

Defining a large scale action to deploy transport-ICT in Europe

**FOT-Net 6th Stakeholders Workshop
Brussels, 28 November 2011**

Stefanos Gouvras
Research Programme Officer, ICT for Transport
European Commission
Directorate-General Information Society and Media





“Advanced road safety technologies play an ever increasing role in improving road safety. Their strength and focus is accident avoidance, not just better occupant or road user protection in the event of an accident. For many years, Europe has invested in the research and development of these technologies. Now it is time to reap their benefits.”

Neelie Kroes

European Commissioner for Digital Agenda

Auto-world motor expo, Brussels, 8 November 2010:

Europe leads in wireless communication to and from vehicles. That is critical to improve both safety and efficiency. And to convert this into global market success global cooperation and standardisation will be required...

We need the automotive and ICT communities side-by-side. That way we can seize the opportunities of the next generation of wireless broadband, beyond 3G, to meet the growing demand for connectivity in cars.

Let's keep and extend collaboration at the European level. Pre-commercial collaboration in research can be key for staying competitive. Reducing risks and costs can give you a better shot at global leadership in the future.

Please see the Digital Agenda as your agenda too. We need each other to deliver mobility that is connected, smart, safe and clean

Demand side actions, Demonstration actions, Pilots, Test-beds and Field operational tests

- ❑ 13.3.09 Communication - A Strategy for ICT R&D and Innovation in Europe: Raising the Game
- ❑ 28.11.08 European Economic Recovery Plan - The European Green Cars Initiative
- ❑ Competitiveness and Innovation framework Programme (CIP) 2007-2013 - ICT Policy Support Programme
- ❑ 28.10.09 Communication - A public-private partnership on the Future Internet
- ❑ 6.10.10 Communication - Europe 2020 Flagship Initiative - Innovation Union
- ❑ 11.11.09 National ICT Research Directors Forum, Visby 

A Strategy for ICT R&D and Innovation in Europe: Raising the Game

With the recognition that the public sector can play an important role in driving research and innovation and opening up new markets for innovative products and services, and to speed up the achievement of specific societal goals, the EC is considering how to support a set of focused projects of significant scale and duration that cut across the innovation cycle to develop modern pan-European service infrastructures. These initiatives, tentatively called **European Large Scale bridging Actions (ELSAs)** will mobilise a critical mass of resources, including grants for R&D, pre-commercial procurement and support for innovation and deployment.

28.11.08 Communication European Economic Recovery Plan The European Green Cars Initiative

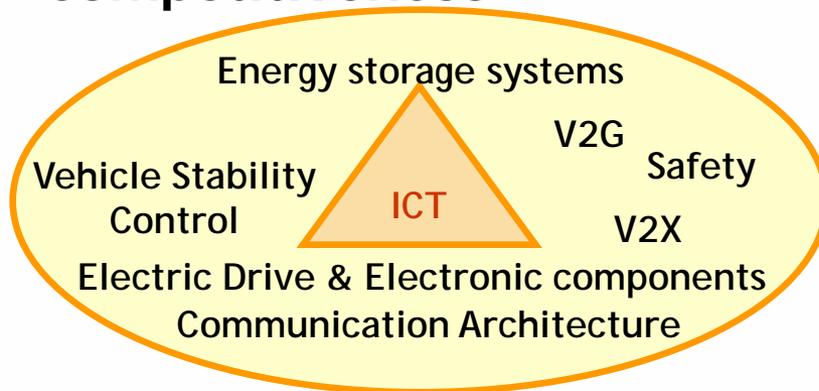
Benefits of the **fully electric vehicle**:

- Up to **40% energy saving**
- Reduced fossil fuel **dependence** & environmental impact
- Socio-economic impact:
12 million jobs & international competitiveness



Industry is driving this initiative (66%) & largely benefits from it

- Following the feedback from stakeholders like EGCI Ad-hoc Advisory Group, ERTRAC, EPoSS, SmartGrids ...



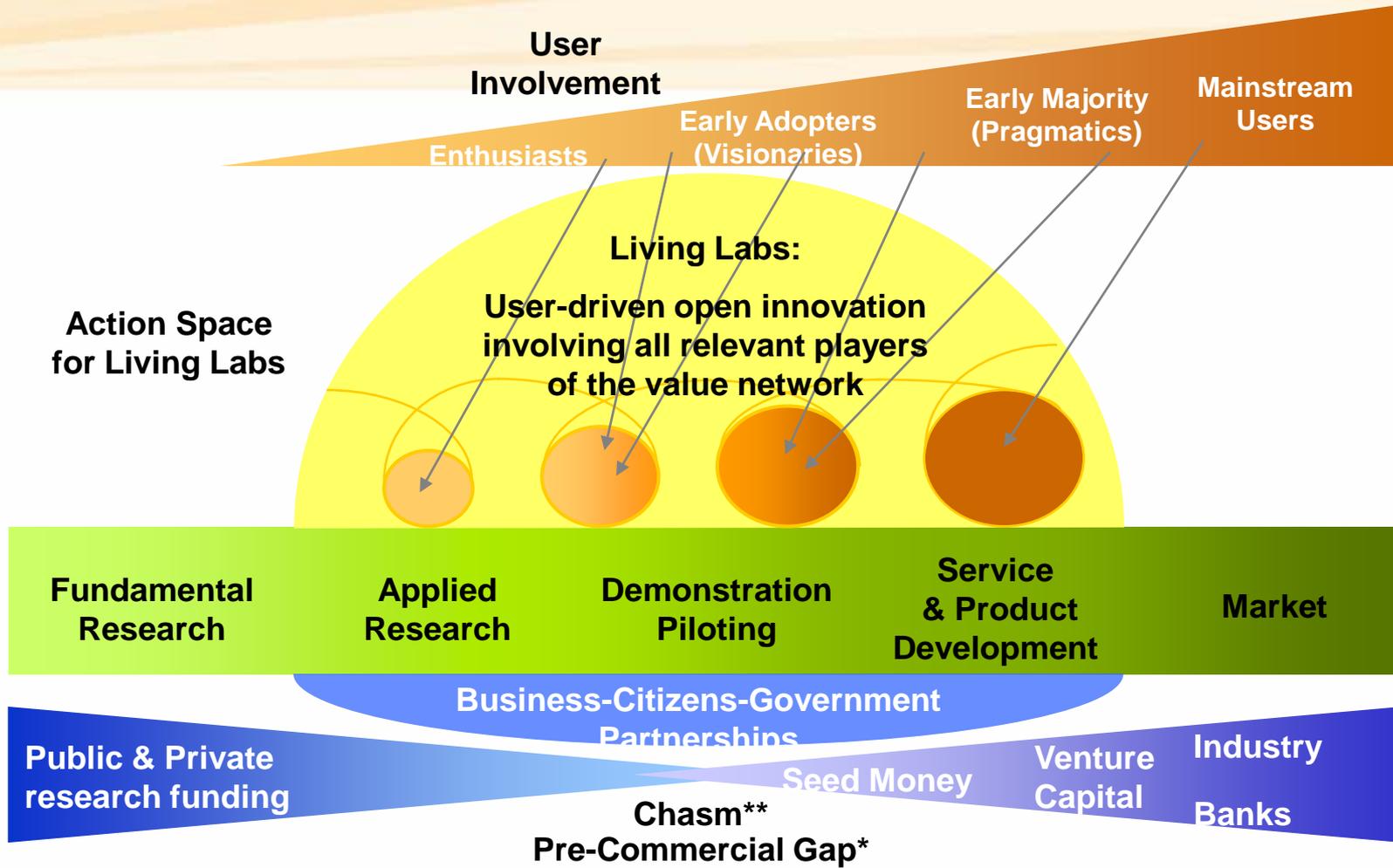
ICT Policy Support Programme

The ICT PSP aims at stimulating smart sustainable and inclusive growth by accelerating the wider uptake and best use of innovative digital technologies and content by citizens, governments and businesses

Workprogramme 2009

Theme 8: Open innovation, user experience and living labs

Open innovation ecosystems in real-life settings in which user-driven innovation is fully integrated in the co-creative process of new services, products and societal infrastructures. The Living Labs model includes end-user participation from an early stage of the creative process of technology development. As a result, evaluating aspects such as social and economic implications of new technologies has become more accurate.



* MacDonal and Associates, 2004

** Geoffrey A Moore: Crossing the Chasm, 1999



ICT Policy Support Programme

Workprogramme 2010

Theme 1: ICT for a low carbon economy and smart mobility

Pilots showcasing and testing innovative ICT based solutions at real scale to demonstrate technical, organisational and legal feasibility

Workprogramme 2010

Theme 4: Open innovation for future internet-enabled services in "smart" cities

Pilots showcasing geo related web services, cloud computing infrastructure with Living Labs methodology, local interactions and best practices on using open platforms, societal services based on the "Internet of Things", open innovation and Living Labs experience for transforming public services in test-bed cities through citizen empowerment.



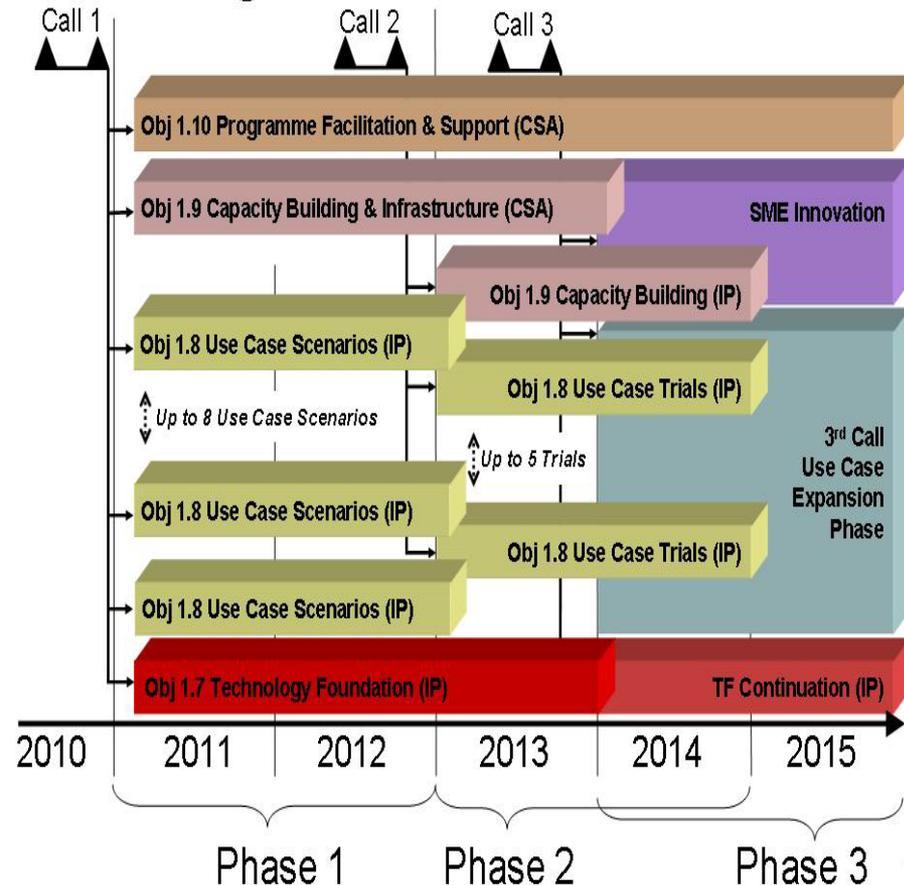
28.10.09 Communication **A public-private partnership on the Future Internet**

Europe's current research efforts on the Future Internet account for about 90 projects, involving more than 500 European entities with total EU funding of around €400m over two-year periods on average. This work includes the 'FIRE' initiative, which supports experimental large-scale test-beds to assess Future Internet technologies, envisage future requirements, and anticipate the social and economic implications.

From a European policy perspective, sectors such as healthcare, mobility, environment and energy management are prime candidates to benefit from novel 'smart' – internet-empowered – infrastructures, which will facilitate the rapid take-up and adoption of services by millions of users and consumers.

Internet innovative applications of high societal and economic relevance - An EU budget of 300 M€ over the period 2011-2015. Multi sector approach: health, energy, **transport**, environment and society.

Programme Architecture



Key characteristics:

Large-scale projects: Integration will not happen in many small projects and hence **projects** need to be **of sufficient scale** to achieve effective integration.

Complexity requires flexibility: Hence the programme is **structured around a three-phase approach**.

Systematic programme approach: Projects have clearly identified roles within a bigger puzzle. **Collaboration and synchronisation between projects** will be key to success.

Facilitate open sharing of project foreground: **IPR issues must not hinder collaboration.**

Integrate application sector competences with ICT competence – in this way the PPP aims to enhance all sectors.

Lead by example: large-scale trials will be employed to prove the scalability and viability of the concepts developed.

Synergy - build on existing results and resources: **Time and scale dictate using what is already achieved in Europe.**

Europe 2020 Flagship Initiative - Innovation Union

European Innovation Partnerships should be launched to accelerate research, development and market deployment of innovations to tackle major societal challenges, pool expertise and resources and boost the competitiveness of EU industry, starting with the area of healthy ageing.

By 2020, and taking 2010 as a baseline, the aim is to **support a number of pioneering European cities** (with a total population of at least 20 million) in reducing their carbon emissions by more than 20%, increasing the share of renewable energy in the energy used for electricity supply, heating and cooling by 20%, and increasing end-use energy efficiency by 20%. The Partnership will demonstrate the feasibility of rapid progress towards the EU's energy and climate objectives at local level ... **including more efficient urban transport.**

10.11.09 ICT Research Directors Forum in Visby

Report of the Thematic Working Group "Transport"

There are already considerable efforts made in Europe to develop new ICT based solutions for addressing the efficiency and safety of transport, most notably in Co-operative Systems which are moving to **Field Operational Tests**, in automated driving, in in-vehicle safety systems and many technologies and systems for improving efficiency of transport, both on-board and traffic management.

The future internet technologies will change the **connected car paradigm**, when relevant technologies (future internet, wireless broadband connectivity, cloud computing, new Internet business models, trust and security framework) are mature enough to support introduction of advanced service concepts. Building on the research on Co-operative Systems, the Connected Car of tomorrow has an important role as a communication and access platform for a huge variety of European wide services and applications.

10.11.09 ICT Research Directors Forum in Visby

Report of the Thematic Working Group "Transport"

- **Field Operational Tests (FOT)** are large-scale testing programmes aiming at a comprehensive assessment of the efficiency, quality, robustness and acceptance of ICT solutions used for smarter, safer and cleaner and more comfortable transport solutions, such as navigation and traffic information, advanced driver assistance - and cooperative systems.

Large-Scale Test Bed is considered to be essential for the take-up of innovative new ICT technologies in transport, and they build the bridge between research and full-scale deployment. For the Test Bed, we need to identify networks of appropriate test areas among and within the candidate cities and/or transport corridors, fulfilling the criteria on the side of economic activities (e.g. manufacturing, service, recreational, industrial districts/sectors), co-modal connectivity (e.g. linking motorways/railways/waterways with city transport networks), urban mobility attributes, infrastructure characteristics and development capabilities. Test areas with cross border corridors and country-through traffic are preferred.

10.11.09 ICT Research Directors Forum in Visby **Summary Report**

The next steps in the development of ELSAs will require more in depth work on the content to identify clear demand driven objectives. These objectives should be specific enough to describe the characteristic of the solution which the public authorities would commit to deploy. This progress towards objectives will be accompanied by a reflection on how to achieve the needed high level political commitment and the involvement of all relevant stakeholders.

A benefit of ELSAs could be the **stimulation of more collaboration at local level**, both in terms of mind-sharing and common planning and design of the target outcome, and also in term of joint procurements. Such an increase in collaboration would be beneficial to local actors and local innovation.

8.10.10 Report of the Task Force of the eSafety Forum Towards a Transport-ICT ELSA

Transport-ICT Test-beds

A large scale bridging action, cutting across the innovation cycle should develop modern pan-European service infrastructures in order to address the unsustainable trends in transport on emissions and safety. An all-inclusive Field Operational Test (FOT) of a significant scale should entail addressing societal challenges by modernising public services, defragmenting European markets for ICT innovation, speeding-up time-to-market/return-on-investment for innovative ICT-based solutions, increasing private and public investments in research and innovation and finally, accelerating the uptake of ICT innovations in public services. Such large scale **FOTs should include comprehensive socioeconomic evaluations** (including social cost-benefit analyses, viability and effect evaluations and impact assessments of system components) of the transport system. This context is given precisely by cooperative mobility defined as the interconnection of vehicles and infrastructure, to create and share information, leading to a better cooperation amongst transport system users including drivers, vehicles and roadside systems, encompassing all areas of socio-economic activity.

8.10.10 Report of the Task Force of the eSafety Forum **Towards a Transport-ICT ELSA**

The ELSA-T is an umbrella for specific activities with clear implementation oriented focal points. **Test-beds will be targeted towards well defined technological areas**, which are:

- o Connected cars and connected travellers
- o Cooperative vehicle infrastructure systems in combination with smart and ecological traffic management
- o Proactive network operation and mobility management
- o Co-modal information services for travellers and goods
- o European wide service platform for advanced traffic information services
- o Internet of the future
- o Green freight and intelligent freight transport on corridors and in urban areas
- o Electric vehicles

Thank you for your attention!

