Europeiske initiativer for interoperabilitet.

Hva er overordnet status?
Hva gjør Kommisjonen?

Arne Jørgen Berre, SINTEF

Oversikt – Interoperabilitet i EU

- **Future Internet**
  - Internet of Services, Things, Content and Humans (ref. også VERDIKT)
- **IDABC, EIF 2.0, Semic.eu**
- **EIT – KIC – European Institute of Innovation and Technology**
  - F3I – Future Internet (Knowledge and) Innovation Institute (SINTEF/Norway participation in node on "Digital Europe" w/Oxford Univ + Madrid, Munchen, Leuven, Budapest)
- **Objective 1.3**
  - FInES cluster – Position paper, Roadmap, input ??
  - Enterprise Interoperability Science Base (incl. concerted action) ?
  - Call 5 (Information Day September 16th, for October 26th)
  - INTEROP Vlab – (North pole: Norge,Sverige(KTH),Finland(UoH))
  - COIN IP, FONTUS SME proposal, others ..
  - eChallenges (Istanbul), FIA (Stockholm)
  - eGovernment aktiviteter, eGovShare, workshops,.. Greek eGov Interoperability center
- **CIP PSP – eParticipation, eProcurement (PEPPOL), etc.**

Future Internet
An Architectural problem

Management on a real-time basis of the allocation and use of networked resources allowing for dynamic and responsive service provisioning

Networks

Things/Objects
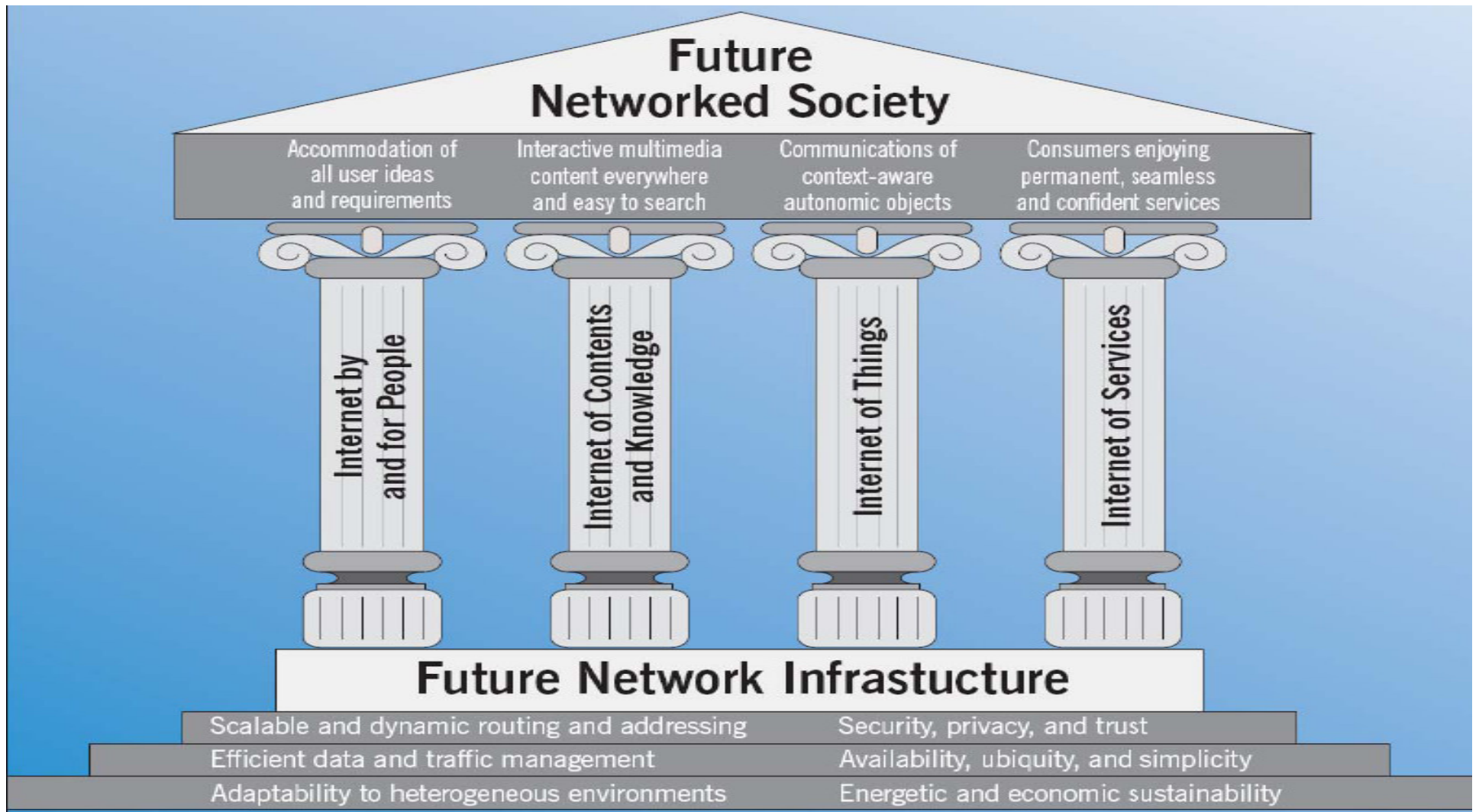
Content/Media

Software/Services

Security/Privacy
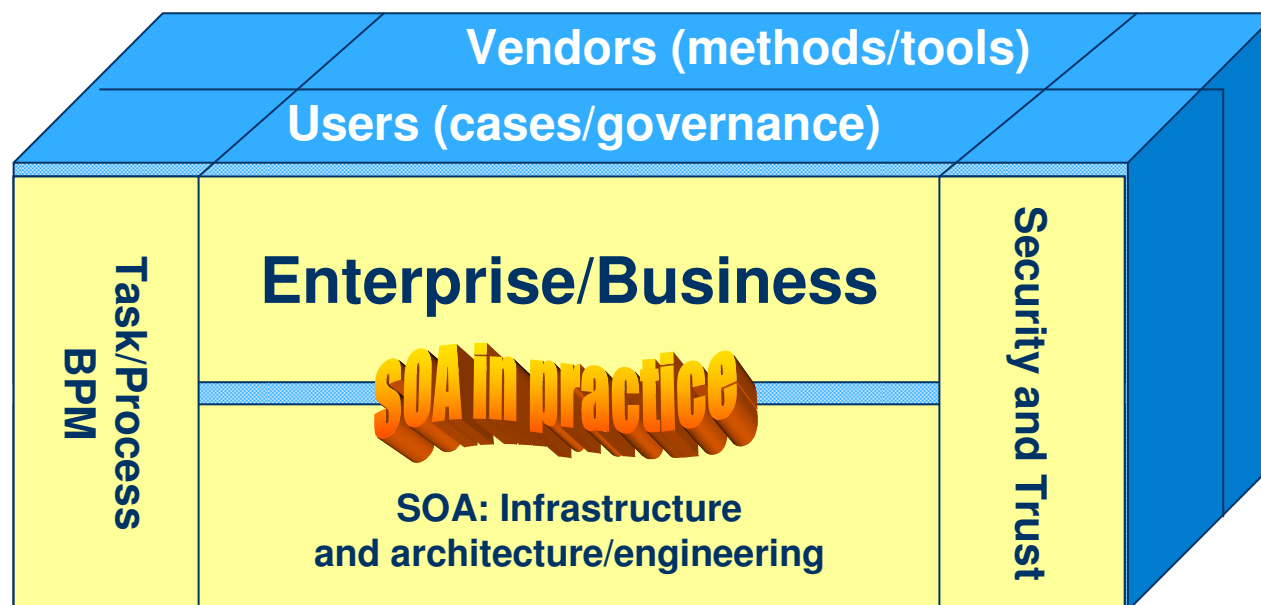
Governance

Applications

Exp. Facilities

European Technology Platforms X-vision Report

VERDIKT Resource network – Norway
"Internet of Services"
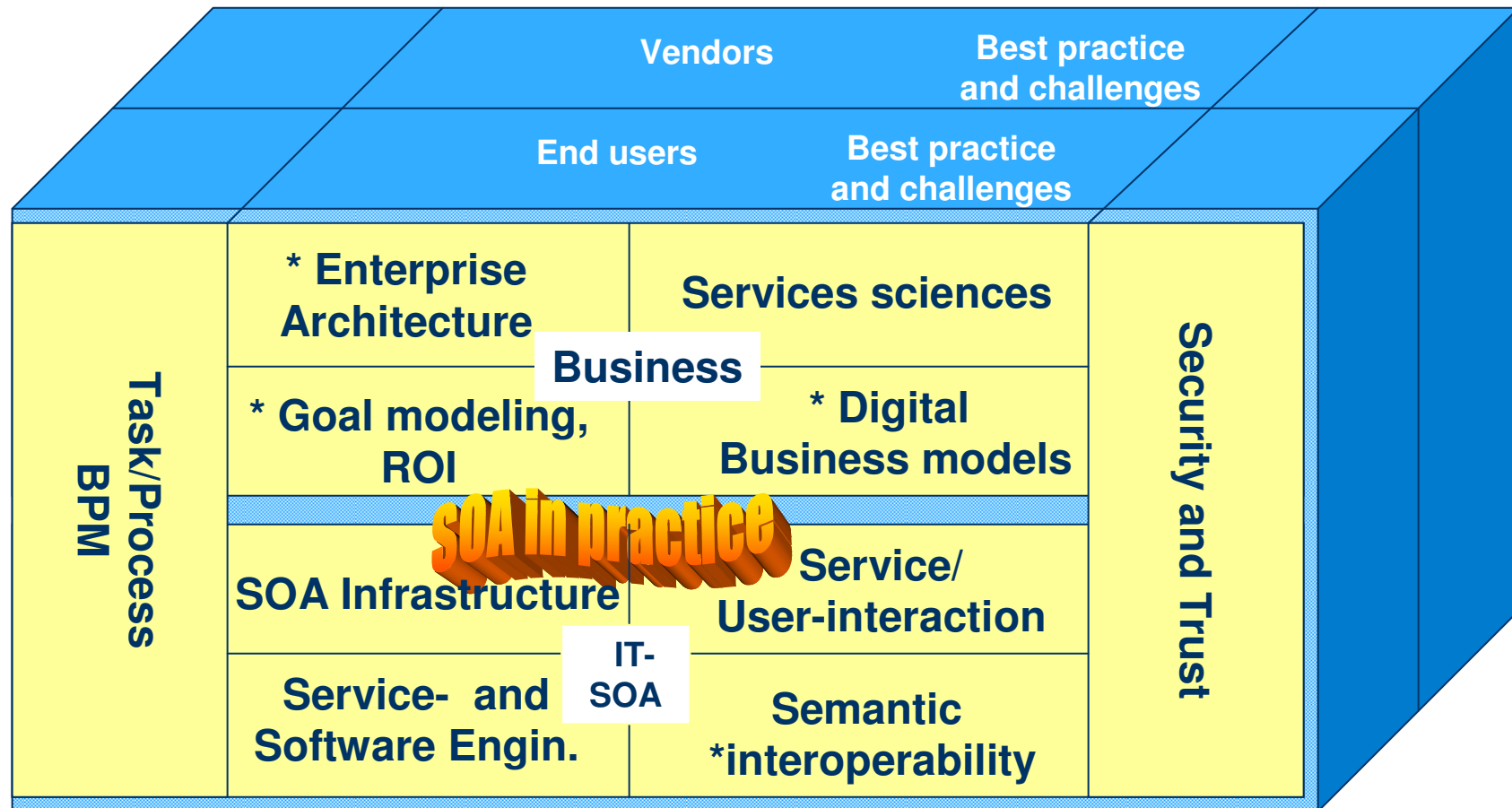## SOA-in-Practice

Dr. Arne-Jørgen Berre

SINTEF,   E.mail: Arne.J.Berre@sintef.no,   set.sintef.no/soaipraksis

A Norwegian Network, with Experience, Research and Technology forums

SOA in Practice SIGs
- Innovation areas -

Vendors — **Best practice and challenges**

End users — **Best practice and challenges**

Task/Process BPM

* Enterprise Architecture

Services sciences

Business

* Goal modeling, ROI

* Digital Business models

SOA in practice

SOA Infrastructure

Service/ User-interaction

IT-SOA

Service- and Software Engin.

Semantic *interoperability
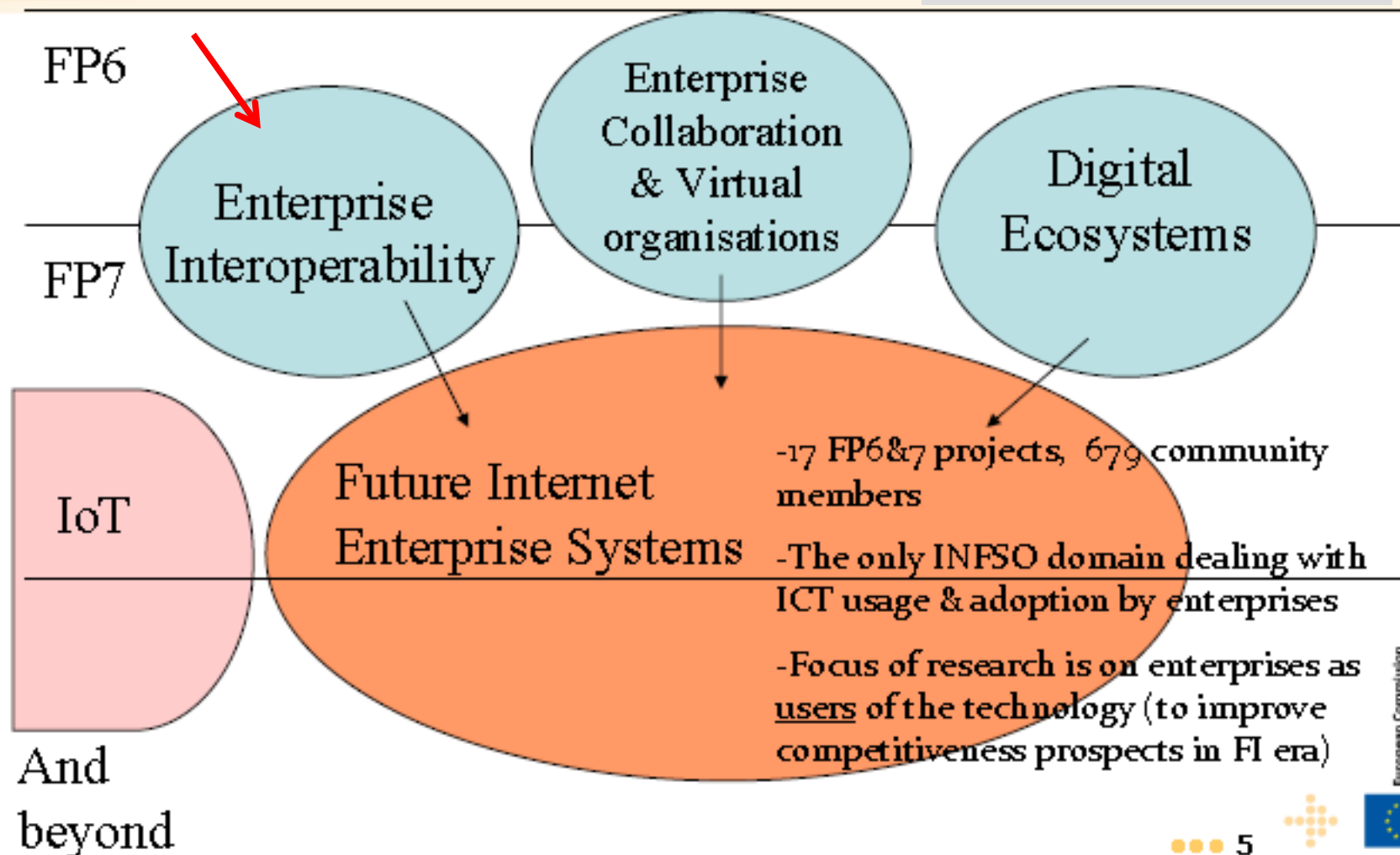
Security and Trust

* = SIGs with topics beyond NESSI WGs
Service and Software Engineering have been integrated into one group

SINTEF   ICT   6

The Future Internet Enterprise Systems – FInES Cluster in a Nutshell

FP6

FP7

Enterprise Interoperability

Enterprise Collaboration & Virtual organisations

Digital Ecosystems

IoT

And beyond

Future Internet Enterprise Systems

-17 FP6&7 projects, 679 community members

-The only INFSO domain dealing with ICT usage & adoption by enterprises

-Focus of research is on enterprises as users of the technology (to improve competitiveness prospects in FI era)

European Commission Information Society and Media

5

FInES cluster – Future Internet Enterprise Systems

- **12 FP6 & FP7 projects** (1 IP, 1 NoE and 10 STRePS)

- Vision and research objectives are defined in a Research Roadmap (Version 4.0 published in July 2006, Version 5.0 published in March 2008)

- A community of 600 stakeholders (users, providers, intermediaries, public authorities, standards organisations, the research community, ...)

- Strong focus on cross-domains co-operation (web semantics, web content technologies, grids, collaborative environments, service oriented architectures, eGovernment, etc.)

- Natural link with standardisation (CEN's eBIF, ICT Standardisation Study, ETSI, etc.) and EU Enterprise policy. Cooperation with the other Commission Directorates-General

- Head of cluster: Cristina Martinez

- A clearly identified value proposition for the domain

FInES Cluster Projects

http://cordis.europa.eu/fp7/ict/enet/ei-projects_en.html

- FP7 COIN IP(SINTEF)
- FP7 COMMIUS
- FP7 iSURF
- FP7 K-NET
- FP7 SPIKE
- FP7 SYNERGY

- FP6 CONTRACT
- FP6 CoVES
- FP6 IMPORTNET
- FP6 ONE
- FP6 OPAALS
- FP6 SUDDEN

- + EMPOWER (SME),
  SINTEF, DI Systemer, ++

FInES Cluster Publications

- **Enterprise Interoperability Research Roadmap (Version 1 to Version 5, 2004 – March 2008)**

  http://cordis.europa.eu/fp7/ict/enet/ei-research-roadmap_en.html

- **Value Proposition for Enterprise Interoperability Report (January 2008)**

  http://cordis.europa.eu/fp7/ict/enet/ei-isg_en.html

- **FInES Cluster Position Paper**

  (1 September 2009)

  http://cordis.europa.eu/fp7/ict/enet/fines-positionpaper_en.html

- **FInES Research Roadmap**

  (Call for Contribution, September 2009)

From Enterprise Interoperability Research to Future Internet Enterprise Systems
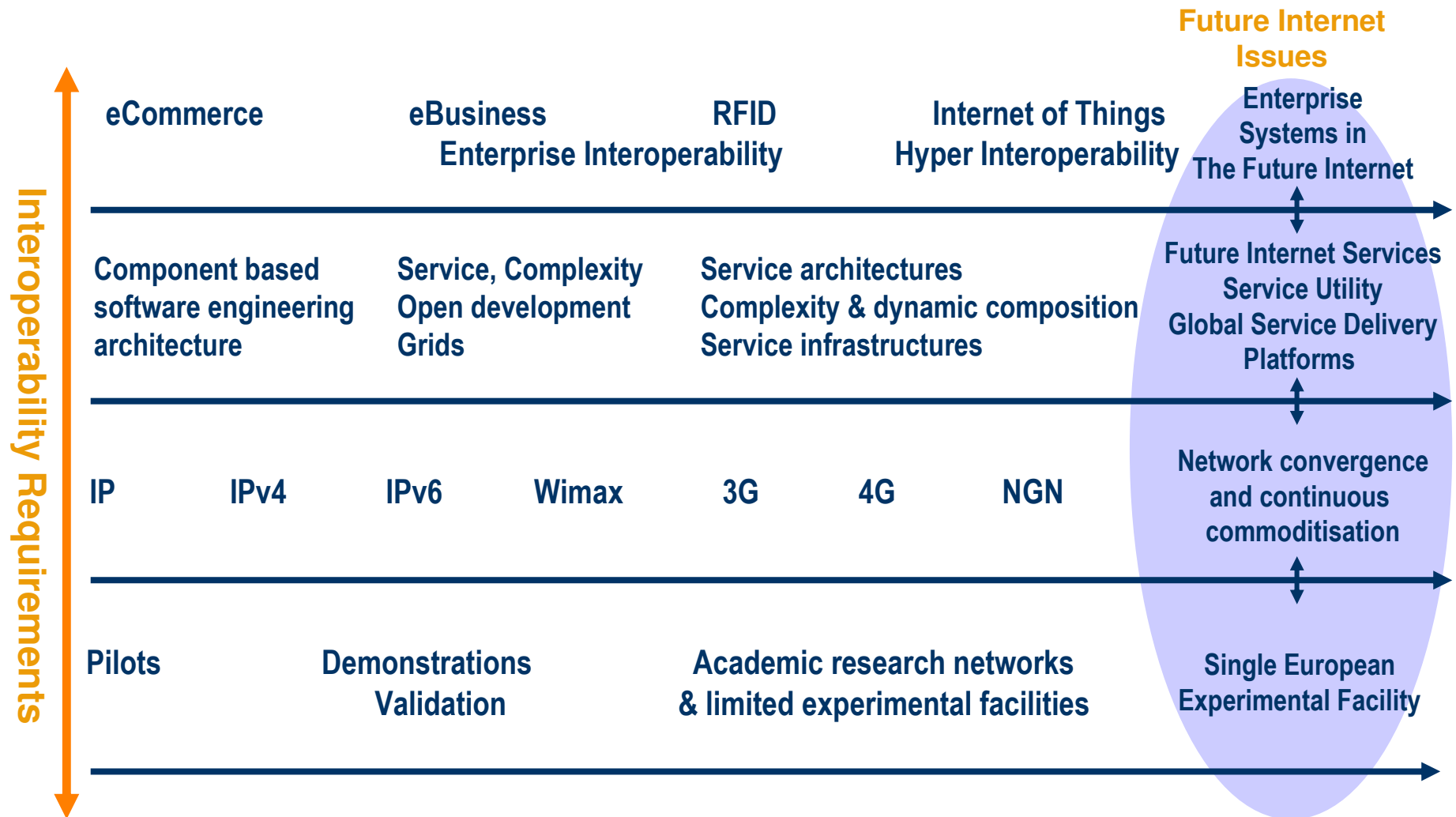
- **First Workshops under FP5**
- **Research & policy activities under FP6**
  - Autumn 2003 – Dec 2006
    - Enterprise Interoperability cluster (from cluster of projects to a community of 250+ experts contributing)
    - EI Research Roadmap (v4)
    - First international annual conference (i-ESA)
- **Research & policy activities under FP7**
  - From 2007-2008
    - Launch of the ISG on Value Proposition for EI: book published
    - Update of the EIRR (v5)
    - Call 1: 5 EI/7 new projects & 400+ members
    - Incorporating the Enterprise Collaboration domain
  - Since the Future Internet initiative
    - re-orientation of the cluster: the FInES cluster (U 3 sub-domains)
    - currently 17 ongoing projects – 679 entries in our mailing list
    - Call 5 under preparation
    - The EI Science base initiative launched: ongoing work
    - The FInES domain's view on the economic crisis: position paper
    - Preparing for next WP 11-12: necessity to launch a new Research Agenda

European Commission
Information Society and Media

4

Towards the Future Internet
from an enterprise perspective

Interoperability Requirements

eCommerce	eBusiness Enterprise Interoperability	RFID	Internet of Things Hyper Interoperability	Enterprise Systems in The Future Internet
Component based software engineering architecture	Service, Complexity Open development Grids	Service architectures Complexity & dynamic composition Service infrastructures		Future Internet Services Service Utility Global Service Delivery Platforms
IP IPv4 IPv6 Wimax	3G 4G NGN			Network convergence and continuous commoditisation
Pilots	Demonstrations Validation	Academic research networks & limited experimental facilities		Single European Experimental Facility

SINTEF

ICT

FInES Cluster Scoping

… three future technology and socio- economic transformations stand out: the '*Future Internet*', the '*alternative paths to ICT components and systems*' and '*ICT for sustainable development'*
Source: FP7 ICT WP 2009-2010

▼   ▼   ▼

| Future Internet | A new generation of ICT-enabled enterprise systems | Sustainable businesses |

Global issues, European focus, business-driven perspective

▲   ▲   ▲

Global economic crises occur within social transformation …
ICT is an enabler for social transformation
Source: Viviane Reding, ICT for a Global Sustainable Future Conference, 22-23 January 2009

Concurrent global crises

Enterprise Issues
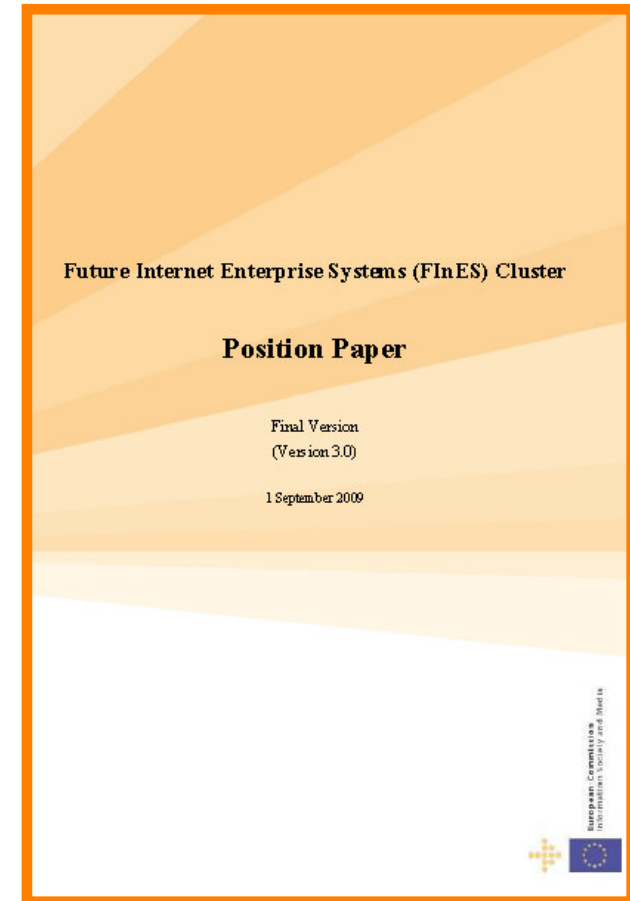
Problems linked to ICT

FInES Cluster
Vision Statement

The full potential of the Future Internet is accessible to, relevant for, and put to use by European enterprises including SMEs. The Internet thus becomes a universal business system on which new values can be created by competing as well as collaborating enterprises - incumbent as well as new - through innovation in a level playing field, with sustainable positive benefits for the economy, society and the environment.
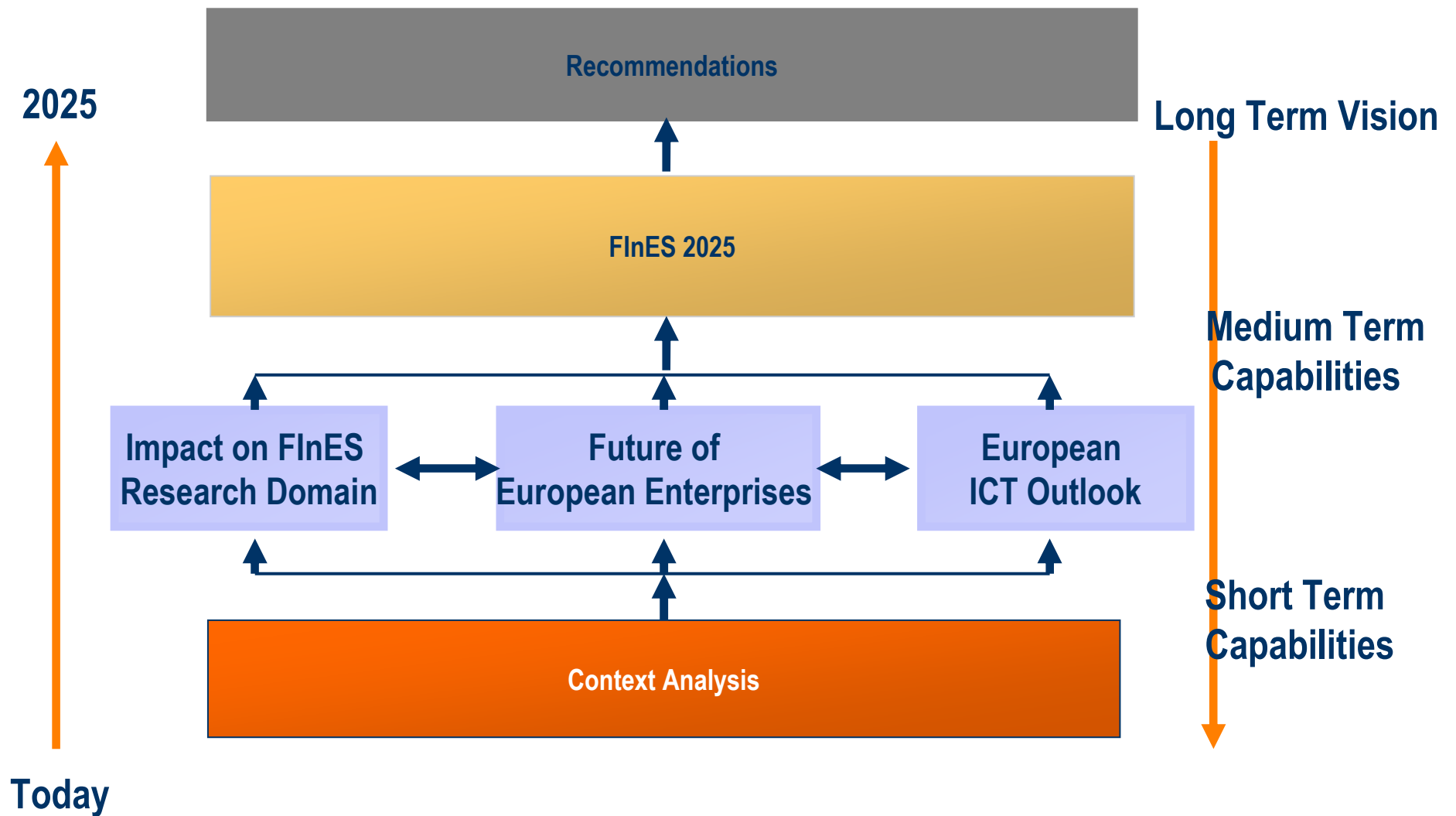
FInES Cluster Position Paper
1 September 2009

1. To analyse the current economic context from the perspective(s) of **European Enterprises**;

2. To provide a contribution on the **vision, nature, shape and requirements of Future Enterprises** in complement to the above;

3. To support the **re-orientation of the FInES Cluster** in light of the new entrants;

4. With reference to the current (2009-2010) and the next (2011-2013) FP7 ICT Work Programmes, to input to the **context for the research work of Objective 1.3**

Future Internet Enterprise Systems (FInES) Cluster

Position Paper

Final Version
(Version 3.0)

1 September 2009

European Commission
Information Society and Media

FInES Cluster Position Paper
1 September 2009 (cont.)

FInES Research Roadmap
Some background considerations

- Global Economy: *sustainable vs sustained growth*
- Production systems
- Contextualized business
- Business Ecosystem
- Beyond the Knowledge Economy
- Engineering of uncertainty
- Scale-free socio-technological networks

FP7 – Call 5 (Oct. 26th, 2009)

- Objective 1.3b - **Future Internet based Enterprise Systems** **(35 Meuro/x – with 1.3a on Internet of Things, will double in size for 2010/11 calls)**

- ***Software platforms supporting highly innovative networked businesses on top of an Internet*** of Services. These platforms should enable increased flexibility of the resources managed by virtual organisations and facilitate dynamic outsourcing with third parties capability to aggregate services, act as intermediaries for delivery, and provide innovative new channels for consumption. <u>Collaboration and interoperability</u> are key features of these dynamic ecosystems supported by next generation knowledge management services, making use of semantically enriched information, including object/sensor information.

- (- may include use of social networking, Web 2.0, twitter, facebook, .. in an enterprise setting)

Proposals in progress – consider participation ?: FONTUS SME IP (pilot case w/SMEs ?), DART (Ontologies and business rules, SBVR) (!), Interoperability science (!), ..

Events

- eChallenges – Istanbul, 21-23 October 2009
- http://www.echallenges.org/e2009/

- FIA – Future Internet Assembly, Stockholm, 23-24 November 2009
- http://www.fi-stockholm.eu

- I-ESA 2010, Coventry, UK, April 2010 (paper from Semicolon ?)

CIP - Competitiveness and Innovation Framework Programme

- **The Competitiveness and Innovation Framework Programme (CIP) aims to encourage the competitiveness of European enterprises. With small and medium-sized enterprises (SMEs) as its main target, the programme supports innovation activities (including eco-innovation), provides better access to finance and delivers business support services in the regions. It encourages a better take-up and use of information and communications technologies (ICT) and helps to develop the information society. It also promotes the increased use of renewable energies and energy efficiency.**

Information Communication Technologies Policy support Programme (ICT PSP)

- Developing a single European information space
- Strengthening the European internal market for ICT and ICT-based products and services
- Encouraging innovation through the wider adoption of and investment in ICT
- Developing an inclusive information society and more efficient and effective services in areas of public interest
- Improving of quality of life

e-Participation

- **The call for proposals for objective 3.5, e-Participation - empower and involve citizens in transparent decision making in the EU, opens on 5 June and will close on 23 September 2009.**

ICT PSP

■ ICT PSP supports pilot actions and networking activities in areas such as:

- ■ ICT for health
- ■ ICT for ageing and inclusion
- ■ Digital Libraries
- ■ ICT for government and governance
- ■ ICT for energy efficiency, environment and
- ■ Smart mobility
- ■ Public Sector information…

Call3bis

■ **Call3bis will concern Pilot B only. Pilot B is one of the four types of funding instruments of the ICT PSP** (the other instruments cannot be used for call3bis)**:**

■ Pilot A - building on initiatives in Member States or associated countries and focusing on developing EU-wide interoperability of ICT-based solutions;

■ • **Pilot B - stimulating the uptake of innovative ICT based services and products;**

■ • Thematic Network (TN) - providing a forum for stakeholders for experience exchange and consensus building;

■ • Best Practice Network (BPN)2 – promoting the adoption of standards and specifications for making European digital libraries more accessible and usable.