

Technology enablers for Smarter Cities

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Overview



- **What does “Smart” mean in SmartCities**
- **Technology trends to enable Smartness in Cities**
- **Opportunities**
- **A few questions to be added**



The meaning of “Smart” for Cities



- **Different dimensions of “Smartness” for a City**
 - Smart economy (competitiveness)
 - Smart people (social and human capital)
 - Smart governance (participation)
 - Smart mobility (transport and ICT)
 - Smart environments (natural resources)
 - Smart living (quality of life)
- **Smart City is a city well performing in a forward-looking way in these six dimensions, built on the ‘smart’ combination of endowments and activities of self-decisive, independent and aware citizens**



“Smart cities – Ranking of European medium-sized cities”,
Final Report, October 2007

Technologist perspective

- **Making cities smarter means improving them in those dimensions**
- **Smart services and application** are key in this process, increasing the efficiency, accuracy and effectiveness of operation of the complex city techno-socio eco-system
 - Based on ambient intelligence and autonomous decision making
 - Ensuring processes in eco-system operate at optimally
- **Real world awareness** is considered a key enabler for smartness
 - Efficiently capture real world knowledge in real time
 - Efficiently re-use/share available knowledge across different service domains



Real World Internet



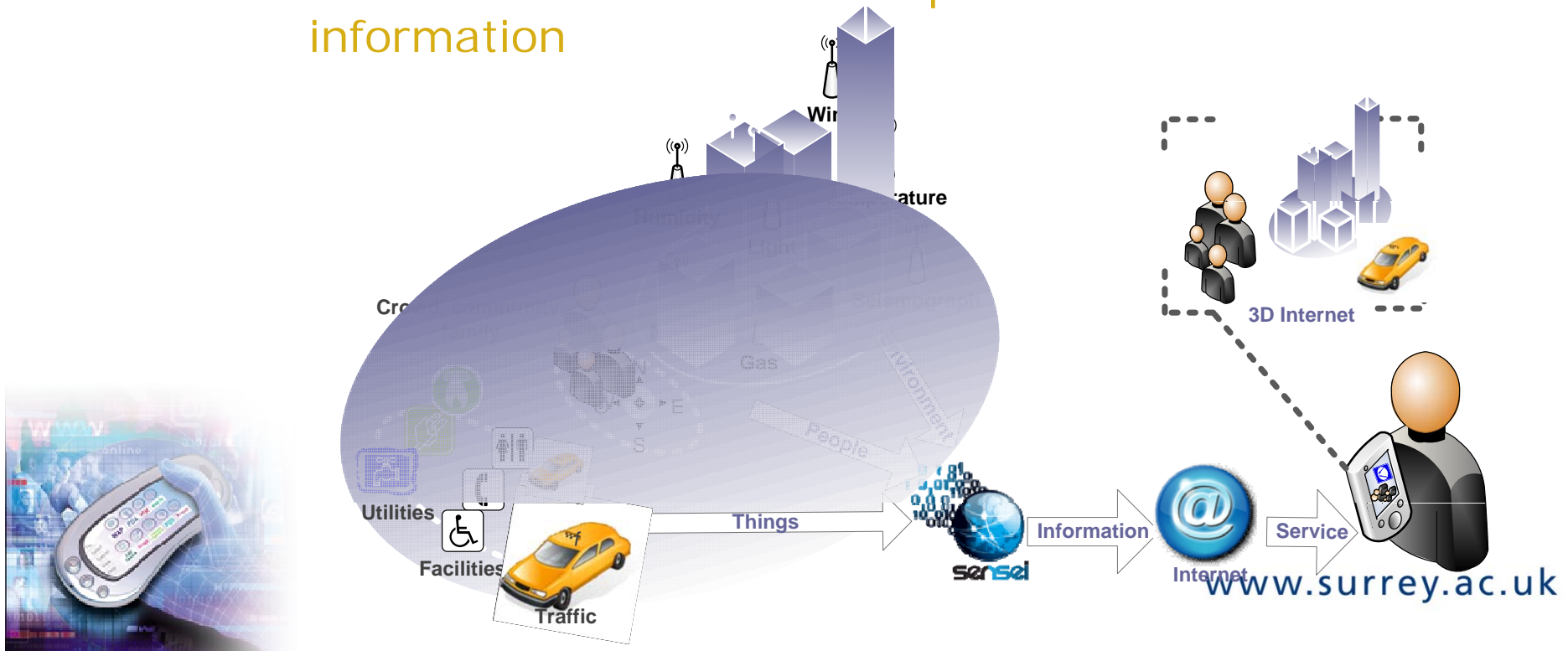
- **Internet of Things**
 - Providing a real world information fabric for cities
 - Networked sensors, actuators, ID technologies, providing real world information and actuation capabilities in an automated manner
- **Real world knowledge**
 - Making sense of the real world information using knowledge engineering approaches
- **Networked knowledge and knowledge sharing**
 - Interlinking knowledge from different previously disparate domains to gain new insights and maximise synergies



FP7 SENSEI



- **Integration physical world into digital world of FI**
 - IoT as real world information and interaction infrastructure
- **Provide a market place for real world information and actuation**
 - Facilitate reuse of domain specific infrastructure and information



FP7 mCiudad



- **Mobile service platforms key for support necessary real world dynamics in city eco-systems**
- **Extending the mobile platforms to each user**
 - Each mobile becomes a micro-server
 - Peer generated services by each user



Traffic Jam
Killer

Traffic
information
provided in
real time by
those on the
road



Person2Pers
on Translator

Real time,
user-to-user
translation

The opportunity

- **Community based platforms**
 - Grass-roots approach
 - By the community for the community
- **Build on platforms and ideas that allow sharing of different resources**
 - Networks, e.g. community wireless mesh
 - Content
 - Information and underlying models
 - Services



Reformulated questions

- **How can large scale instrumentation of cities with IoT technology be efficiently realized?**
- **How can synergies be achieved between different stakeholders within a city for the benefit of them and the overall city community?**
- **What are the most promising “Smart” services and applications - or respective domains – to be used as a starting point for pilots?**



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THANK YOU!

