SmartSantander: Experimenting The Future Internet in the City of the Future

Large Scale Deployment of Wireless Sensor Networks: Challenges and opportunities

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Outline

- Objective
- Vision
- Tangible results
- When architecture meets reality
Objective

- Creation of a European experimental test facility for the research and experimentation
  - Unique in the world city-scale experimental research facility
  - The facility will comprise of more than 20,000 IoT devices
Objective

- **Non-suitability of current FIRE facilities for IoT experimentation**
  - Real-World Internet (RWI) sessions of the Future Internet Assembly in Prague in early 2009.
- **Many requirements not addressed**
  - Horizontality
  - Verticality
  - Heterogeneity
  - Support for mobility testing
  - Support for scalability testing
  - Security, privacy, and trust
  - Confidentiality
  - ...

... AND THE END USER PERCEPTION ABOUT IoT PARADIGM
Vision

• Around 700 million people will be urbanized in 10 years.
• By 2025, there will be 100 new million-plus cities.
• About three billion people will be connected to the internet in the next 10 years.
• The internet is expanding from an information superhighway to a platform that is transforming industries.

Smart City as the most promising FI playground
Vision

- Large-scale experimentation facility

Project Phases:

- Open to the world
  - 2 Open Calls for experimentation with budget allocated for the testers
    - FIRE scientific community
    - IoT service providers
    - Operators
    - Etc
  - 1st in July 2011 will use the first cycle of the facility.
  - 2nd in July 2012 using the second cycle of the facility.
Tangible results

- Architectural reference model for IoT experimentation facilities
- Experimental facility deployed
- FI experiments carried out within Open Calls
- Attractive platform for:
  - Communities of users
  - FIRE researchers
  - Service providers
When architecture meets reality

- Many models missing in ns-2, OPNET, ...
  - Vandalism
  - Work permits
  - Legislation
  - ...
- Far from the 1€ device dream
- Real Smart City applications
  - FI scenarios vs real-world services
Thank you 😊

SmartSantander: The meeting Point between the Future Internet and the Smart City Paradigm

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