

Future Internet Public-Private Partnership

WHY

WHAT

HOW

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Future Internet: Towards a 'smarter' World

- **Making applications of high socio-economic value more intelligent, more flexible, more efficient. Example areas:**
 - **Smart energy grids** - Energy grids will increasingly face risks of congestion and blackout. Internet connectivity, computing power, digital sensors and remote control of the transmission and distribution system will help to make grids smarter, greener and more efficient,
 - **Smart environmental information systems** - the use of sensor networks for collecting real or near real time environmental data is a growing field of application. It requires Internet connectivity for data management, dissemination and integration in complex information systems,
 - **Smart systems for transport and mobility** - Putting 'intelligence' into the roads and cars with Intelligent Transport Systems (ITS)– with e.g. sensor networks, radio frequency tags, and positioning systems offer a promising alternative. The internet provides a solution to interconnect these diverse technologies and bring more efficiency to mobility through real-time management of public and private transport resources, traveller information and decision-making tools, way beyond the capability of current solutions,
 - **Smart healthcare systems** - Current research experiments aim to develop technologies for 'ambient' environments capable of assisting patients and satisfying their information and communication needs. These technologies combine devices (sensors, actuators, special hardware and equipment), networks and service platforms to harness information about medical conditions, patient records, allergies and illnesses.

➔ Towards the future “internet-enabled” infrastructures



Making use of multiple technologies

Multiple Future Internet Technologies not yet fully mature but whose application to smart systems/infrastructures is very promising ➔ **virtuous tech/appli circle**

- **Devices**
 - Smart Phones
 - **Sensors**
- **True Mobile Broadband**
 - LTE,
- **Enabling Capabilities**
 - Real Time Context Based analytics
 - Real Time Social Networking communication and analytics
- **Pervasive 'cloud' services**
- **Secure and Trusted environments**

- Novel application capabilities
- New Business Models
- Empowering users, new Business Processes
- New social opportunities
- Multiple end user (consumer and enterprise) created personalized applications with an increasing focus on mobile



Core Platform

- **Generic, trusted and open network and service platform** making use of and integrating advanced Internet features enabling take up in innovative "smart applications".
- **CP may draw upon resources** from several independently controlled domains through ad-hoc aggregation of resources.
- **CP reused for multiple user contexts** and to develop the "smart applications" corresponding to specific use cases,
- **Generic Enablers:** a key feature of the Core Platform
- **Open API/SDK** exposing CP functionalities, **open interfaces** towards test/validation infrastructures



Core Platform

CP FEATURES

- **upgraded network capabilities:** requirements from innovative Internet use cases and from the operational needs of smart infrastructures;
- **information processing capabilities** enabling the generation, composition sharing and exploitation of huge amounts of data in support of context aware applications (including mash ups)
- **versatile service infrastructure capabilities**
- **real time application capabilities** based on coupling sensor and actuator networks to the internet, through a reference architecture;
- **trust and identity capabilities** enabling end-users, devices, digital objects and service providers to be identified globally and across multiple domains in a trusted manner;



Core Platform



CP functionalities depends on requirements stemming from the identified use cases.

At the end of phases 2:

Medium scale implementation and validation: the provisioning of the Core Platform on a medium scale pan-European FI testbed infrastructure supporting use case specific experiments.

USE CASES

- **Vertical use case scenarios whose efficiency, sustainability and performances can be radically enhanced through a tighter integration with Internet based advanced N&S capabilities.**
- **Use cases: suggestion only**
- **Each proposed use case is expected to make use of technologies and functionalities leapfrogging current innovative internet technologies, such as**
 - **context awareness and sensor networks,**
 - **advanced real time information processing capabilities handling huge volume of information,**
 - **ad-hoc service composition and mash ups,**
 - **managed broadband connectivity and services,**
 - **embedded media support for interfaces easing the interpretation of processed contextual data.**
- **Identification of generic vs specific enablers**



USE CASES

- **Two phases implementation (each competitive)**

Target outcomes at the end of phase 2

- **Working pilots and test-beds** building upon common components and enablers as provided under the Core Platform activity and covering the selected pilot sites.
- **Selected test applications** implemented on pilot sites.
- **Validation of the openness and versatility of the CP and of the SDK: implementation of mixed use case scenarios out of more than one use case project.**
- **A detailed plan** for how to move into Phase 3 in which a massive expansion of the platform usage is envisaged, facilitated by local and regional stakeholders including SMEs.



RELATED ASPECTS

- **Capacity Building and Infrastructure support**
 - Preparing for the infrastructure requirements for testbeds and validation phases
 - An important aspect of the Public part of the PPP
- **Openness: Standards, architectures, markets**
 - Another key aspect of public implications
 - Deployability, test and validations
- **SME dimension**
- **Open innovation model (Phase 3)**

SOME TAKE AWAY

What the PPP is NOT:

- Network research
- Service/cloud research
- Networked media research
- Sensor platform research
- T&S research
- A Platform to revamp failed call 4& 5 proposals..
- A limited scope exercise, e.g. platform limited to “enterprise” or “consumer” environments only



Regular Challenge 1 lines are here for that !!

Please...



Be ambitious !!