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Market Place of the European Innovation Partnership on Smart Cities and Communities

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6723 - Guidance

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development on a connectivity-architecture for smart cities

Main sector:

Energy, Transport & Mobility, ICT

Action clusters:

Integrated Infrastructures & Processes (including Open Data)

Priority area:

Integrated Infrastructures and processes across Energy, ICT and Transport

City:

[Brussels](#)

Basic description:

This commitment facilitates developing guidance on a connectivity-architecture for smart cities.

Focus area:

Primary

Integrated Infrastructures and Processes across Energy, ICT, and Transport

Additional

Sustainable Urban Mobility, Sustainable Districts and Built Environment, Citizen Focus, Integrated Planning, Policy, Regulation and Management, Knowledge Sharing, Standards, Baselines and Performance Indicators and Metrics, Business Models, Procurement and Funding

Expected contribution:

>> Summary

This commitment facilitates developing guidance on a connectivity-architecture for smart cities. We seek to empower stakeholders to describe public services they will develop, need, research and use. Three milestones are foreseen: 1. Setup of a "city-needs-led" forum involving cities, industry & academia 2. Develop the business case for a functional meta-architecture 3. Establish how to take forward the initiative and develop the necessary tools.

>> Problem

EU's growing urbanisation introduces environmental, societal and health challenges. Some cities embrace 'smart' solutions; the vast majority are small and find it difficult to describe their needs in functional terms and efficiently

procure solutions. Industry also has no solid common foundations on which to confidently build. 'Smart' change has occurred in fragmented pockets ('pilots'). One chronic hurdle, as yet un-surmounted, is connectivity. Interconnected systems will present new opportunities for innovative approaches by EU SMEs. Today they struggle to co-exist with imported solutions that lock them out, and lock the public sector in. While we cannot imagine a world without the large investment from large companies, public spending needs to create space for SMEs too. This new business models will be a catalyst for innovation and sustainable economic growth.

>> Proposed approach

Functional interoperability is about:

- abstracting challenges in terms of the difficulty they present to the user in common life situations;
- defining a solution space when a service is designed to address a challenge, in such a way that it can be understood by the market, and open for innovation; and
- specifying systems in a way that it is easy to understand what they take as input, what they do with it, and the results they deliver, such that this can be repeatable.

A functional meta-architecture will enable point-successes to be more rapidly repeated. Innovators and front-runners will then be able to set and articulate viable challenges; make the results visible; and the achievements viral: the three Vs of successful change. Smaller, less adventurous cities will follow.

>> Benefit / Impact

We see a market for public services will develop, detached from archaic bureaucratic structures, and be focused on user needs:

- Solutions for public services described in terms related to the challenges they address.
- Academia treating challenges scientifically, while data and recommendations will be comparable.
- SMEs rising to challenges of tackling common problems with innovative approaches that connect flawlessly with large infrastructures built by large players.
- Users able to shop-around for public services, get what they need, pay what they can, give feedback, and make choices on personal data trade-offs in return for automation.
- Europe's big cities truly smart, and smaller cities that access proven, component-based, interoperable solutions available on the market.

Contribution to the EIP:

Engagement

A significant blocker in accelerating take up of smart solutions is a lack of a common language and 'enterprise architecture' for cities.

This is fundamental to delivering the goals of the EIP.

To put this in place requires wide engagement of the business and technical community. It also requires very significant commitment at all levels. Thus engagement is key to this initiative.

The result delivers interoperability.

This commitment focuses on the 'means' by which the appropriate guidance can be created.

The deliverables from this collaboration will be developed with, and openly actively shared amongst the stakeholder community.

Inclusiveness and Partnership

Convergence is at the centre of what is proposed – a common language and urban enterprise architecture that enables the connection across city systems.

Stakeholders must come together to transform the innovation-chain. Industry (large & SME), public and third sectors, and academia must participate in the definition of a new business-model. A project board will be created to represent these sectors at multiple levels (including cities, energy and transport sectors, ICT/digital industries, universities and consumer groups).

The aim will be to demonstrate the new, innovative business models that will lead to the emergence of a market for sustainable co-developed 'smart' city services.

This will create a foundation, a breeding ground, for micro-entrepreneurs, leading to a new portfolio of innovative products; "made in the EU"; and the creation of opportunities for qualified jobs.

Is the commitment potentially open to additional partners and if so, in which priority area (please tick the relevant options)?

- Integrated Infrastructures and Processes across Energy, ICT, and Transport
- Citizen Focus
- Open Data Governance
- Standards
- Business Models, Procurement and Funding

Delivery

The goal is recognised as being a major delivery challenge. However one must start somewhere! And the EIP provides a superb vehicle to cause that to happen.

A number of ongoing activities are observed that can be built upon. These include EC activities on a pan-EU architecture; EU large scale pilots; work of City Associations & Networks; Standardisation Organisations. Few individually however have delivered the desired outcome. Our commitment is to build momentum, in an inclusive manner with such organisations and other necessary ones – to accelerate the necessary convergence.

As such the core of this commitment is initially around the management of the process: pulling together the right blend of organisations; aligning goals; and agreeing a set of target deliverables; and developing some founding principles.

A principal early more tangible deliverable will be the business case; sponsored by cities within member states; and supported by industry, academia and other stakeholders.

Results expected in

- 2014 Deliver the Alliance in clear terms.
- 2015 Deliver the Business Case.
- 2016 and beyond Adoption and proof points for the common architecture; scale-up of its use.