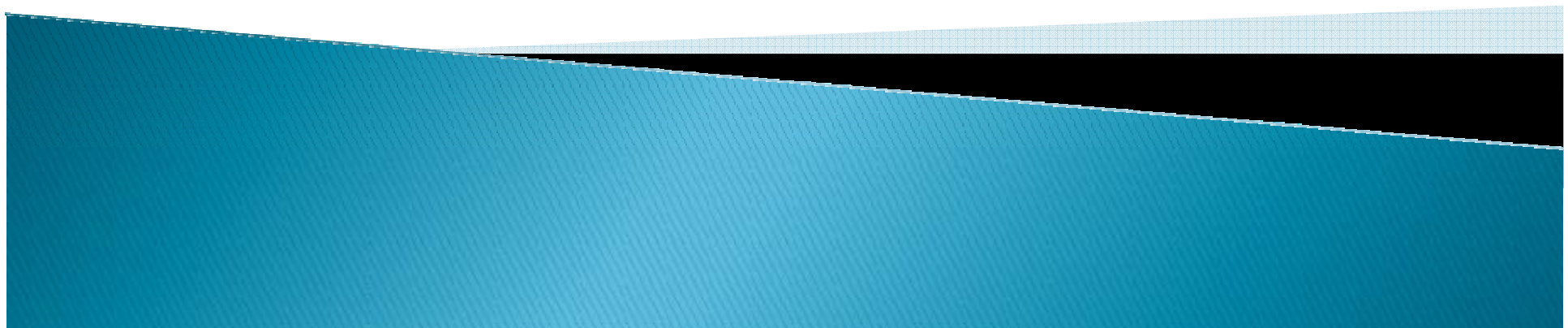


FIA Valencia Smart Cities

Nick Wainwright, Alex Gluhak, Mirko Presser,
Mikhail Simonov



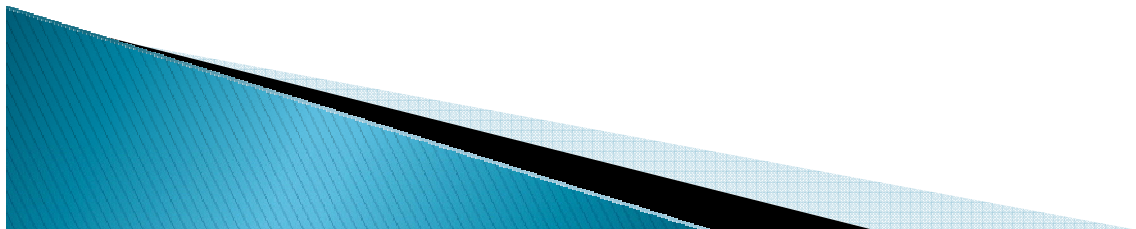
FIA Stockholm Smart Cities

▶ Session objective

- To foster an understanding on what Smart Cities can expect from the Future Internet and how they can benefit from it, as well as how Future Internet research can benefit from Smart City environments.

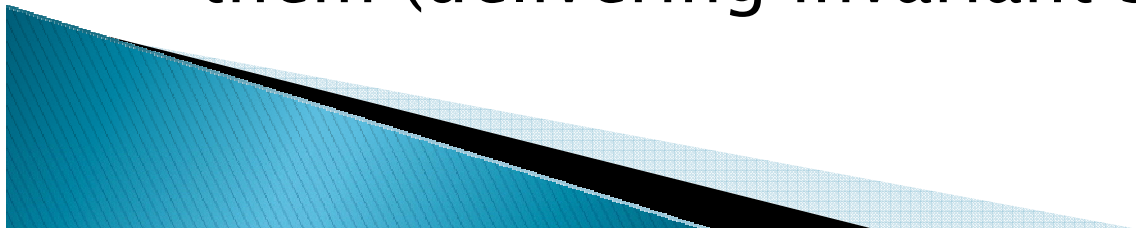
▶ Session Conclusions

- Digital technologies should be deployed to solve real problems – beware ‘technology push’.
- Horizontal platforms have potential benefits in smart city environments, as many sectors addressed have some common needs.
- Applications spanned community building, transportation, digital industries, energy, buildings, and urban planning.
- Looking at the PPP, Smart Cities will provide an excellent experimental environment as they naturally bring together a variety of critical application domains, ranging from energy, healthcare, transport, governance, etc. (they also offer unique governing to facilitate speedy decisions)
- Smart City based infrastructure will provide an ideal open platform for the development, experimentation and testing of common FI service enablers required to enable ‘smartness’ in a variety of application domains.



FIA Valencia Session Objective

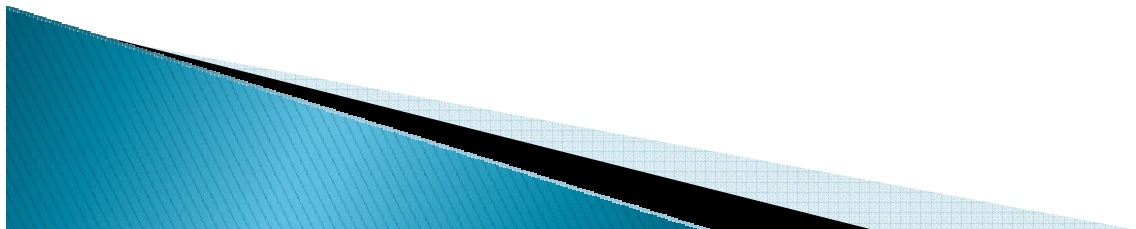
- ▶ Understand what new application classes and services will be / should be / are essential to build (and evolve) smart cities
- ▶ Identify cross-domain Future Internet challenges that enable them
- ▶ Engage cross-domain research to address them (delivering invariant solutions)



Currently under discussion

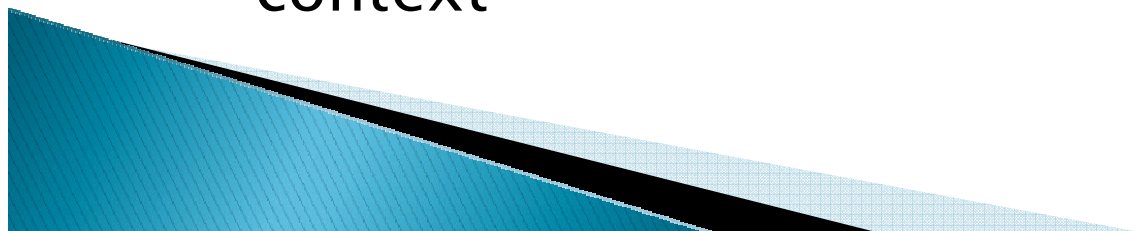
- ▶ What kinds of cities –
 - Developed?
 - Developing (or New)?
 - Small–mega?
- ▶ What application domains?
 - Energy?
 - Mobility (Transport)?
 - Communities (and social networking)?
- ▶ What else?
 - Need go out to the community to understand application domains and where we need to get input
- ▶ What are the challenges for FI in smart cities?
 - Key horizontal concepts for FI
 - Optimisation across multiple domains
 - Optimisation of individual vis–a–vis collective targets (sustainability limitations)
 - The social dimension for smart cities

 - Key FI infrastructures and capabilities that will support them?
 - E.g. Pub/Sub infrastructure for data, intermittent entities, dynamic nodes, ...
 - Etc.



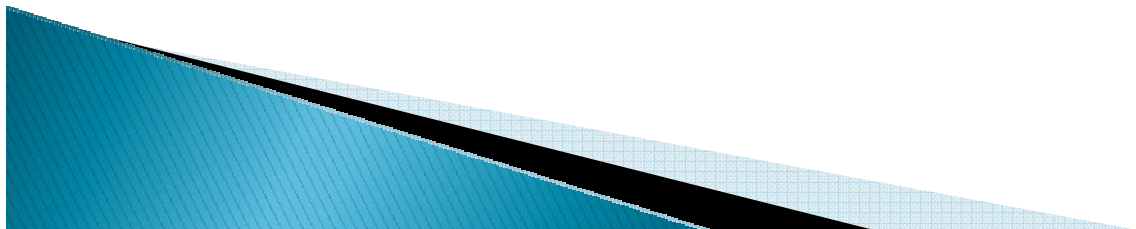
FIA Valencia Session Structure

- ▶ 1 h presentations: 3–4 speakers (application domains, challenges and/or opportunities)
- ▶ 1 h discussion – format to be decided, e.g.
 - Questionnaire (like IBM) in working groups 4 working groups – the 4 working groups elect a panellist and present their findings and arguments....
 - Panel discussion based on presentations
 - Knowledge café to identify the FI challenges/opportunities in the Smart city context



Next Steps

- ▶ Short working paper describing smart cities, building on FIA Stockholm sessions, input to Valencia
- ▶ Wiki-space to collect/gather inputs reference materials (RWI wiki - rwi.future-internet.eu)
- ▶ Speaker list



Insight + Motivation = Action

- OVERVIEW
- HOME ENERGY REPORT
- ENERGY EFFICIENCY PORTAL
- SMART-GRID FEATURES
- DUAL-FUEL CAPABILITY
- CSR TOOLS

OPOWER's Home Energy product suite is carefully designed to help gas and electric utilities engage, educate, and motivate a very large percentage of their customer base, and drive large-scale energy savings over the short and long term. The platform leverages all three communications channels between the utility and its customers, and is designed to drive energy savings for all, regardless of income, education level, or access to technology.

OPOWER's Energy Efficiency Product Suite

CUSTOMER FACING			UTILITY FACING	
Printed Home Energy Reports	Online Energy Data & Community	Smart Grid Features	CSR Tools	Analysis + M&V
INSIGHT ENGINE				

Smarter Cities IBM – Predictive Idea Market

Smarter Education

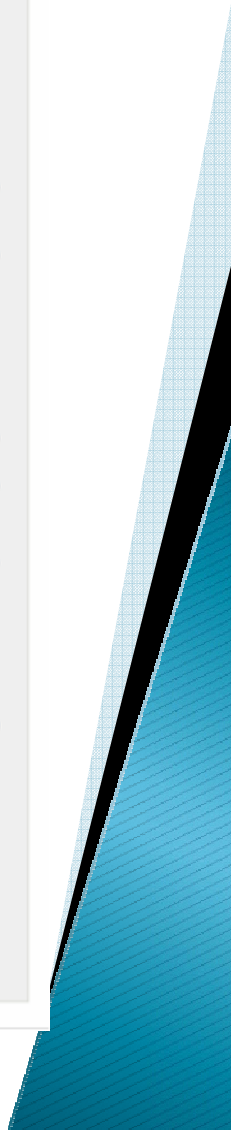
Which approach will be most effective in enabling better education outcome within a major city?	 predict!
In order to increase the proportion of the population completing high school by 10% over the next five years; major cities will begin transforming education in what way?	 predict!

Smarter Transportation

Which company offers the best portfolio regarding Smarter Transportation?	 predict!
In a major city, what will need to be improved in order to make transportation more efficient?	 predict!
What enhancement can a major city make over the next year to be a global technology leader in public transportation?	 predict!
What transportation enhancement will a major city, like New York, need to make to relieve its traffic congestion?	 predict!

Smart Utilities

Which of the following will be the most important to the rapid deployment and adoption of Smart Grids?	 predict!
Over the next five years, what changes should a major city first implement to reduce energy waste and use its resources efficiently?	 predict!
Which of the following will reduce household energy consumption the most within a major city like New York?	 predict!
Which of the following should be a primary objective for a major city over the next five years?	 predict!



Smarter Cities IBM – Predictive Idea Market

Answers	Probability	Change	Trades	Your Predictions
Public Safety	12.221%	▲ 10.16	52	
The Utility Grid	20.158%	▲ 17.5	65	
Emergency Healthcare Services	5.717%	▲ 4.33	30	
University and School location planning	13.486%	▲ 11.31	58	
Government Services (such as subway ticketing systems, road charging, department of motor vehicle system, etc)	48.418%	▼ - 43.29	112	

