Empowering Citizens to Realizing Smart Cities

Session 01: Societal View on Smart Cities
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The “Smart City” concept

- We often consider – based on some ranking - the Smart City as a reality
- Smart City: not a reality but an urban development strategy
- Smart City: a mostly technology driven future vision

- Smart City is about how citizens are shaping the city, and how citizens are empowered, using technologies, to contribute to urban development

- Smart City is an urban laboratory, an urban innovation ecology, an agent of change and accelerator – we are still far from that however there are promising signs
Cities increasingly transform into what can be called “urban innovation ecosystems”

Cities start experimenting the opportunities of the Future Internet through “living labs” approaches for engaging end-users in the innovation process

FIREBALL aims to bring together Cities, Living Labs and Future Internet stakeholders to explore models and practices of how open innovation and user participation supports the experimentation and uptake of the Future Internet
FIREBALL results

- Smart city vision, landscape
- Cases of “smart(er) cities”
- Smart city Future Internet - enabled “innovation ecosystems”
- Smart Cities roadmap and cities action plans
- Community building, creation of a Connected Smart Cities network
- Portal and web 2.0 tools
Barcelona smart city development
Leading role of City Hall

Smart city model: Three pillars
- Ubiquitous infrastructures
- Information from sensors, open data, and citizens
- Human capital, actors, communities

Smart city Strategy

- **Smart Districts:** 22@Barcelona; triple helix collaborations
- **Living Lab initiatives:** 22@Urban Lab, Live, Bdigital, i2Cat, Fablab, Cornella
- **Infrastructure building:** traditional and new. Integration of ICT. From fibre optic to Wi-Fi.
- **New services to citizens:** gov, quality of life, professional
- **Open data:** sensors, open standard, and city platform

SC Management
- Creation of networks of actors, organisations, departments
- Broadband network and sensor data management
- Creation of proof of concepts for systems and applications

Challenges
- Demand for human capital and skills
- VC funding for innovation
- Low global connectivity
- Development of triple helix alliances
- Collaboration between government departments
Thessaloniki smart city development
ICT transforming city activities and ecosystems

**Broadband networks by large companies**
- ADSL: 24/1 Mb
- Fibre optic net: 2,5 Gb
- 3G-HSDPA: 42 Mb
- Wireless: free (municipal nets)

**Apps and e-services:**
- **Bottom-up initiatives**
  - City representation
  - City sectors
  - City districts
  - Citizens. Aggregation / collective content
  - City administration and social services
  - Location-based services
  - City infrastructure and utilities
  - City management

**Planning for Smart district**
- Development of wired and wireless networks
- Free Internet to users and business.
- Smart environments based on sensors
- e-services suitable for the community of each district
- Training services for involvement of end-users

**Governance challenges:**
Three gaps to address
1. Digital skills gap - TRAINING
2. Creativity gap – LIVING LABS
3. Entrepreneurship gap – BUSINESS MODELS
## Manchester smart city development

**Digital strategies and smart environments for urban renewal**

### Urban regeneration
- Since mid-1980s the City Council embarked on city regeneration
  - Drive economic change through technology
  - Focus on neighborhood focused action, creative city, and innovation
- In 1990s Manchester telematics Partnership
- Currently, e-services to address inequalities and digital democracy
- Balance of top-down and bottom-up actions

### Digital Strategy
- Started in 2008 and review in 2011 with respect to EU Digital Agenda and consulting with local stakeholders. Main objectives:
  - **Digital inclusion**, generate skills and tackle the divides
  - **Digital industries**, new employment, cluster of digital and creative businesses
  - **Digital innovation**: working with the future Internet research community to support Manchester as Smart City

### Toward Smart City
- **Flagship initiatives**
  - East Manchester: a regeneration challenge
  - Eastserve: first Living Lab
  - Corridor Living lab NGA project
  - Next generation open access fibre optic network

- **Principles for Smart Cities**
  - Neighbourhood regeneration as starting point for a smart city
  - Digital collaborations through Living Labs
  - Putting people at the heart of the agenda
  - An inclusive and sustainable approach to digital development
  - Exemplar projects
Helsinki smart city development

Living Labs and new clusters for smart city strategy

A Porterian cluster in mobile technology is emerging in Helsinki.

- Clustering strengthens motivation, incentives, innovation, and enables externalities.
- The mobile applications cluster is sustaining Helsinki’s Smart City strategy

**Factor conditions:**
- Broadband, telecoms, NOKIA, skilled workforce, start-ups

**Demand conditions:**
- Government demand, banking, transportation, etc

**Firm strategy:**
- Companies within SMOPEC, global markets, intense local competition

**Supporting industries:**
- Broadband infrastructure, 3G nets, specialized service providers

**Competitions for Open Data apps as strategy for cluster development**
- The Helsinki Regions made available public transportation data
- Apps4Finland makes data available related to environment and spatial information
- Competitions and Living Labs as drivers for the M-cluster development
Some empowerment examples

- **Thessaloniki**: emergence of developer communities: e-services and applications e.g. mobility services

- **Oulu**: PATIO (test user community tool): empower ordinary people to experiment new services

- **Helsinki**: Helsinki Living Lab; competitions for innovative applications e.g. Apps for Finland; Innovative City program; Open Data business development initiatives

- **Manchester**: Digital City Test-Bed (as a vision)

- **Barcelona**: 22@Urban Lab: city as urban lab, pilot programs, use of public spaces, e.g. Open data
# Smart city strategies implementation prospects: SWOT

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<tr>
<th>Strengths</th>
<th>Opportunities</th>
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<tr>
<td>• Cultural heritage, attractiveness</td>
<td>• Competitiveness of local clusters</td>
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<td>• Development strategies, planning</td>
<td>• Exploiting service innovation opportunities towards new business</td>
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<td>• Broadband network deployment</td>
<td>• Opportunities for local ICT sectors and entrepreneurship</td>
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<td>• Major development initiatives</td>
<td>• Introducing participatory city planning</td>
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<table>
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<th>Weaknesses</th>
<th>Threats</th>
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<td>• Top down orientation to planning</td>
<td>• Economic crisis, lack of resources</td>
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<td>• Lacking attention to concrete needs of citizens and SMEs</td>
<td>• Vulnerable business models for sustainability of public sector initiatives</td>
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<td>• Digital gaps</td>
<td>• Low level of private investment in R&amp;D and innovation</td>
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<td>• Lacking orientation on entrepreneurship</td>
<td>• Weak institutional environments for technology and innovation</td>
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<td>• Weak policy and funding instruments</td>
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<td>• Impact and benefits measurement</td>
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Smart Cities cases - lessons learned

- Smart city is more an urban strategy than an urban reality. Smart cities will appear through strategic planning, infrastructure development, and numerous bottom-up initiatives.
- City hall is sometimes dominant, citizen engagement increasing. Top-down planning and bottom-up initiatives should complement each other.
- Widespread use of pilots is preparing cities for initiative, experiment and learning.
- Districts, neighborhoods, and clusters are fundamental elements of smart city strategy, because the city is a system of systems, and cities co-exist within cities.
- A smart city strategy involves all actors, organizations, communities, R&D, NGOs, clusters, and authorities. The partnership strategy should achieve a common vision, flagship projects, collaboration and synergy.
- Major challenges for successful smart city strategies deal with skills, creativities, user-driven innovation, entrepreneurship, VC funding, and management of intra-government rivalries.
- Lack of evidence on impact and effectiveness of smart city strategies.
Challenges for next years

- Networks of Future Internet testbed facilities and living labs within and across smart cities and regions may become the backbone of European innovation ecologies and value networks – Horizon 2020
- Capabilities and resources, including experiment facilities, user-oriented methodologies, service offerings and collaboration models enabling access and use of facilities and services should evolve
- Smart Cities are environments to experiment technologies and applications, however the potential for business creation and entrepreneurship should be stimulated (e.g. DAIR, Canada)
- Open innovation and citizen empowerment requires finding new balances between top-down steering and bottom-up initiative
- Assessment of the impact and benefits of “smarter cities” in terms of value created for citizens. There is a lack of evidence showing impact, how can we achieve and measure the impact and value added of smart city initiatives?
Here you find more
Download from www.fireball4smartcities.eu
Call for Papers: Smart Applications for Smart Cities: New Approaches to Innovation

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