SMART COM, d.o.o.
Informacijski in komunikacijski sistemi
Computer and Communication Systems

Brnčičeva 45, 1001 Ljubljana-Črnuče, SI-Slovenija
Tel.: +386 (0)1 561 16 06, Fax: +386 (0)1 561 15 71
E-mail: prodaja@smart-com.si, URL: www.smart-com.si

Position paper

Arso Savanović, PhD
Smart Com

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(1) What use case and scenario in your area would you consider the most appropriate and representative one for large-scale experimentation with the Future Internet platform to be built starting from 2013 (please refer to the documents referred to on the above websites for inspiration)?

On one hand energy has a central role in future strategies at all levels (organisational, national and transnational). On the other hand novel FI technologies may provide substantial innovations in management of energy and energy infrastructure. Therefore Smart Energy Grids is a key usage area for FI, with four main scenarios within that area:

- Novel system services providing reliability and quality of power supply in the contexts of highly dynamic distributed power generation,
- Demand side management
- Virtual power plant management
- Electric vehicle management

In addition, the following cross issues must be tackled in order to facilitate successful adoption of novel FI technologies in production Electric Grids.:

- Process redesign in energy Grids at lower level and related implementation of new business models at higher level
- Clear, safe and seamless migration path from current Energy Grids to (FI enabled) Smart Energy Grids

(2) What innovative Internet functionality and technologies would you consider important for your suggested use case and scenario (e.g. context awareness, sensor networks, advanced real time processing capabilities handling huge volume of data, ad hoc service composition and mash-up, managed broadband connectivity and services, embedded media support for interfaces easing the interpretation of processed contextual data, etc.)?

- Context awareness
- Sensor networks
- Advanced real time communication capabilities
- Advanced real time processing capabilities handling huge volume of data
- Managed broadband connectivity and services
- Support for Analytics
- Network protection

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(3) *Which of the identified functionalities would you expect the Future Internet core technology platform to deliver to support your and other usage area scenarios?*

- Context awareness
- Sensor networks
- Advanced real time communication capabilities
- Managed broadband connectivity and services
- Network protection

(4) *What kind of experimentation environment would you consider necessary for broad large scale testing of the platform to be developed in your use area? What would be needed to experiment new services and applications cutting across use areas (services and application mash-up) and building a new services and application ecosystem around the prototype implementations of the platform?*

Given the critical nature of Energy Grids, experimentation environment shall provide appropriate context for stress testing performance, functionality and scalability of novel FI technologies for Smart Grids systems, ie. it should be in the range of millions of end-users.

(5) *How do you see the potential role of your organisation in the FI-PPP, in the context of Usage areas taking a prominent role in the Initiative, to ensure an appropriate application driven approach?*

Smart Com has a long track record of successful projects in consultancy, design, development, and implementation of advanced ICT solutions for electric utilities. Therefore, Smart Com can competently contribute in many areas, such as:

- Use case modelling
- Process redesign and definition of new business models
- Usage area requirements analysis and functional specifications
- Definition of migration paths from traditional to Smart Energy Grids
- Development of innovative applications and services for Smart Energy Grids on top of FI core technology platform
- Set-up of experimentation environment
- Stress testing, fine-tuning and validation of novel FI technologies in support of Smart Energy Grids
- Technology transfer from experimentation environment to production systems in short time