EFII, EFIA and FIRE

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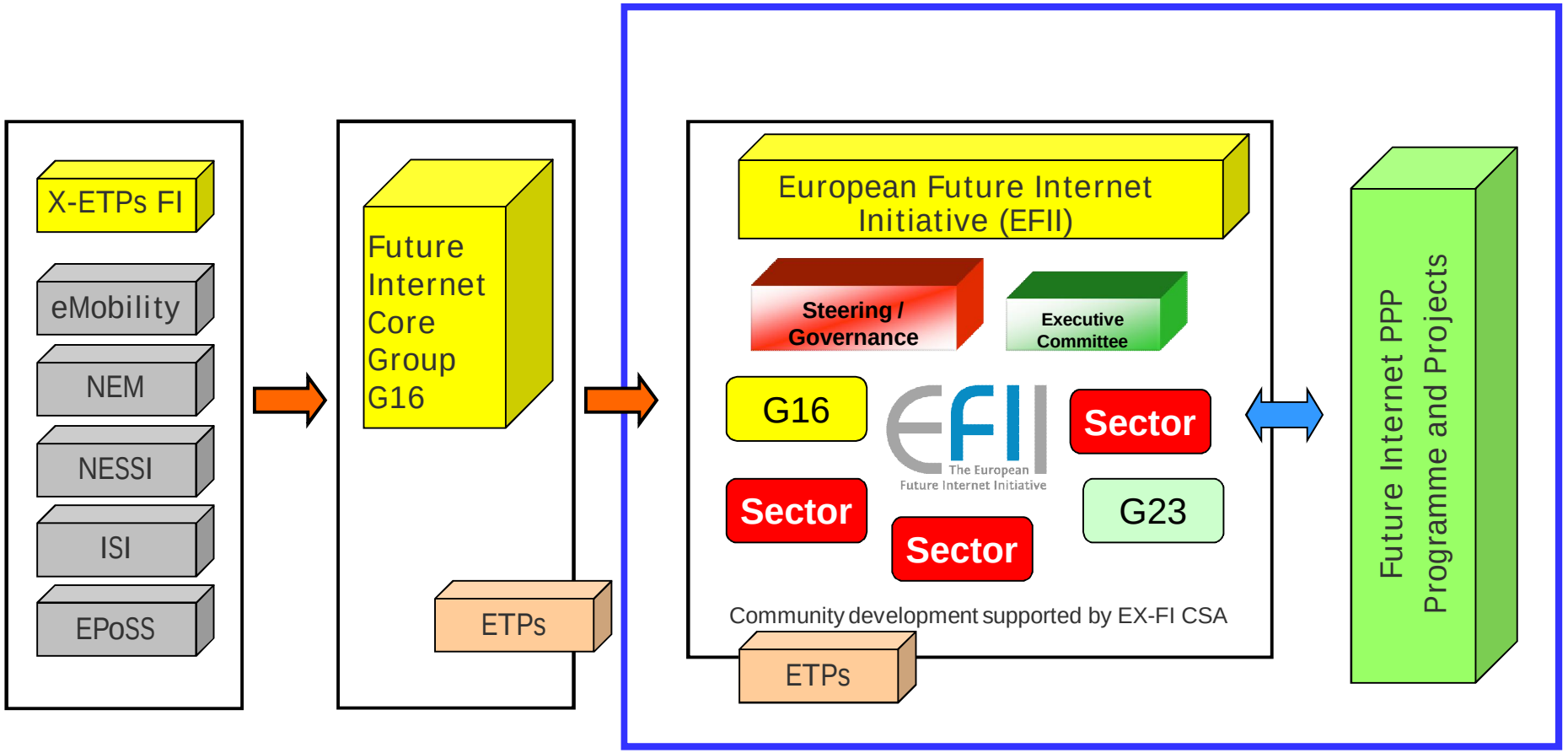
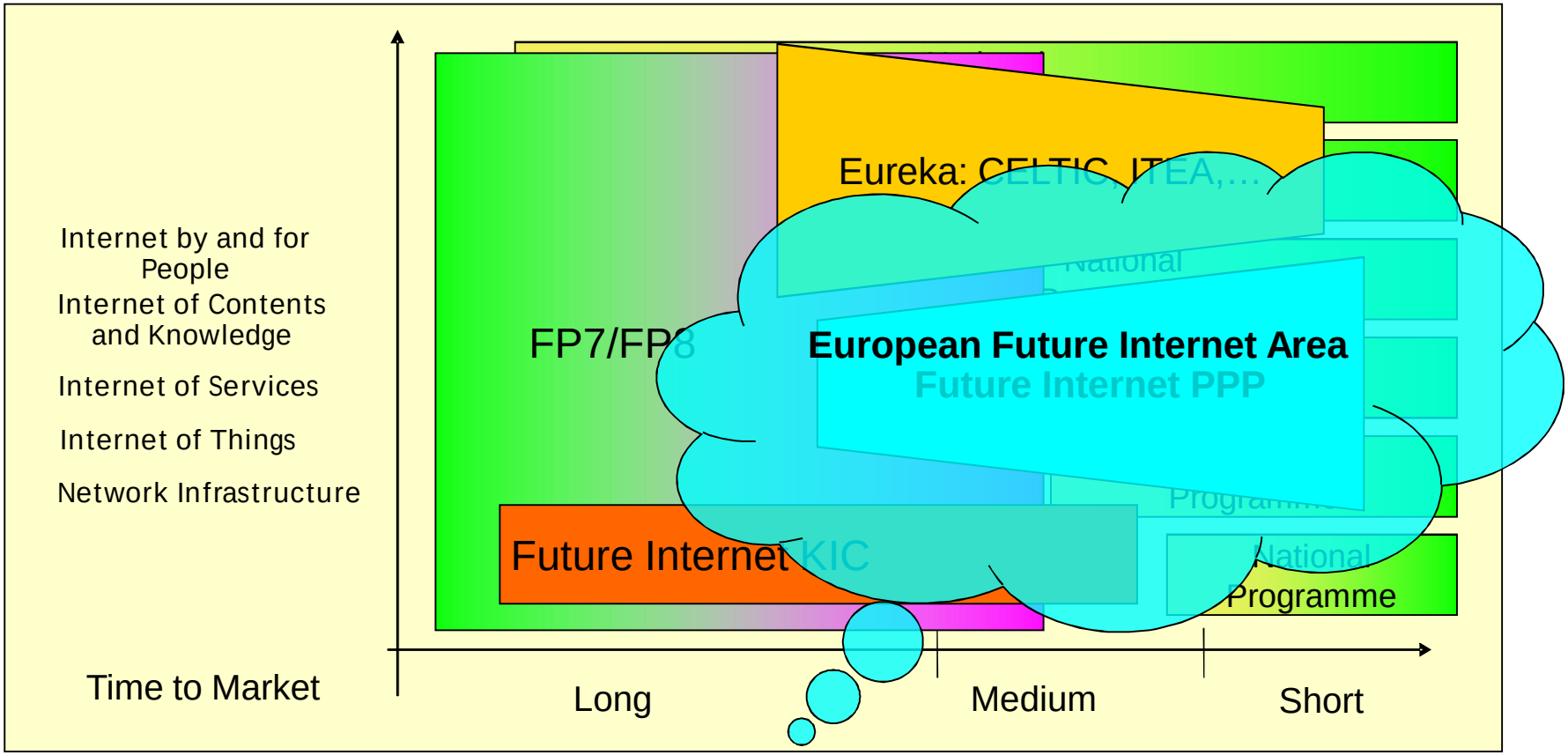
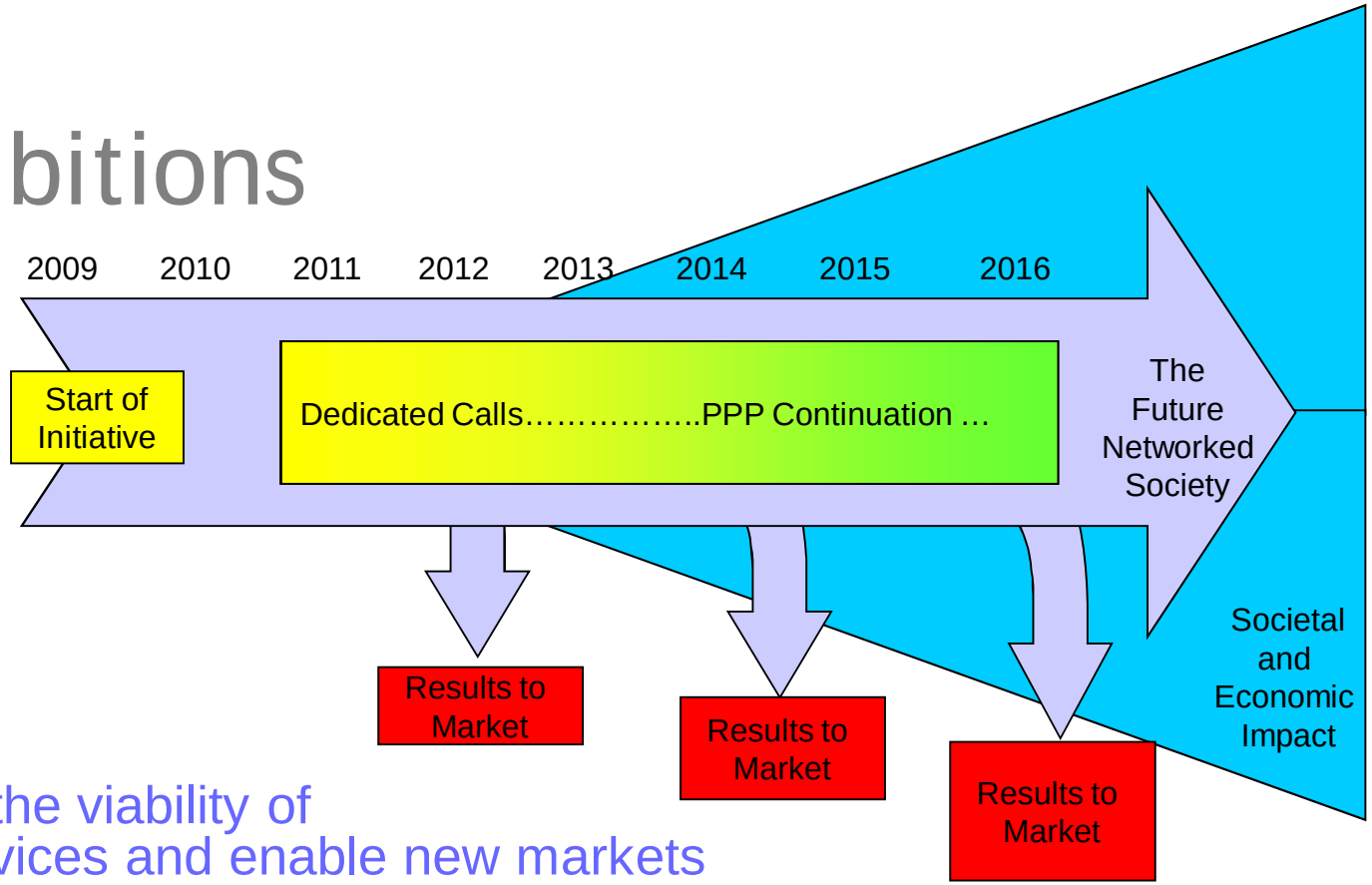
FI PPP – Programme and EFII



The Future Internet area



Ambitions

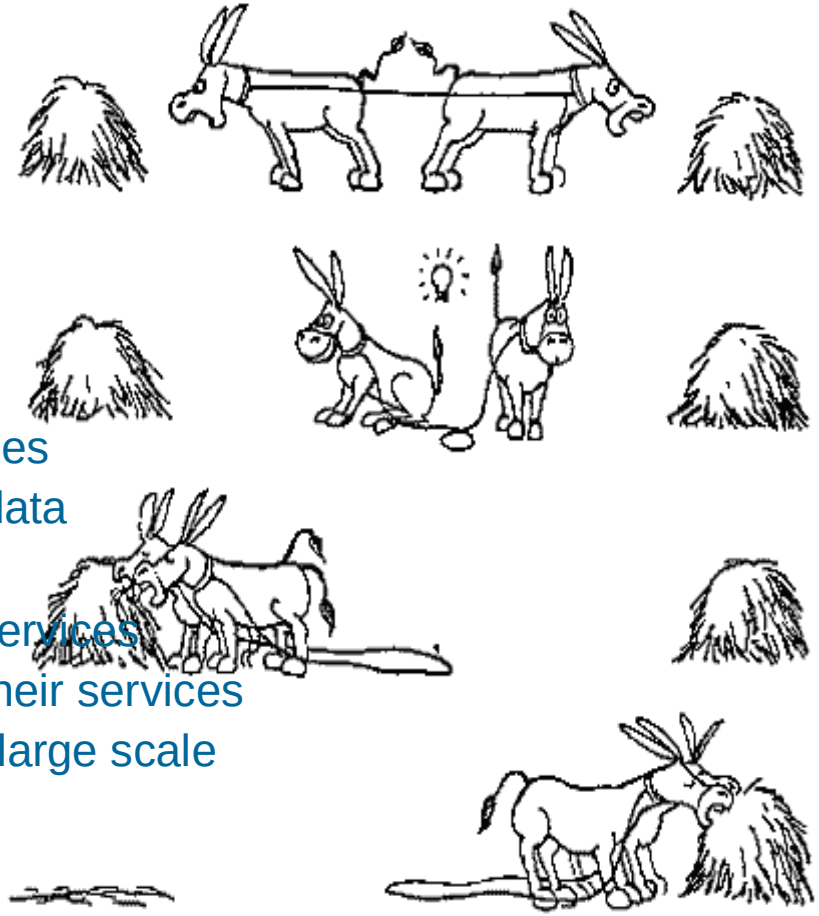


- Demonstrate the viability of advanced services and enable new markets
- Implement an advanced future internet
- Set standards on the way so that the results can be sustainable and worth investing in
- Have incremental results that can be exploited and brought to market after every phase

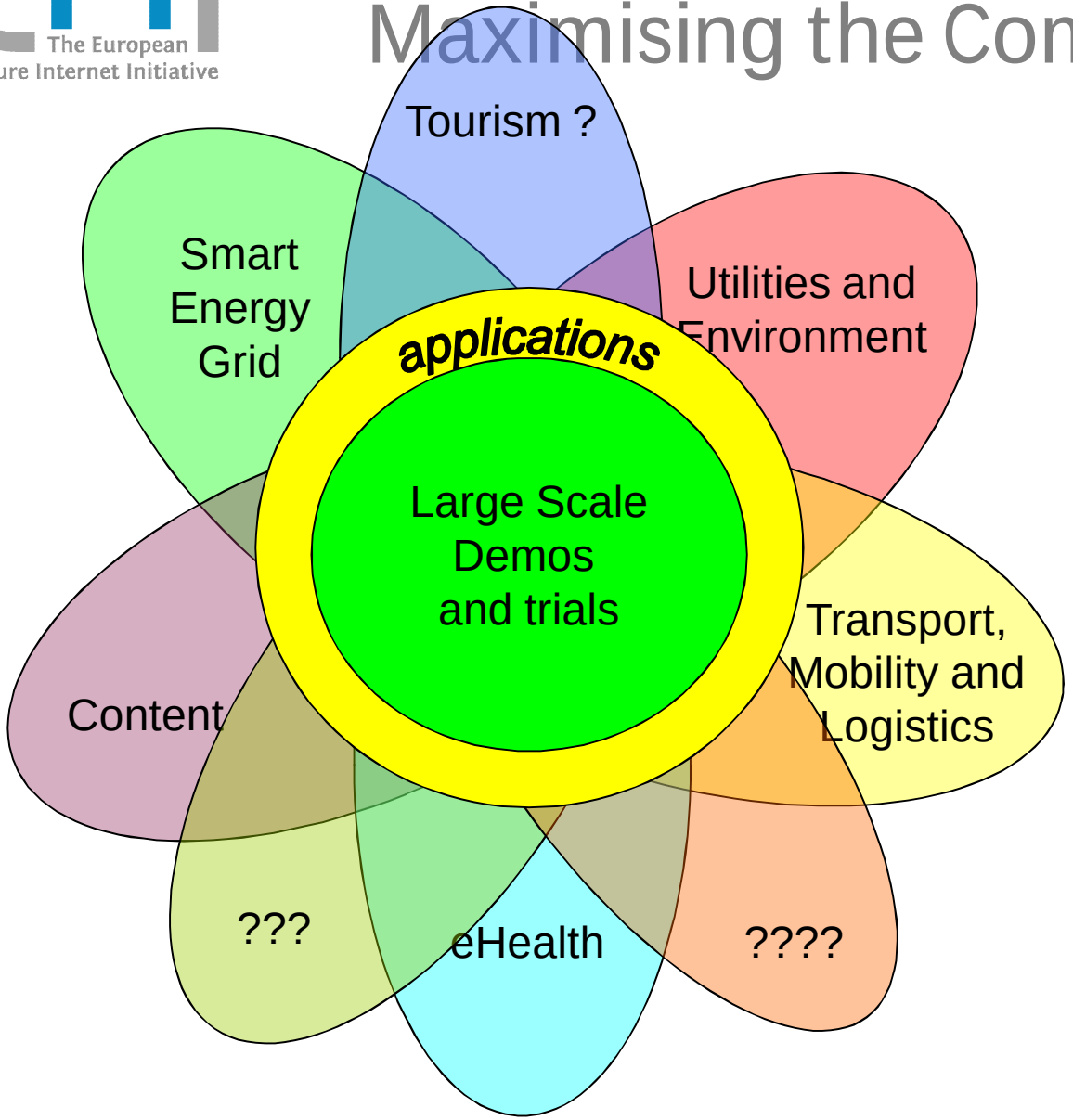
Cross Sector and Sustainable

- **Collaboration for mutual gain**
  - Stand alone solutions developed in any one sector, will not provide the efficiency and productivity gains that a networked solution will be able to provide and that the market can support.

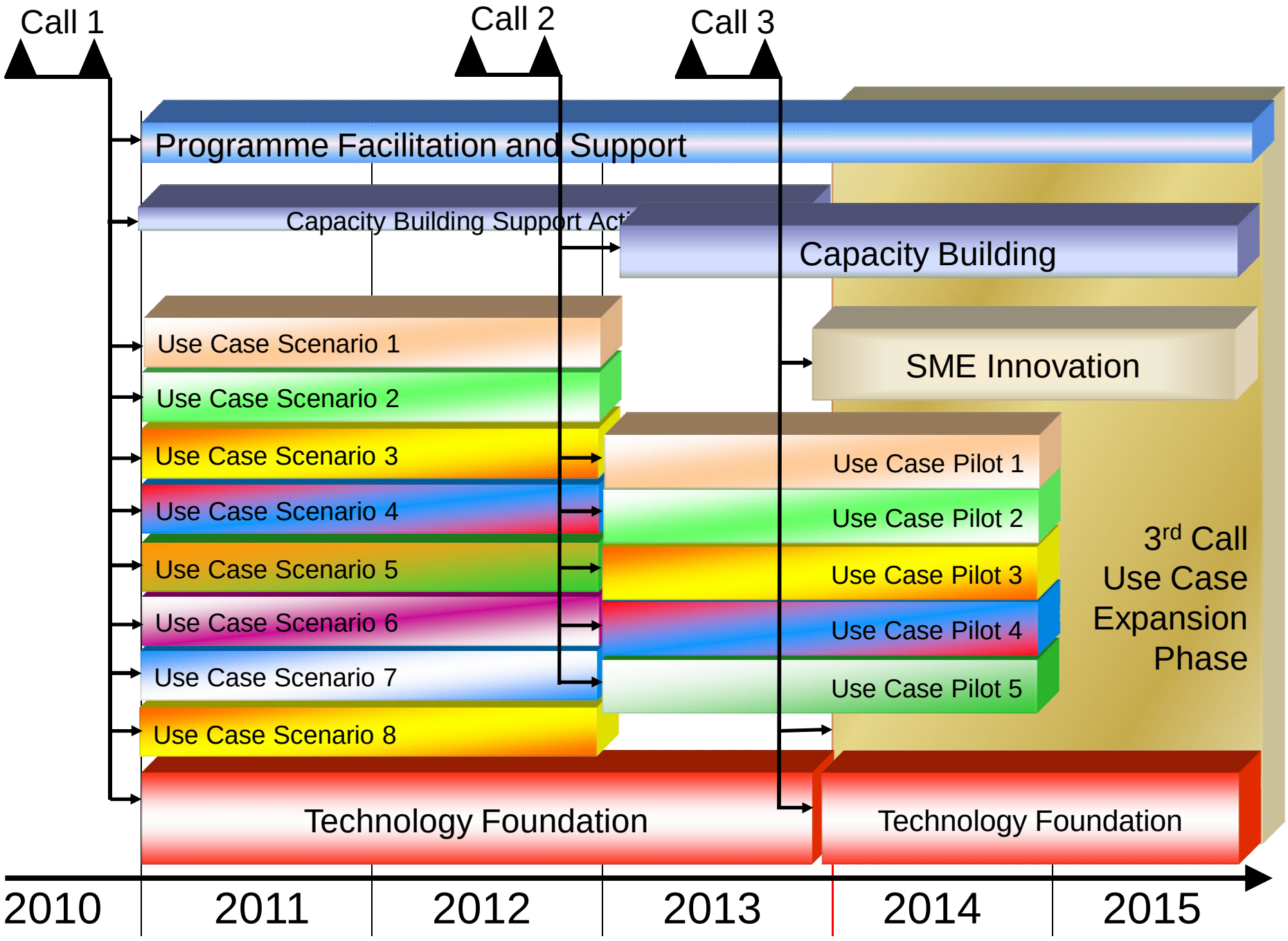
- **New partners in a Win-Win scenario**:
  - ICT grows the services market
  - Industry sectors get multiple advantages:
    - Economies of scale
    - Improvements in their running processes
    - New opportunities to sell aggregated data
  - Users win too:
    - More security and trust in networked services
    - Better availability and response from their services
    - Ability to handle individualisation on a large scale



Maximising the Common enablers



- Examine the basic enablers in each area
- Determine the common enablers
- Determine the enhanced enablers
- Work out how to provide a core platform that supports the enablers
- Build it and show the world
- Use it in large scale trials and tests
- Use existing advanced infrastructures to test future Internet functions


Call 1
Call 2
Call 3
Programme Facilitation and Support
Capacity Building Support Acti
Capacity Building
Use Case Scenario 1
Use Case Scenario 2
Use Case Scenario 3
Use Case Scenario 4
Use Case Scenario 5
Use Case Scenario 6
Use Case Scenario 7
Use Case Scenario 8
SME Innovation
Use Case Pilot 1
Use Case Pilot 2
Use Case Pilot 3
Use Case Pilot 4
Use Case Pilot 5
3rd Call Use Case Expansion Phase
Technology Foundation
Technology Foundation
2010
2011
2012
2013
2014
2015

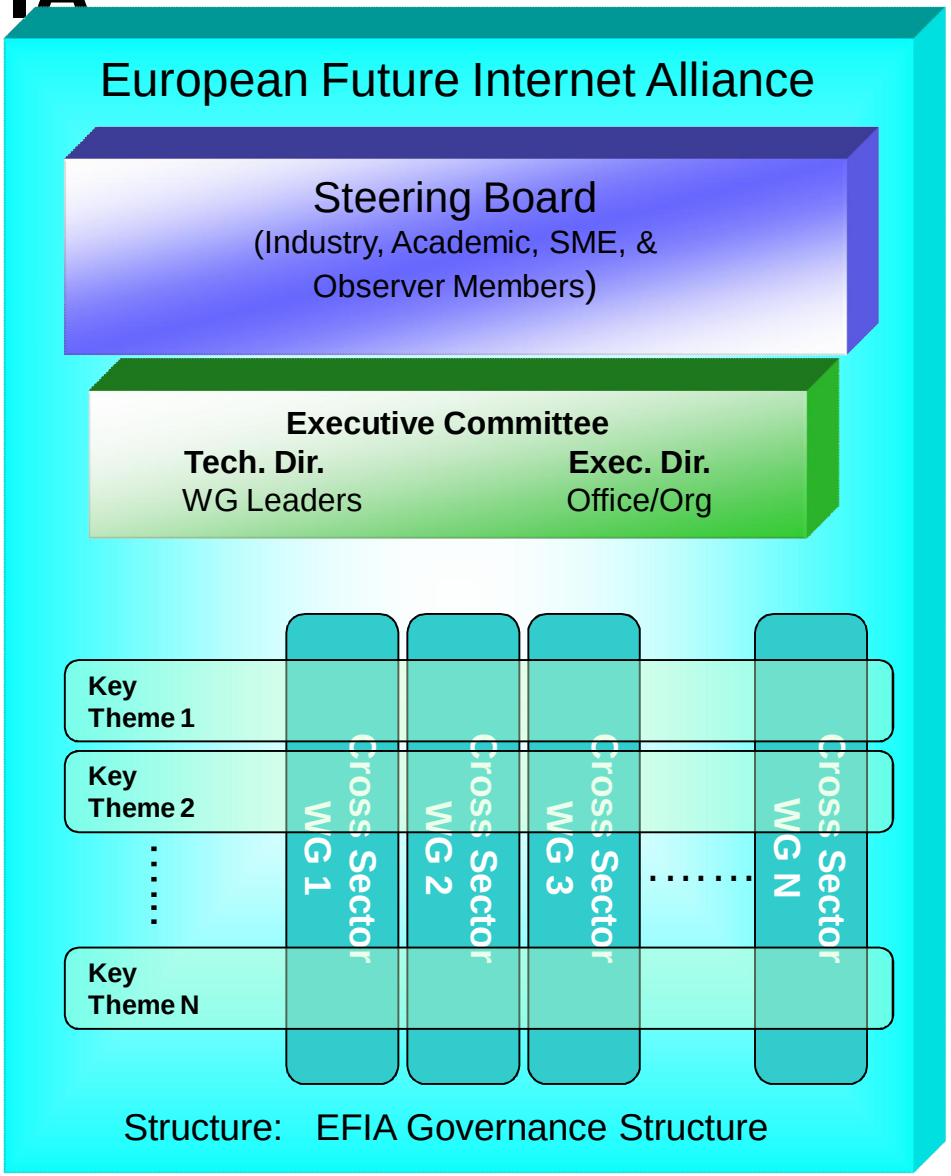
EfII : FIRA

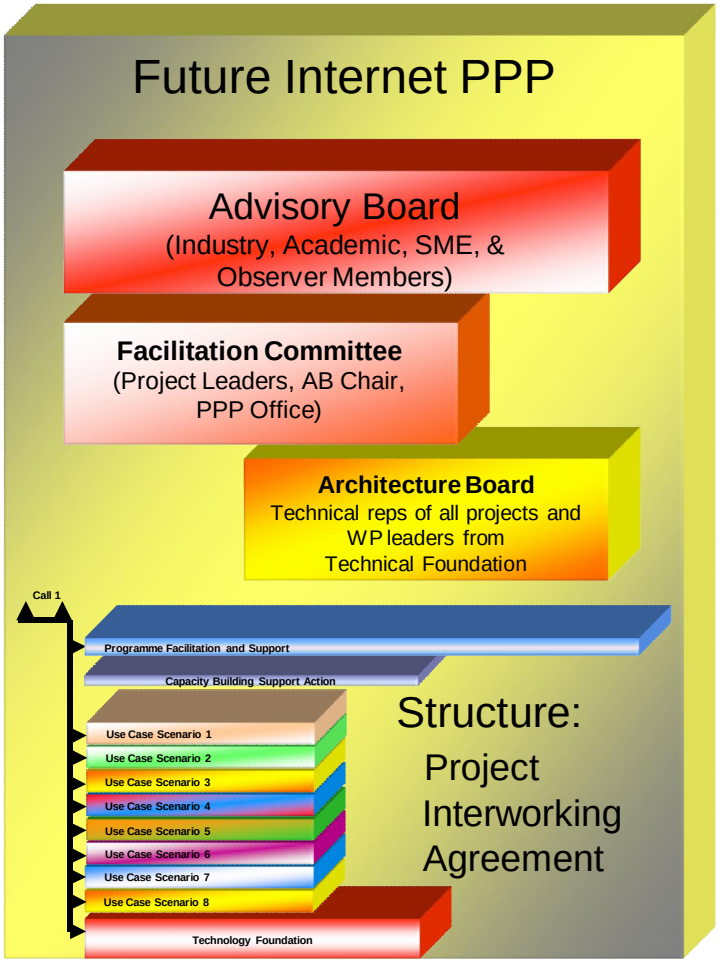
EFIA

European Future Internet Alliance

A proposal to the founding/core members of EFII & FIRA

EFIA





EX- FI : Expanding the Future Internet Community

EFIA Mission and Vision

EFIA's Vision:

"to advance the Internet significantly by 2020 using European technologies and services to the benefit of European Society and Industry"

EFIA's Mission:

"to be the European industrial led alliance that facilitates the focused research, development and innovation towards the Future Internet while promoting the uptake of the advanced technologies and business models for the future internet in partnership with all stakeholders in the community"

EFIA's Strategy:

"is to promote its vision through European, International and National Research Programmes to achieve a high synergy in the Future Internet activities across Europe and to significantly contribute to the realisation of a coherent viable and successful Future Internet in the shortest possible time"

EFIA

EFIA One Community supporting all

- **EFII & FIRA**, have agreed to unite efforts to create a unique organisation to support all parties interested in the enabling the provision of innovative services over the Future Internet
- EFIA is created to provide one common reference point for the European Future Internet discussions and a single interface for the dissemination and promotion of the European Future Internet Research agenda.
- EFIA will be an independent voice representing the communities interests
  - Mediate with national and international research programmes
  - Promote intercontinental uptake of results
- EFIA activities will include
  - Establishing and maintaining a Holistic Future Internet Vision,
  - Determining a strategic research Agenda towards implementing this vision
  - Monitoring progress and achievements in the implementation of the vision
  - Facilitating research collaboration in support of the SRA
  - Delivering recommendations to standards, regulations, etc., where changes are necessary to enable the Future Internet markets in Europe
- EFIA organisation will be lean and focused
  - Work groups addressing issues as prioritised by the community
  - Minimal operational structure
  - Self sustaining organisation, Membership based
  - Not-for-profit legal entity

EFIA Principles

- EFIA will develop, maintain and implement an a holistic European Vision including technology, business, legal & societal aspects
- EFIA will be output and result oriented with a strong emphasis on demonstrating concepts, architectures, and applications.
- EFIA will use peer and expert reviewers to ensure the quality of the technical work and outputs from the community
- EFIA is a European alliance with a fully open and inclusive membership model accessible to all
- EFIA will facilitate long term strategic European collaboration within current and future programmes, while supporting incremental progress through current programmes (PPP, KIC, FP7, Celtic??..)

EFIA: independent and efficient

- EFIA will be a non-for-profit organisation with a simple organisational structure:
  - A steering board, comprising an appropriate number of industries (ICT & Sectors) , SMEs and academics - who elect the chairman of the Alliance from their members.
  - An executive body comprising
    - An executive director responsible for implementing the **EFIA** strategy
    - A technical director, who maintains a technical board with domain experts, responsible for the **EFIA** vision and the technical coherence of the alliance,
    - an operational office that is efficient, sustainable, flexible and scalable
  - A matrix of working groups that cover technology areas (architecture, interfaces,..) and horizontal issues (sectors, programmes,..) as demanded by the community
- A suitable low cost limited liability legal structure will be established to handle membership and organisation of the alliance activities

EFIA

What is the relation?

Large scale trials and demonstrations

Use existing advanced infrastructures to test future Internet functions

Where are some of these infrastructures?

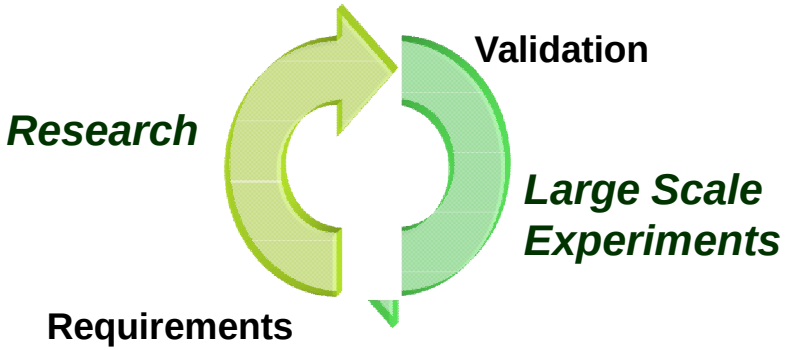
FIRE: Future Internet Research and Experimentation

FIRE has two related dimensions

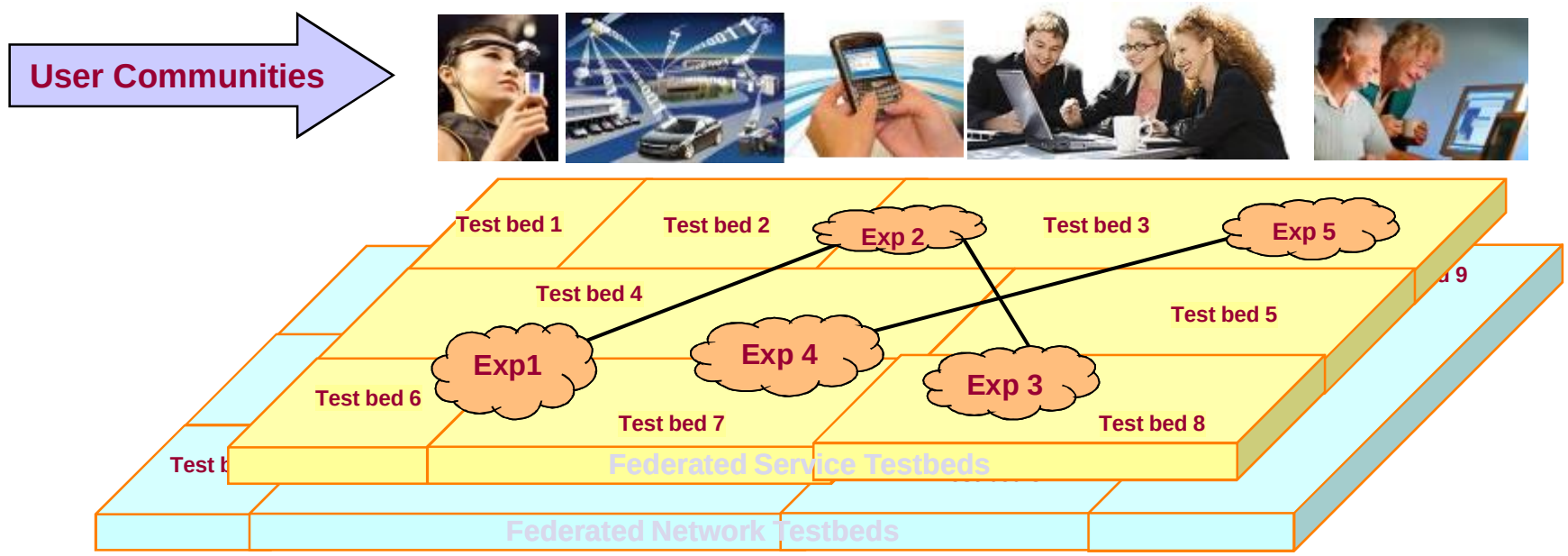
- Experimentally-driven long-term, visionary research on new paradigms and networking concepts and architectures for the Future Internet
- Building large-scale experimentation facilities to support both medium- and long- term research on networks and services by gradually federating existing and new testbeds for emerging or future internet technologies

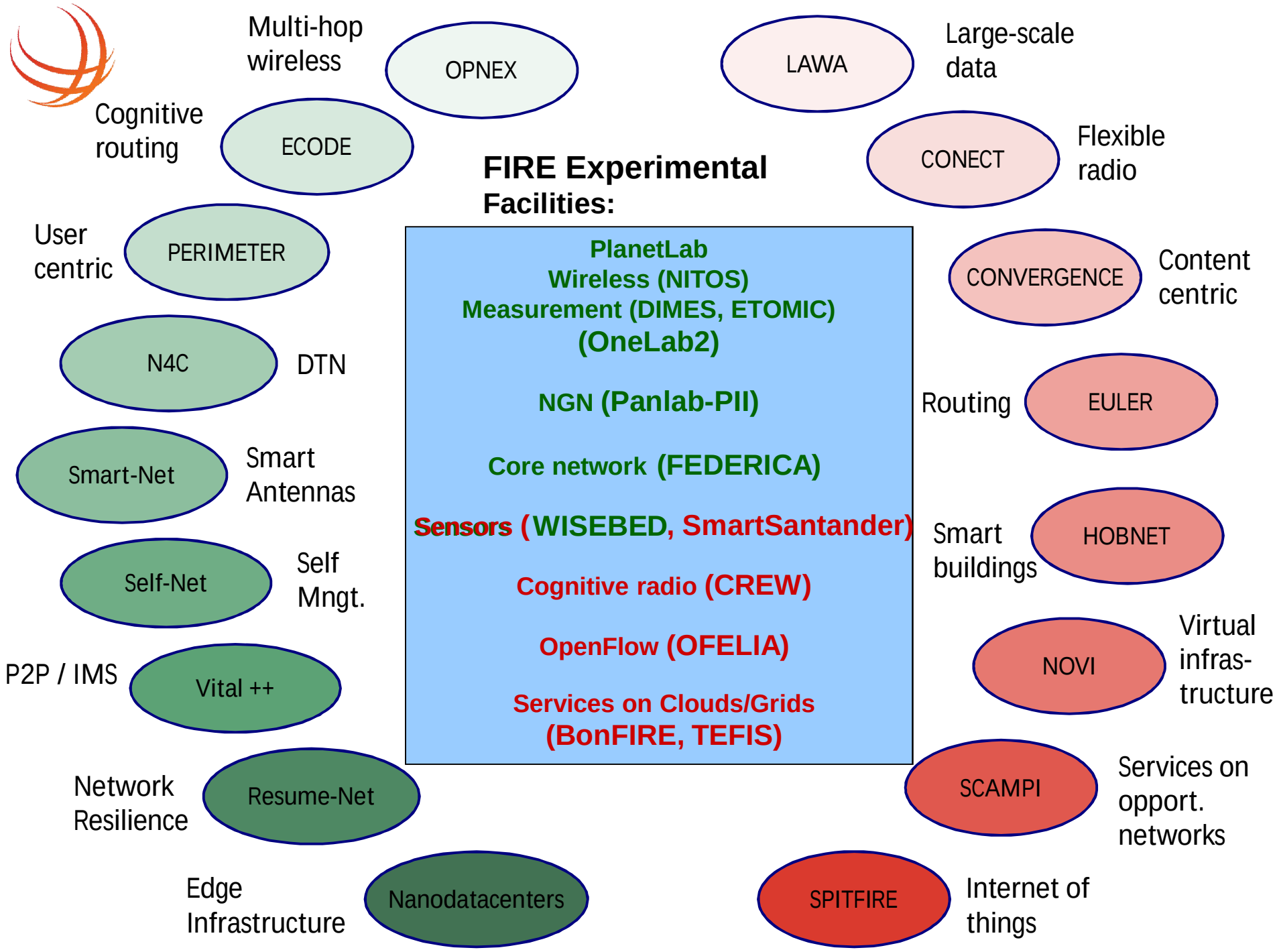
FIRE: Future Internet Research and Experimentation

FIRE Research

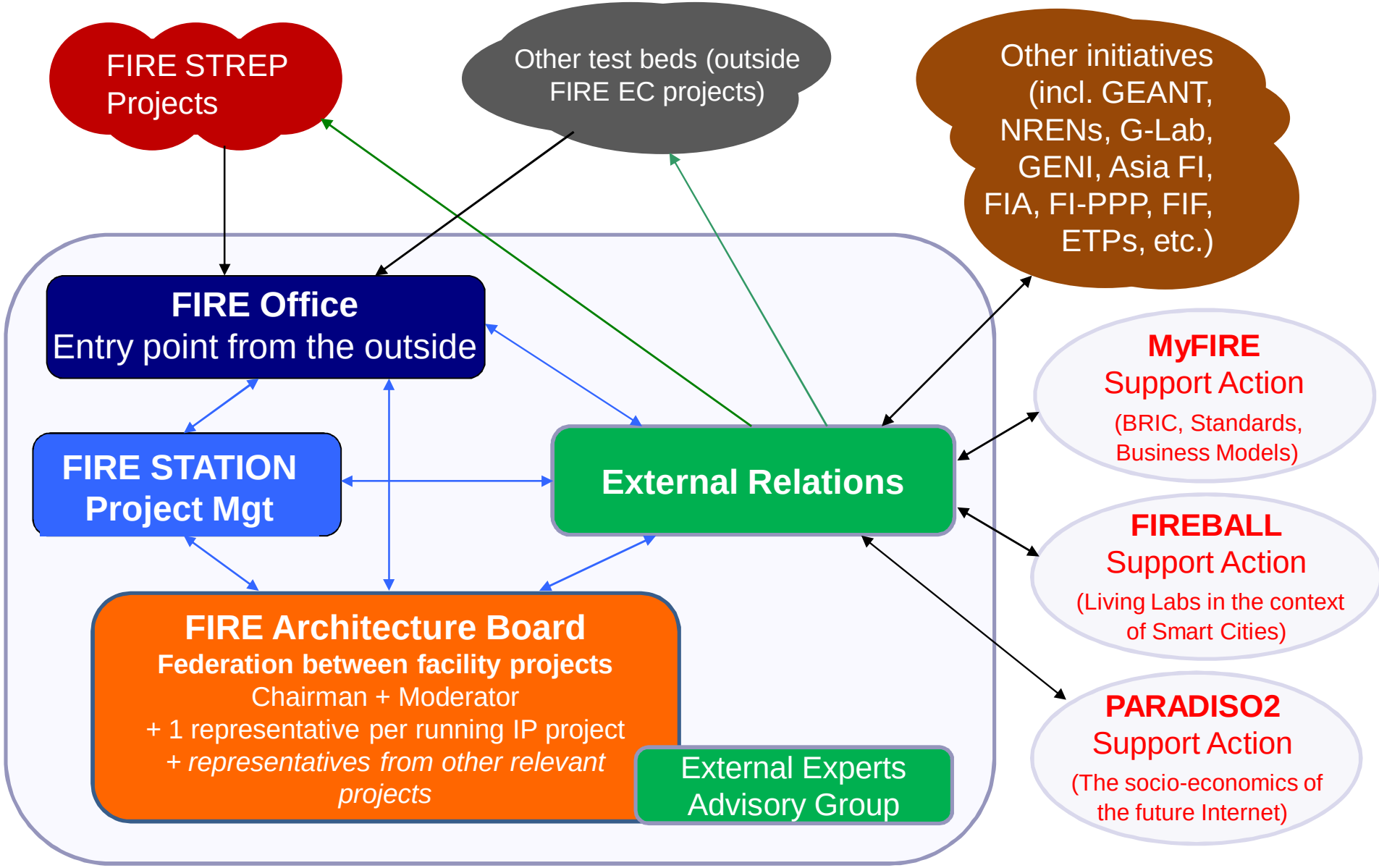


FIRE Experimental Facility



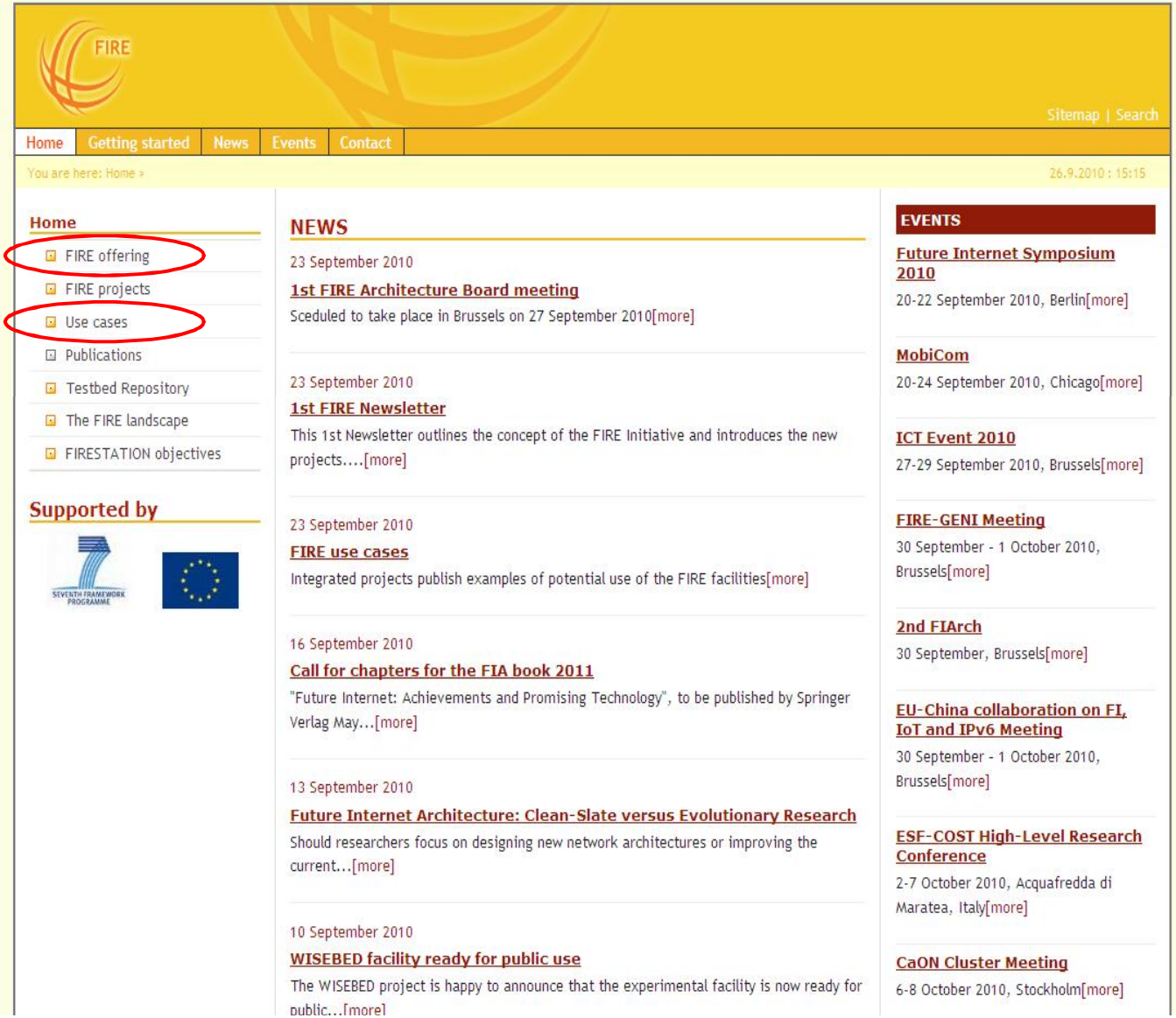

Multi-hop wireless
OPNEX
LAWA
Large-scale data
Cognitive routing
ECODE
CONECT
Flexible radio
FIRE Experimental Facilities:
User centric
PERIMETER
PlanetLab
Wireless (NITOS)
Measurement (DIMES, ETOMIC)
(OneLab2)
CONVERGENCE
Content centric
N4C
DTN
NGN (Panlab-PII)
Routing
EULER
Smart-Net
Smart Antennas
Core network (FEDERICA)
Sensors (WISEBED, SmartSantander)
Smart buildings
HOBNET
Self-Net
Self Mngt.
Cognitive radio (CREW)
OpenFlow (OFELIA)
NOVI
Virtual infras-tructure
P2P / IMS
Vital ++
Services on Clouds/Grids
(BonFIRE, TEFIS)
Network Resilience
Resume-Net
SCAMPI
Services on opport. networks
Edge Infrastructure
Nanodatacenters
SPITFIRE
Internet of things

The FIRESTATION Support Action



The FIRE Website www.ict-fire.eu

(maintained by the FIRESTATION Support Action)



The FIRE “Offerings”

The FIRE facilities available today:

OneLab testbeds
http://www.onelab.eu/index.php/testbeds/onelab-testbeds.html
- PlanetLab PLE/OneLab
  http://www.planet-lab.eu/
- Wireless NITOS/OneLab
  http://nitlab.inf.uth.gr/NITlab/index.php/testbed
- Measurements OneLab federated test beds
  - DIMES http://www.netdimes.org/new/
  - ETOMIC http://www.etomic.org/

Panlab/PII
http://www.panlab.net/services

WISEBED
http://www.wisebed.eu/

FEDERICA
http://www.fp7-federica.eu/

The FIRE “Use Cases” (1)

Some ideas of what the existing testbeds have been used for:

FEDERICA has been used for experimenting with a multi-domain, multivendor network resource brokering system (called “Harmony”)

OneLab2 has been used for experimenting with a distributed (over 50 sites) overlay routing system for a wide variety of network applications ranging from routing to peer-to-peer file sharing (called “Egoist”)

Panlab/PII has been used for experimenting with end-to-end self-management in a wireless Internet environment, adaptive admission control and resource allocation algorithms, and enhanced Web TV services over mobile phones

WISEBED has been used for experimenting with two physically distant sensor networks that were combined into one single virtual network

The FIRE “Use Cases” (2a)

Some ideas of what the new testbeds could be used for:

BonFIRE is open for experiments that pose state-of-the-art research challenges in Cloud Computing. For example:

- Dynamic Service Landscape Orchestration for an Internet of Services
- QoS-Oriented Service Engineering for Federated Clouds
- Elasticity Requirement for Cloud Based Applications

CREW has 4 wireless testbeds across Europe, with advanced spectrum sensing solutions. These can be combined to allow industry and academia to evaluate wireless protocols and/or hardware in a controlled environment

OFELIA has 5 testbeds across Europe that create a distributed OpenFlow infrastructure of multi-layer and multi-technology. The experimental facility will offer access to diverse technologies, including Ethernet, optical and wireless domains. The islands are connected by multiple 1GE links to the GEANT network

The FIRE “Use Cases” (2b)

SmartSantander has a unique city-scale experimental research facility that supports typical sensor (IoT) applications and services for a smart city

TEFIS has a Web portal that provides a single access point to different testing and experimental facilities. Initially, the TEFIS platform integrates 7 complementary experimental facilities, including network and software testing facilities

An example of a typical Use Case is a large scale SOA application for a huge travel-business eCommerce platform accessible both from Websites and Web Services

Further Information

Next Key Events in 2010/11:

- 15-17 December, 2010 - Ghent, FIRE Launch Day and 6th FIA Conference
- 17-19 May, 2011 - Budapest, 7th FIA Conference

Useful Websites:

- *ec.europa.eu/foi* – read about the many activities the EC undertakes on Future Internet
- *www.future-internet.eu* – The European Future Internet Portal - the community site
- *initiative.future-internet.eu* – The European Future Internet Initiative
- *cordis.europa.eu/ict/ch1* – Ongoing European FI research & development activities in Challenge 1 (including FIRE)
- *www.ict-fire.eu – FIRE website*

Thank you for your attention

Anastasius Gavras
Eurescom GmbH