Smart Cities and Communities Communication

What are "Smart Cities & Communities"?

Smart and innovative cities make the best use of Europe's great capacity for research and innovation to **improve the urban environment**.

In essence, a smart city/community **combines diverse technologie**s to increase the **efficiency of how a city functions**. Cities and industries join forces to develop a joint technology agenda.

European cities: the challenges...

One of the greatest challenges facing Europe is how best to design and adapt cities into smart, intelligent, sustainable environments.

- Cities create some **80% of the EU's gross domestic product** with their concentration of trade, business and "people expertise". Cities are a driving force in generating Europe's economic growth.
- They will become even more important as the proportion of Europeans living in urban areas grows from just over two-thirds today to a forecast 85% by 2050.
- **68% of the EU population lives in urban areas**, which consume **70% of energy**. This accounts for **75% of the EU's total greenhouse gas emissions** (GHG).
- The information and communications technology (ICT) sector will require more and more electricity by 2020.
- Urban transport is responsible for one-quarter of all the emissions from road transport.
- Congestion costs Europe about 1% of GDP every year – most of if it from urban areas.

Smart transformation of cities – the barriers...

At present however, cities are confronted with many obstacles when it comes to the use of smart technologies: barriers to the adoption of efficient technologies, difficulties for the promotion of innovation in public procurement or uncertainty about returns on investment. In tough economic times, businesses are also reluctant to scale up and rapidly deploy innovative technologies despite potential cost savings and longer-term emissions reductions.

In addition, the **transport, energy and ICT services and value chains are now converging.**

What are "smart cities and communities" or "lighthouse projects"? How do they work in practice?

The idea is that **industry tests technology in a given city/community** to show that the technology it developed works on the ground, can be implemented for **reasonable costs** and **has advantages for citizens** and the whole community. Many technologies have been tested by industry under laboratory conditions and **need to be validated under real conditions of a city.** The projects therefore bring competent industrial consortia (composed of R&D intensive industries from the three sectors) together with one or two cities to demonstrate their advantages – so that other cities may follow to implement the same technologies.

EU funding will be concentrated on a limited number of demonstration projects with high impact.

It is therefore foreseen that:

1. Starting from 2014, **a High Level Group will formulate a technological agenda** with the most important aspects/issues to be addressed.
2. Based on this agenda, the **European Commission will make calls for proposals. Industry-consortia** can apply, submitting their project ideas.

What is new compared to the 2011" Smart Cities and Communities initiative"?

- **Strategic Guidance by Group of CEOs, Mayors and Bank Managers**

A "**High Level Group for Smart Cities & Communities**" is being established to formulate a **technological transformation agenda**. It will advise on the **strategic orientation** of the initiative identifying bottlenecks that are blocking the transformation of our cities and necessary action. This will help to identify the **main issues to be addressed by the lighthouse projects.**

- **Full implementation from 2014 onwards...**

This Innovation partnership will be fully operational under "Horizon 2020", the new research and innovation funding framework under the next Multiannual Financing Framework (MFF 2014-2020). However, a first wave of lighthouse projects will be launched as of now, on the basis of a substantially increased budget.

- **Higher Budget and pooling resources together...**

The Commission has substantially **increased funding from € 81 million in 2012 to € 365 million in 2013.** Under the next MFF, "Smart Cities & Communities" will become an important part of Horizon 2020.

In addition to the substantial increase of the budget, the **quality of the demonstration projects** is different. Rather than focussing on one sector as in the first year, selected demonstration project will have to **integrate all three aspects:** energy, ICT and transport.

- **What kind of projects could be co-financed?**

- Smart buildings and neighbourhood projects. They can for example **integrate** and **manage local and renewable energy sources**. They could **expand the use of high efficiency** heating and cooling (using biomass, solar thermal, ambient thermal and geothermal heat storage, co-generation and district heating). They could also support the construction of **nearly zero-energy buildings** and positive energy buildings and neighbourhoods.

- Smart supply and demand service projects. Funding could be available for schemes which provide **data and information** to citizens and end-users on **energy consumption/production** and multimodal transport and mobility services; to develop **smart meterin**g and related services for energy, water, waste; monitoring and balancing the grid; or energy storage (including virtual energy storage)

- Urban mobility projects. These could be electric **public transport vehicles** (for example trolley buses, trams, metro vehicles) that are able to **exchange surplus energy (braking and accelerating energy) with the energy system.** They could be **using ICT to manage energy flows** or using **hydrogen as an energy carrier** for storing energy and balancing demand at city level for energy and stationary power – controlled by ICT using forecasts for demand patterns based on weather forecasts, event planning, vehicle route patterns, etc.

- Smart and sustainable digital infrastructures. By reducing the carbon footprint of the Internet, in particular data centres and telecoms equipment, including broadband; intelligent heating, cooling and lighting solutions;

Who can participate in the call for proposals?

The call for proposals will be open to **industry-led consortia operating in the three sectors:** energy, ICT and transport. The consortia will need to include partners coming from **three Member States** and/or Associated Countries teaming up with at **least two cities**. These criteria should ensure that the demonstration projects presented and selected are market-oriented and that they can be replicated in different cities.

Does the call target countries or cities having specific features?

The call does not make any specific reference to the characteristics of the cities, for instance their size or population. However the projects are expected to have an EU impact and to test solutions at sufficient large scale enabling the market –uptake and roll out afterwards.

How will the call for tender work organized?

Every year, around the month of July the **Commission will launch a call for proposals**, covering the areas in which these three sectors are closely linked. Bidding consortia will have few months to propose their projects which will be evaluated by the Commission. Once the projects are selected and the contracts negotiated with the Commission, consortia can start working on the projects, around one year from the date of the call for proposals.

How will the replication of successful urban applications be managed?

There will be a "**Smart Cities & Communities" Stakeholder Platform** which will bring **city authorities, industry, NGOs and civil society** together. The platform will accompany the implementation of the lighthouse projects and monitor overall implementation of the Innovation partnership. It will organise activities so that **experience and knowledge** from lighthouse projects **will be shared.**