unwilling to pay if the service wasn't subsidized. Only once EC2B is proven to be self-sustaining business model, property developers would think it is worth the integration.

Key Actors	Key Activities	Value Propos	ition	Actor Relationships	Network Beneficiaries	
Who are the smart city network key actors? (Completed by the solution provider in collaboration with the City) *Actor 1 (city) *Actor 2 (end-user) *Actor 3 (core partner) *Actor 4 (supporting partner) Who are the key suppliers? (Completed by the smart city solution provider) *Supplier 1 *Supplier 2 *Supplier 3	Which key activities are required to realize the value proposition (i.e. build distribution channels, customer relationships, revenue streams, build products/evrices/platforms, install equipment) (Completed by each actor involved in realizing the smart city solution) Actor 1 (city): Actor 2 (end-user): Actor 3 (core partner): Actor 4 (supporting partner):	What value doe delivers? Which of the en problems is the project helping What bundles o services does th each end use? Which end-user project satisfyin performance, cu price, getting th reduction, risk r accessibility, convenience/uss What are the re values/threshol reached? (Completed by ea in the smart city value) Actor 1 (city): Actor 2 (end-use Actor 3 (core part Actor 4 (support	s each actor d users' smart city to solve? f products and e project offers to s needs is the g? (i.e. is tomization, te job done, cost reduction, ability) spective target ls/KPIs to be ch actor involved project creating ': ner): ng partner):	Which type of relationship does each actor expect within the network? Which ones are established? How are they integrated with the rest of our business model? How costly are they? (Completed by each actor involved in realizing the smart city solution) Actor 1 (city): Actor 2 (end-user): Actor 3 (core pather): Actor 4 (supporting partner):	Which target users is the value created for? How the target users benefit from the value created and what are their needs? What specific values each network beneficiary gets? (i.e. Community, business, research organizations, decision-making bodies/government and non- profit). (Completed by the smart city solution provider in collaboration with each actor involved in realizing the project) Actor 2 (cntl-user): Actor 3 (core partner): Actor 4 (supporting partner):	
Key Actors Offerings (*)	Key Resources and Infrastructure	Data (*)		Deployment Channels		
What offerings does each actor deliver? (i.e. technology, development of products/processes/services, R&D, Citizen Engagement) (Completed by the smart city Key Actors in collaboration with the city) Actor 1 (city): Actor 2 (cml-user): Actor 3 (core partner): Actor 4 (supporting partner): Key Actors Co-creation Operations (*) Which key operations do the key actors perform? (i.e. sourcing of materials, systems's design, operation and monitor and impact monitoring of the smart city solutions, deliver value, city coverage and links to other stakeholders e.g. innovation hubs) (Completed by the smart city Key Actors in collaboration with the city) Actor 2 (cml-user); Actor 4 (cmypering partner);	Infrastructure What key resources are required to realize the Value Proposition (buildings, vehides, machines, systems, point-of-sale systems, and distribution, networks) Our deployment channels? Our actor relationships? Revenue streams? (Completed by the smart city solution provider in cellaboration with the city) Actor 1 (city): Actor 2 (end-user): Actor 4 (supporting partner):	What data will be made available from the services designed? To whom and under what conditions? Availability and types of Open Data (i.e. energy efficiency, climate indicators, traffic etc) (Completed by the smart city solution provider in collaboration with the city and actors involved) Actor 1 (ity): Actor 2 (end-user): Actor 3 (energy partner): Actor 4 (supporting partner):		Through which channels do our customers want to be reached? How are we reaching them now? How are our channels integrated? Which ones work best? Which ones are most cost efficient? How are they integrating with the customer routines? (Completed by the smart city solution provider in collaboration with the city and actors involved) Actor 1 (city): Actor 2 (cut-sucr): Actor 3 (cure partner): Actor 4 (supporting partner):		
Budget Cost			Revenue Strea	ams		
What are the most important costs inherent for each acto Which key resources are the most expensive? Which key activities are the most expensive? What cost can be covered by each actor? Is there opportunity for blending public funding with p each mechanism? (Completed by the smart city solution provider in collab Actor 1 (city): Actor 2 (and-user): Actor 3 (core partner): Actor 4 (supporting partner):	r deploying a smart city solutio private financing? Which costs a poration with the city)	n? re covered by	For what value For what do the How are they cu How much woo How much does Which actors ha What are the no (Completed by th Actor 1 (city) Actor 2 (end of Actor 3 (end of Actor 3 (end of Actor 4 (support)	are the network by reficiaries re y currently payor? ld they provide stream contribution each revenues? n-modelary revenues? <i>insufficient solution provider in con- plant</i> () network (1990) (network) () () () () () () () () () () () () ()	ally willing to pay? ing to overall revenues? allaboration with the city)	
Environmental Impacts: Costs and Benefits			Social Impact	s: Values and Costs		
What is the ecological cost of the smart city solution? (i.e. Greenhouse p What is the ecological benefit of the smart city solutions? % of reducing energy consumption % reducing the environmental footprint	zas emissions, land use, energy and wate	er used)	What is the negative i.e. Social exclusion, What is the positive i.e. Growth, job crea	e social value generated by the Smart Ci digital illiteracy, accessibility to advanc- social value generated by the Smart Cit ttion, air quality, less traffic etc.)	ity Solutions? ed services etc.) y Solutions?	
(Completed by the smart city solution provider and the smart city)			Completed by the snu		0	

### **Environmental Impacts: Costs & Benefits**

What is the ecological cost of the smart city solution? (i.e. Greenhouse gas emissions, land use, energy and water used)

What is the ecological benefit of the smart city solutions?

A previous study suggest that if 200 persons in the 132 apartments at Brf Viva join the car sharing service included in EC2B, their carbon footprint from transport can be expected to be reduced by 123 tons of CO2.

Current "green transformation" of the transportation sector does suggest that building more parking in new developments might be very wasteful.

Key Actors	Key Activities	Value Propos	ition	Actor Relationships	Network Beneficiaries
Who are the smart city network key actors? (Completed by the solution provider in collaboration with the City) *Actor 1 (city) *Actor 2 (end-user) *Actor 3 (core partner) *Actor 4 (supporting partner) Who are the key suppliers? (Completed by the smart city solution provider) *Supplier 1 *Supplier 2 *Supplier 3	Which key activities are required to realize the value proposition (i.e. build distribution channels, customer relationships, revenue streams, build products/services/platforms, install equipment) (Completed by each actor involved in realizing the smart city solution) Actor 1 (city): Actor 2 (end-user): Actor 3 (core partner): Actor 4 (supporting partner):	What value doe delivers? Which of the en problems is the project helping i What bundles o services does the each end use? Which end-user project satisfying performance, cu price, getting th reduction, risk r accessibility, convenience/usa What are the re- values/Ihresholt reached? (Completed by ea in the smart city, value) Actor 1 (city): Actor 2 (end-user Actor 4 (supporti	s each actor d users' smart city to solve? f products and e project offers to s needs is the g? (i.e. stomization, e job done, cost eduction, bility) spective target ls/KPIs to be ch actor involved project creating ): ner): ng partner):	Which type of relationship does each actor expect within the network? How are they integrated with the rest of our business model? How costly are they? (Completed by each actor involved in realizing the smart city solution) Actor 1 (city): Actor 2 (end-user): Actor 3 (core partner): Actor 4 (supporting partner):	Which target users is the value created for? How the target users benefit from the value created and what are their needs? What specific values each network beneficiary gets? (i.e. Community, business, research organizations, decision-making bodies/government and non-profit). (Completed by the smart city solution provider in get and the second sec
Key Actors Offerings (*) What offerings does each actor deliver? (i.e. technology, development of products/processes/services, R&D, Citizen Engagement) (Completed by the smart city Key Actors in collaboration with the city) Actor 1 (city): Actor 1 (city): Actor 3 (core partner): Actor 4 (supporting partner): Key Actors Co-creation Operations (*) Which key operations do the key actors perform? (i.e. sourcing of materials, systems's design, operation and monitor and impact monitoring of the smart city solutions, deliver value, city coverage and links to other stakeholders e.g. innovation hubs) (Completed by the smart city Key Actors in collaboration with the city) Actor 3 (core partner): Actor 3 (core partner):	Key Resources and Infrastructure What key resources are required to realize the Value Proposition (buildings, vehicles, machines, systems, point-of-sale systems, and distribution, networks) Our deployment channels? Our actor relationships? Revenue streams? (Completed by the smart city solution provider in callaboration with the city) Actor 1 (city): Actor 3 (core partner): Actor 4 (supporting partner):	Data (*) What data will 1 available from t designed? To whom and u conditions? Ava types of Open E efficiency, efficiency, efficiency, efficiency, efficiency, efficiency actor 1 (city): Actor 2 (end-user Actor 3 (core part Actor 4 (supportii	pe made he services idability and ata (i.e. energy te indicators, e smart city in collaboration actors involved) ): ner): ig partner):	Deployment Channels Through which channels do or reached? How are we reaching them no How are our channels integrat Which ones work best? Which ones work best? Which ones work best? Which ones work best? How are they integrating with (Completed by the smart city solu uith the city and actors involved) Actor 1 (city): Actor 2 (end-user): Actor 4 (supporting partner):	ar customers want to be w? ed? ent? the customer routines? tion provider in collaboration
Budget Cost What are the most important costs inherent for each actor Which key resources are the most expensive? Which key activities are the most expensive? Which key activities are the most expensive? Is there opportunity for blending public funding with p each mechanism? (completed by the smart city solution provider in collab Actor 1 (city): Actor 2 (cnd-user): Actor 3 (cnd-user): Actor 4 (supporting partner): Environmental Impacts: Costs and Benefits What is the ecological cost of the smart city solution? "is of educing energy consumption "is reducing the environmental footprint	r deploying a smart city solution rivate financing? Which costs a oration with the city) as emissions, land use, energy and wate	n? re covered by r used)	Revenue Streat For what value : For what do the: How much would How much would How much does Which actors haw What are the no (Completed by the Actor 1 (cnt) Actor 2 (cnt) Social Impact: What is the negative (i.e. Social exclusion; What is the positive (i.e. Social exclusion; What is the positive of the positive of the positive of the positive (i.e. Social exclusion; What is the positive of	ams are the network beneficiaries re y currently paying? di they prefer to pay? each revenue stream contributs ve revenues? n-monetary revenues? r smart city solution provider in co ) ter? S: Values and Costs Social value generated by the Smart Cit tion, air quality, less traffic etc.) rt clu colution monitor and the sum of air	ally willing a pay? ing to control revenues? slatestrion with the city) ty Solutions? el services etc.) y Solutions?

## Social Impacts: Values & Costs

What is the negative social value generated by the Smart City Solutions?

(i.e. Social exclusion, digital illiteracy, accessibility to advanced services etc.)

What is the positive social value generated by the Smart City Solutions?

Direct and measurable: less traffic, improved air quality, less reliance on your car. Some tenants gradually give up their car after living in the housing complex for a while.

Indirect: social inclusion and community of sharing. Unfortunately, community of sharing is not really happening as planned.

Pilot for the "housing of the future". The property developer does think pilots like these are an important part of transitioning towards different modes of transport.



## Replicability

What are the elements that can / cannot be replicated outside the case study area?

### **Replicability Considerations**

- Technical
- Financial & Economic
- Regulatory and Administrative
- Social (with specific attention to stakeholders' uptake issues)





#### Map Existing Business Models in a Smart City

#### Context

Yes heles	for helphiles	Later Trend	the state	hate Exterior hits	Malayarit Republichaday	
When you down one of the particular have a start	Which have party time over	the state of the state		this need winteride	Phick appendix to the	
Construction of the second sec	counted to make the rubur	POLITIC EPOLIS FOR		Assumption when cannot writery	ethic could be?	
	importance: held			for advects"	for the longet unan home lit.	
	detector downly	a store by the set		this operation of the second second	has do used and	
	some distances.	and the latest a		for as the second with	which are then much?	
	contraction to be a			for solution between	What specific reliant and-	
	and a lot of the local distance			endell.	smooth here-failers with 'if a	
	endouieent	second and paper and the		his activity of her?	Cammonda, Instituca,	
		talking part		and sold are said.	erand reprintme.	
	Constantinues			Complete the set area	philips making	
and to be real reliance.	anded is selling through	where made and	/ MA	handson in an initial of the second	holoclear employed and here.	
	de un de seren de la companya de la	Stationary contact and			and the	
ADATA L	4	build from the first the		of mone-		
Number 2	A de Triedonni	which and a	abution,	Anna Allera anna	Castled In Science IV	
Rupper 2	A sea Tarlow common a	amount.			shrine asials in	
		(en anti-chorden)	N880	All Property and	of density will not not	
	Conceptional Income	that an iterro	peration langue.	en a stident/increase	the first is confident and	
		salar Annahasi			a second car	
		teched.			Printer Contraction	
					tory 1 mpt	
		CondentAug	Latir body /		844 / State 0	
		A fir shell show	Index Avenue		ALCO DOCUMENTS	
	1	adapt.			rea a selected tage.	
	1	Arter 2 2 200		1		
	1	Nor Continue		1		
	1	his bississi		1		
		hits of he see for an inval-				
Ko Area Oberegi (*	Non-economy and	200211		Advance Greeds		
	is how bear here:					
Percentropolation and Merch 2.4 Mitchigs.				fough which thereas it is	controls well betw	
development of probabiliperamendorm tans, KMO.	Workley and many one	Paces includents		andel'		
Chiana Engagement)	explored to realize the Calue	August.		fors an or studies free ro		
	reported buildings.			fire as no detuch ranges	L.P.	
Constituting the most stip Kay Action in self-busines	officities, analytics, and man,	second contractions and		Which many work beat?		
ulth. Ke ultyi	statistically approved and	Special Open Educities and page		Which company must and efficient		
Autor & Scillage	dustriation, subscribed	mano, des	a subcass.	first and they independent with	The material stational	
	he approved doesd."	-cells +4.1				
	he are relationships?			Conducts, to one use states products of addresses		
And a locarding settion?	former dealer	Cospinsky Accessive		all fourie selects leaded		
	whether provide the set		in set-based in	NDF 2-CM		
	Canadrian Tracher mant and	ell ferring and		Adar 2 Josef Samely		
Nex Artists Concerning Operations (1)	whether entertaine for	www.com		kar kinconseri		
	addression with the start	Alter 2 double to the		Mar Advandure statut		
	A de Tricelai	Arter 2 Lawrence				
maning if matching, we see his during a specifice and	A see Toriginal scores	WW A LAMONTO				
matter and legant mathering of the second phy-	4					
	A de filierenies reine i					
Adultation of a second in body						
Completed by the amondative Key Action in	1			1		
addresses with the start	1			1		
Aster [ tabal:	1			1		
Antistant	1			1		
A dis 1 per weber 1						
Adv 8 Insuranting privaci						
hand a start of the start of th			6			
seafly con						
			and a set	an factories benchman a	the setting is not 1	
when an the most important cost informat for each arts	r deploying a amarterity solutio		and the second	an farachará bandraha a	ally writing to post	
What an the most important concludences for such and Which has reasoning on the most expension?	t deploying a start-thy solution		for what takes	an facolocii bendentea a y intenti per l	ally adding topo?	
What an the most important concludences for each actor Which have resources an the most expension? Which have and relationary for most expression?	r dejdeçiliğ a artar-cily selede	-	for what tube for what do be friender Berg o	an facochank bandraha a y amendy poy? amendy paying?	ally willing topos?	
When an the most important case induces the cash area Which has reasoning on the most expansion? Which hay anti-interaction are non-important of Which area and horizontal by such unter?	r defeying a anar-city white	~	for what turks for what do be fine our Rey of	an fluordenti kondoatea e g-amody pay 1 amody paying <sup>1</sup> dd Rey paks tepay 1	ally writing topos?	
Henger Con- What are the most important such information of an What have reasonant are the most expension? What have an incomment by ando areas? What makes the constraint by ando areas?	r Agleging a anaroly when	w <sup>2</sup>	for other today for other derive fore our Berg of fore other berg	un flucturent benefekturu o grammelly pop <sup>1</sup> ammelly pop <sup>1</sup> dat Ruy pake tupog <sup>1</sup> rade norman strateget tu	ally adding topog?	
However, the most important state information of a state Which has reasoning and the most important? Which has an and information for most represent? Which has an and incomend by and wate? Inform apportanties for this damp public tanding, with a submethation?	r Aqlaying a anar-oiy adato strate (tencing) #545-cate a	er'	Far what to be far what do be fare our Boy o fare much doe block anterch	we for exclusion benchmarks a grownedly paying? another beyong? and they provide? and they provide beyong? and they provide beyong? and they provide beyong?	ally adding topog t	
Henger Com Whot are for most important meta-informat for each are Whot havy measures are the most expression? White havy anti-informat if you are servi- tions expression for the holding profile Andreag with a inform-expression? A histoching profile Andreag with a inclumentation?	r deploying a amarcely adult electrological PSAS-carb a matem with the dept	er en societ be	For what today For what do by Fore our Boy o Fore small do for much do Fore small do Fore small do Fore south do Fore our Boy o	an flavorhanik bendiçaha a y ummili portî ammili portîgi de flavy paka taşaşt rada ne imme danan pela file an eremanî n. nancheş seremanî n. nancheş seremanî	ally whiteg to pay?	
single con- vided are more imported extensionered for each are which are researce are the most expression? Which areas to concerned by and war? the assess to concerned by and war? the second occurred by and war? the second occurred by and war? the second occurred by a second are and assessments of the second are added and and and the second occurred by a second are added Adv (COM)	r Aqlaying a anar-riy adolo strate deceding? PDO-colo a matematik far Ay)	wi <sup>n</sup>	For what today For what do by Fore our Boy o Parenting too Star work day Nick work day Nick work day	an forocheck bendenten in y samely pay ( secondy pay ( di day pain topa) di day pain topa) en ereman an menter an marchec second	ally artistic topos?	
senger con- values as the main injurnet statistication for each are think for prostances on the most operation? Which for path times the mean spectra of the induced statistication of the statistication of the statistication of the induced statistication of the statistication of the statistication of the induced statistication of the statistication of the statistication of the induced statistication of the statistication of the statistication of the induced statistication of the statistication of the statistication of the induced statistication of the statistication of the statistication of the induced statistication of the statistication of the statistication of the statistication of the induced statistication of the statistication of the statistication of the statistication of the induced statistication of the statistication of the statistication of the statistication of the statistication of the induced statistication of the statistication	r Açlaçing a anarı ili sakılı sinata dasındığı Phich onla a sınatas sitti fir alışı	er en second be	For what toolor For what do by How work do by How work do How work do Hold a star-ho Holor are for to Complete ty if	an fluctures bandonto o y secondo payo 1 secondo payo 2 antes payo 2 table payo 2 table payo 2 antes antes antes antes a secondo a secondo a payo 2 antes a payo 2 a secondo a payo 2 a	ally willing topoy" ing toward second	
empirical and for an an important static induced for such an Winds have and important static induced represent." Winds have and interest for metroproperties? Wind status how more all practice and water? Internet presenting to Mindeling and Article and an induced and an anne all practice and an Article (2011) Article (2011) A	r Agleging a anar-oi, solado rinde fesseling? Phili-pain a senter sith for deg	wi <sup>n</sup> an annad by	For what to be for what do be for our Boy to for which we for which we for which we for the for for the for for for the for for for the for for for the for for for for the for for for for for for for for for for	an factorial bandratis to y sensely pays? annuly paying? deliver paint topo? and our resource an essente? an essente? a member? services? a met diportation particle inc	ally adding topos? Ing toronal arrayout? Adaration with directed	
weight cost of the action of an application static induces for such act With the resonance are the neuroperiod." Which have and the induce and a sect "the states are bounded by and sect" the states are bounded by a block material with a Georgianetic for some any advection generator is ashield Are 2 colors and Are 2 colors and a state of the states are bounded on a state of the states are any advection generator is a Are 2 colors and a state of the states are bounded on the 3 colory amount of the 3 colors and a state of the Are 2 colors and a state of the states are a state of the Are 3 colory amount of the 3 colors and a state of the Are 3 colors and a state of the states are a state of the Are 3 colors and the states are a state of the states are a state of the Are 3 colors and the states are a state of the states are a state of the Are 3 colors are a states are a state of the states are a state of the Are 3 colors are a states are a state of the states are a state of the Are 3 colors are a states are a state of the states are a state of the Are 3 colors are a states are a state of the states are a state of the Are 3 colors are a states are a state of the states are a state of the Are 3 colors are a states are a state of the states are a state of the states are a state of the states are a states are a state of the states are a states are a state of the states are a states are a state of the states are a state of the states are a state of the states are a states are a state of the states are a state are a states are a states are a state are a state are a states are a state are a states are a states are a states are a state are a state are a states are a state are a states are a state are a state are a sta	r Aglaging a anartory when mean denoing? Phich one a makes which the dep	ai' ni anostiy	For what to be for what do to bloc and top o free would not bloc would be folial asseroits folial asseroits	en fluenchezh hendrieten o y amenig perig amenig perig integrate flue perio de trop perio en eremañ e remañ e remañ e remañ e	ally adding topos? Ing toward toward? Advention with the cipi	
weap cost weap cost which are not an experiment of a such and which have not interest on exemptions? Which are an interest interest of the exemption of the exemption of the interest of the exemption of the exemption of the mathematical of the exemption of the exemption of the composition of the exemption of the ex	n Aglaqing a amartoiy adah pinata fatancing? Phich cara a andara alah fat aity	ar' an annad by	For what induce for what do for fore our large of these smalls are block asserving filter on the to the standard of the Completed by the date of the standard date of the standard date of the standard	an Benchenk Mendelahan y januah popi andi popingi da Beg paka topopi an den yana daan sedah y mendel n mendelah y manada n mendaly seatan di polaking positi in n n mendaly selaking positi in topopi da Beg polaking positi n topopi da Beg polaking positi n topopi da Beg polaking positi n topopi da Beg polaking positi n topopi da Beg polaking positi topopi da Beg polaking da Beg	ally adding topos? Ing toward average? Addresian with develop	
Integrations when the set of the set operation of the set of the set which has a refer to the set operation? Which have an information in the memorynemics? Which are and the set of the memorynemics? Which are have been as a set of the set of the composition of the set of the set of the set of the composition of the set of the set of the set of the composition of the set of the set of the set of the Anne 2-off the set of the set of the set of the Anne 2-off the set of the set of the set of the Anne 2-off the set of the set of the set of the Anne 2-off the set of the set of the set of the set of the Anne 2-off the set of the set of the set of the set of the Anne 2-off the set of the set of the set of the set of the Anne 2-off the set of the set of the set of the set of the Anne 2-off the set of the set of the set of the set of the Anne 2-off the set of the set of the set of the set of the Anne 2-off the set of the set of the set of the set of the Anne 2-off the set of the Anne 2-off the set of the Anne 2-off the set of the Anne 2-off the set of the Anne 2-off the set of the	r Aglaging a anarosy adole protection (1997) Physics and analose with the App	ar' na amond by	For other today for other loop from our inter- from stands unter- from stands and filter stands and filter and the to- fold of the to- day of today data of today data of today data of today data of today data of today data of today	en Bernsheid Kondrieten in yr amenify por 1 amenify portigit ad beg pasies teport ad beg pasies teport ender er amenid ar amenify artanise portigit er amenify artanise portigit er amenify at antiger for ter ter ter ter ter ter ter te	ally adding to post tog to recent arrespond determine soft develop	
Hence the set of the s	n Aglering a marriny solution prints descring? Phylocethe materies with the drys	ar' an an ord by	For what indee for what do for fore one days of these smalls are block smalls are block smalls are block smalls are block are the to Complete by the date 1 time per block are per block to	an decodenti Anadonto a y amenify port amenify porta? and portant toport and portant toport and analysis and analysis and analysis are analy an analysis are analy an analysis and analysis are and algorithms. Constru- to analysis are algorithms. In analysis are algorithms.	aly ading types? Ing transmit areason? Adamsin with devige	
Weight can be more they material water in a cash and Mach bey not these the most requested. Mach bey not the set on energy more of the set of the set of the set of the set of the index of particular to the set of the set of the set of the set of the set of the set of the set of the set of the set of the set of the Net Set of the set of the set of the Net Set of the set of the Net Set of the Net Set of the Net Set	n daglag tag a strant city solution provide discoving? Which costs a resultion with the adapt	ar' as avoid by	For what to be for what to be for our key o fore would not be would not black serves fore would not black serves fore to be done 1 step fore 1 step fore 1 step fore 1 step fore 1 step fore 1 step for 1 step	an discoluteli Kandolato i y seneraly popil seneraly popil del koy patente spopil del koy patente sound en este do or team del man antibate en este star antibate en este do patente del mandal este constante team del constante este constante team del constante	aly along toport og toronof armanof datensie soft är ogs	
Weight Cost Mach Ser of the main experiment of a cards and Mach Ser presentation of the main experiment Mach Ser presentation of the main experiment of the server of the server of the server information and the control of president on which A the Cost of the A the Cost of the Cost of the A the Cost of the Cost of the A the Cost of the Cost of the Cost of the A the Cost of the Cost of the Cost of the Cost of the A the Cost of the Cost	n Agleying a man-riy solati provide descriptif Philocoma analise with the drys	ar another	For what to be for what do for fore on they a fore would do for an end do for would do for a second doing a second doing a second for a	an discontanti Kanadotata ia 17 amendo popel amendo popula da Karpanta Supul 18 de la constanta da constanta en enert departative portale los el nort la constatuente la constatuente la constatuente la constatuente de la co	nip selling toport ing toward messare? detention sells develop	
Here a for more legislater sub-induced for and and Web lay assessments and the user queues? Web lay assessments and the user queues? Web lay assessment to the user queues? Web lay assessment to the user queues and the lay assessment for the lay assessment queues and assessment for the user of queues queues and the object of queues and queues and the Net States queues and the object of the object to the object of queues and the object of the Net States and the object of the object of the Net State Net States and the object of the object of the Net States Net States and the object of the Net States and the Net States and the object of the Net States and the Net States and the object of the Net States and the Net States an	e defecting a marcoly white protection descript? First-over a maximum with the dept	ar' na anosti by	For what today for what do le- line want key a fear wants are blow would de Phish arends Phish arends Phish arends the state the state data 1 state	an discolute kendigata a $\gamma$ -mendig paga ( mendig paga ( norm) paga	ally selling toport ing k-result evenued detention with develop detention of the develop	
Head or of the one important sub-solution for each and Mich has not encourses and the one important Mich has provide the one important interversphere intervention of the one of the one interversphere intervention of the one of the one with the one of the one of the one of the one of the one of the one of the one of the one with the one of the one of the one of the one with the one of the one of the one of the one with the one of the one of the one of the one with the one of the one of the one of the one with the one of the one of the one of the one of the one with the one of the one of the one of the one of the one with the one of the one of the one of the one of the one with the one of the one of the one of the one of the one with the one of the one of the one of the one of the one with the one of the one of the one of the one of the one with the one of the one of the one of the one of the one with the one of the one of the one of the one of the one with the one of the one of the one of the one with the one of the one of the one of the one with the one of the one of the one of the one with the one of the one of the one of the one with the one of the one of the one of the one with the one of the one of the one of the one with the one of the one of the one of the one with the one of the one of the one of the one with the one of the one of the one of the one with the one of the one of the one of the one with the one of the one of the one of the one with the one of the one of the one of the one with the one of the one of the one of the one with the one of the one of the one of the one of the one with the one of the one of the one of the one of the one with the one of the one with the one of the	n Agleying a marriely adult protection for adult Philo only annates with the abys	er another man	For what value for what do for line would do for line would not block as the second block as the second block as the second block as the second block as the second block as the second block as the second block as the second block as the second bl	an discontanti kanadigata a ny amendi populy amendi populy di Kur putat supul en amendi posta sum amendi en amendi ya ana amendi en amendi ya ana amendi en amendi ya ana amendi en amendi ya ana amendi en amendi amendi en amendi amendi batta ana amendi amendi amendi batta ana amendi	ally selling toport ing koncold anomatic didentials soft develop Relations Relations	

#### **Design New Business Models**

# Autor Autor

#### Manage a Portfolio of Business Models

#### Explore





#### Exploit

Use the SC-BMC to identify collaborators in a SC context and easilty move between "Explore" and "exploit" business models

#### Visualize and

Communicate your SC-BM

Use the SC-BMC to explore new business models applicable to smart cities



## **Food for Thought**

Which ways is the SC-BMC useful for you? How do you intend to use it within the framework of IRIS project or your future business activities?





#### Dr. Paraskevi GIOURKA

**Innovation Strategist**,

Centre for Research and Technology Hellas (CERTH), Chemical Process and Energy Resources Institute (CPERI)

Email: <u>giourka@certh.gr</u> | Skype ID: paraskevi.giou.

#### **Mark Sanders**

### Associate Professor Economics of Innovation and Transition,

Utrecht University, School of Economics

Email: m.w.j.l.sanders@uu.nl | Skype ID: mark1sanders.