"JESSICA for Smart and Sustainable Cities"

Findings and recommendations of a study designed and financed by
the European Commission and the European Investment Bank
in the framework of the JESSICA initiative

JESSICA - Joint European Support for Sustainable Investment in City Areas

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Presentation Overview

- *JESSICA for smart and sustainable cities study*
- *Research approach*
- *What are smart and sustainable cities?*
- *The findings of the study*
- *Funding challenges and opportunities*
- *Potential role of UDFs*
- *Questions*

JESSICA for Smart and Sustainable Cities Study

*to investigate how the implementation **of JESSICA-type financial instruments** could promote and sustain the development of smart cities and in doing so, help deliver EU 2020 objectives*

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Research Questions

What are smart and sustainable cities?

How do smart and sustainable city initiatives start?

What types of urban development projects are they promoting?

Who are the key players and what initiatives are they involved in?

What are the usual procurement routes?

How are such projects financed?

To help understand the role of Urban Development Funds in smart and sustainable city project financing

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What are smart and sustainable cities ?

| Residents | Businesses | Government | Universities |

Cities are smart:

"when investments in human and social capital and traditional (transport) and modern (ICT) communication infrastructure fuel sustainable economic growth and a high quality of life, with a wise management of natural resources, through participatory governance"

Caragliu, et.al (2011: 70)

Research Approach

| Desktop study | Stakeholder interviews | Case study selection | Research questions | Initiatives, types & case studies | Funding challenges and opportunities |

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Stakeholder Interviews

22@Barcelona	Amsterdam Innovation Motor	Cisco	City of Amsterdam	City of Malmö
E.ON	European Investment Bank	European Commission	GE	HSB
IBM	Institute of Sustainability	Jones Lang La Salle	Manchester City Council	Manchester Digital Development Agency
Manchester: New Economy	Mazars	MKB	Nuon	Riksbyggen
Siemens	Smart Grids GB	SOM Architects	WSP	Urban Splash

Case Study Selection

Manchester · Amsterdam · Barcelona · Malmö

Leading Smart and Sustainable Cities

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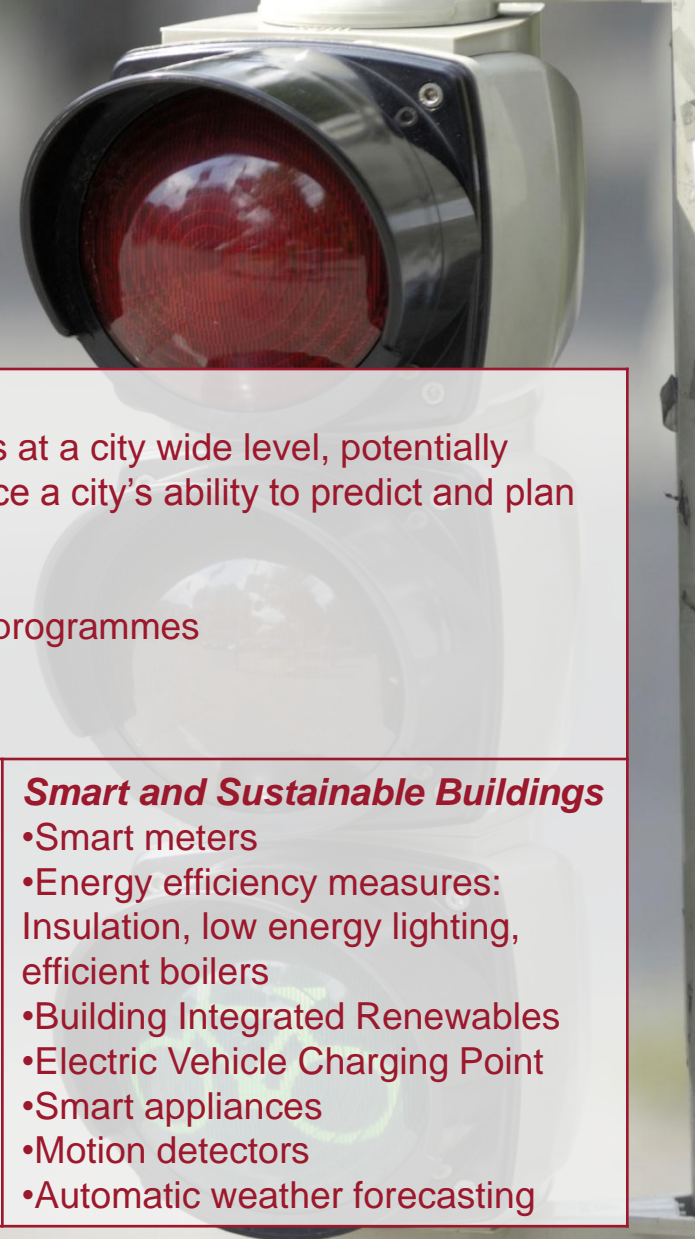
The Research Findings

- *Smart Cities can contribute to EU 2020 goals*

    - *Exploiting opportunity*

    - *Addressing problems*

- *Smart and sustainable cities are not widespread*

- *No single blueprint but 5 project areas highlighted*

- *Many outcomes as yet unknown. Currently, energy projects seem to be the best understood*

- *Technology-use doesn't guarantee socioeconomic benefits – "low-tech" and "no-tech" solutions can also support smart city development*

- *Requires explicit intent and design*

- *Public and private partners needs have to be met*

- *Financing requires new approaches*

- *Value capture is key*

- *Scaling up is essential for impact*

Types of Urban Development Project

Digital infrastructure •new ICT infrastructure •high speed broadband •fibre optic cables, •wireless technologies •networked information systems	**Data** •Data collection, storage, and analysis at a city wide level, potentially through the 'Cloud', which can enhance a city's ability to predict and plan for the future **Information processing** •Processing of information to service programmes **Service development** •Development of service applications	
Smart Transport and Mobility •Bike schemes, •Real time bus timetable information •Electric Vehicle car pools •Congestion charging	**Renewable energy & energy efficiency** •Combined Heat and Power •Renewables •Electric Vehicle Charging Points •Sensors to monitor traffic, pollution, emissions, •Street lighting •Waste collection systems •Smart grids	**Smart and Sustainable Buildings** •Smart meters •Energy efficiency measures: Insulation, low energy lighting, efficient boilers •Building Integrated Renewables •Electric Vehicle Charging Point •Smart appliances •Motion detectors •Automatic weather forecasting

How are projects currently funded?

City-wide initiatives	• Typically funded by contributions from each party (public & private), in the form of time and expertise
Urban development projects	• Often look to EU, National/Regional Government and/or City Authorities to assist in financing
Pilot Projects	• Sponsorship from technology suppliers, R & D Programmes, City Authorities, Grants
Large Scale Projects	• Project revenues/savings?

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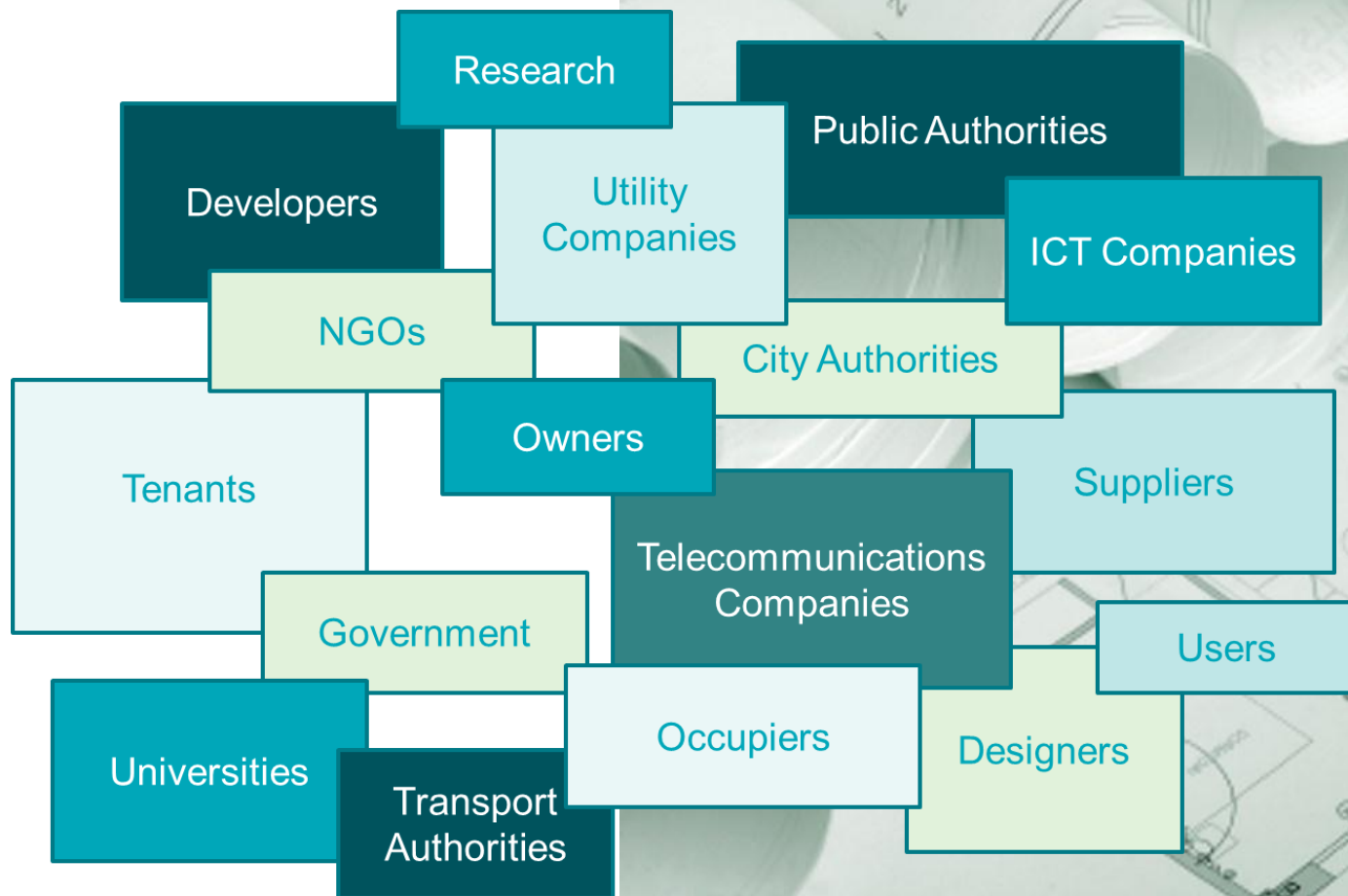
Funding Challenges and Opportunities

- *Upfront capital investment*

- *Long term*

- *Risk: new technology*

- *Quantifying and capturing revenues/savings*

- *Realising social, economic, and environmental outcomes*

- *Pilot ➜ Roll out*

- *Role for UDF-type financial instruments?*

What needs to happen?

Potential role for UDFs

- *Long term*

- *Risk*

- *Financial ROI + Socioeconomic and Environmental impact*

- *Collaboration between public and private sectors*

- *Support achievement of economic, social, environmental goals*

- *Smarter investment strategies of UDFs*

- *Smarter project investments of UDFs*

How to get there?

- *Knowledge and capacity*

- *Leadership*

- *Multi stakeholder projects*

- *Procurement*

- *Intellectual property*

- *Project development*

- *Sustainability*

Education Awareness Training

Outcome based approach

Understanding business models

Opportunities

- *New cohesion policy brings*
  - *Focus on urban areas*
  - *Flexibility for Financial Instruments*
  - *11 Thematic Objectives*
  - *Emphasis on outcomes*
- *Capital in search of new investment channels*
- *Technology offers solutions to*
  - *Financial challenges*
  - *Environmental challenges*
  - *Social challenges*

Questions

- *What has your experience of Smart Sustainable Cities been in your city/region/country?*
- *Where do you see the opportunities?*
- *What barriers will have to be overcome?*
- *What are the dangers?*
- *How can Cohesion Policy now be used to support Smart & Sustainable Cities?*
- *How can future financial instruments best support the delivery of smart and sustainable city projects?*
- *What has to be done to facilitate this?*

Download the final report at :

http://www.eib.org/attachments/documents/jessica_horizontal_study_smart_and_sustainable_cities_en.pdf

http://ec.europa.eu/regional_policy/thefunds/instruments/doc/jessica/jessica_horizontal_study_smart_and_sustainable_cities_en.pdf

For further information :

http://jessica.europa.eu

www.eib.org/jessica / jessica@eib.org

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