Software & Services: Drivers to Innovation

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Why is software important?

Software and Services:

A *key industrial sector*

- *1Mio people working in the sector in EU*
- *215B€ market (70B€ SW)*
- *EU ICT market growth mainly driven by software and IT services (EITO '06) 5,8% 2006-07*

The *engine room* of the information society

- *Important EU industry sectors depend on S&S: aircraft, telecom, automotive, consumer electronics, financial servicies, retails…*

An *enabling factor* to achieve the Lisbon's goals

- *Innovation, productivity growth and efficiency of EU gov., industry and society at large*

Software & Services: Some trends

Digital convergence

Computing, communication and media infrastructures relying on software platforms

Ambient intelligence runs on software

Vast number of network-enabled items (tags, RFID, …)

Software will be the crucial component in the interconnected world

From product to Services

eServices, SOA, Software as a service

Growing requirements for reliability and dependability

Our societies and economies depend more and more on software

Laws, regulations, habits and culture

will be partially implemented and coded in software: privacy & data protection, business methods, accounting standards, intellectual property rights…

Software driving innovation

Software provides the added value, intelligence and innovation underlying competitive success in today's innovative markets.

- **Mobile phones are differentiated through software enabled features**
  5 M lines of codes in 3G mobile phones

- **VoIP, Software is the key innovative enabling-element of the real-time telephony**
  very innovative router algorithms are opening new and largely unexplored business opportunities

- **Cars, software provides innovative services to the driver and enhance safety**
  Average car in 2010 will have 100 M lines of code

- **IPTV television over the Internet, relies on innovative software services to combine content, networks and devices**

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Disruptive changes in Software and Services

- **eServices and service architectures**
- **Complexity and scalability in the interconnected world**

  Large complex software systems that are self-healing, self-adapting, reliable and trustable
- **Collaborative software development and distribution (FOSS)**
- **Emerging competition from newly industrialised countries**

New challenges and opportunities for Europe
The race starts again?

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Can Europe master these changes?

Opportunities:

- **Drive the shift towards "e-services", standardisation**
- **Take advantage of the value added shift from hardware to software**
- **Master complexity**
- **Capitalise on the convergence of platforms (mobiles, multimedia, Internet…)**

Invest more in research: innovate, innovate, innovate!!!

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Does Europe need a SW strategy?

☑ Broadband and high speed access for citizens, business and administrations

☑ Content and media policies

☐ A European Strategy on Software and Services?

- ➔ *to ensure that software and services can continue to be produced competitively in Europe,*
- ➔ *to offer users reliable and trusted products and services to compete in the digital economy, and citizens to participate fully in the Information Society,*
- ➔ *to create a more innovative Europe through software and services*

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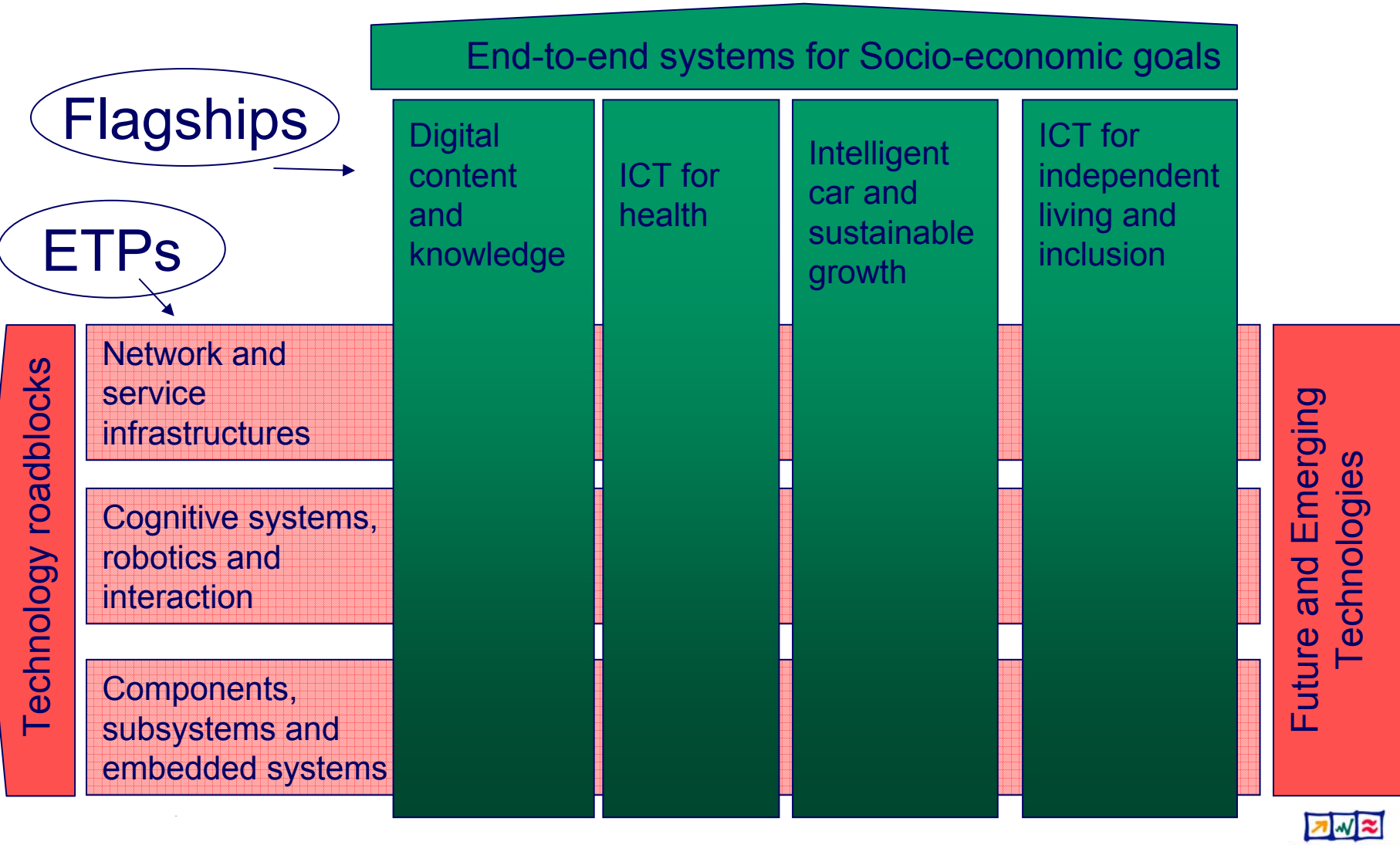
Framework Programme VII

Software & Services research 2007-2013



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http://cordis.europa.eu/fp7/

Challenge 1 'Pervasive & Trusted Network & Service Infrastructures'

draft

The network of the future

- Ubiquitous network infrastructures and architectures
- Optimised control, management and flexibility of the future network infrastructure
- Technologies and systems architectures for the Future Internet

Secure, dependable and trusted infrastructures

- Security & resilience in network infrastr.
- Security & trust in dynamic and reconfigurable service architectures
- Trusted computing infrastructures
- Identity management and privacy enhancing tools

Services & SW Architectures, Infrastructures and Engineering

- Service architectures
- Service/SW engineering approaches
- Strategies and technologies enabling mastery of complexity, dependability and behavioural stability
- Virtualisation tool, system software and network – centric operating systems
- Enabling the integration of dynamic service architectures in the networked enterprise

Networked Media

- Interoperable MM network & service infrastructure
- End-to-end systems

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IST WP2007-2008, soon to be published

Industrial Commitment →

www.nessi-europe.com

Develop a visionary strategy for **Software and Services** driven by a common **European Research Agenda** where innovation and business strengths are reinforced.

Expected impact:

- standardisation, common service platform open standards
- improve EU competitiveness in S&S
- reduce sector fragmentation and align R&D efforts
- openness: an open initiative mobilising SMEs, academia and industry
- address key R&D and policy challenges in S&S

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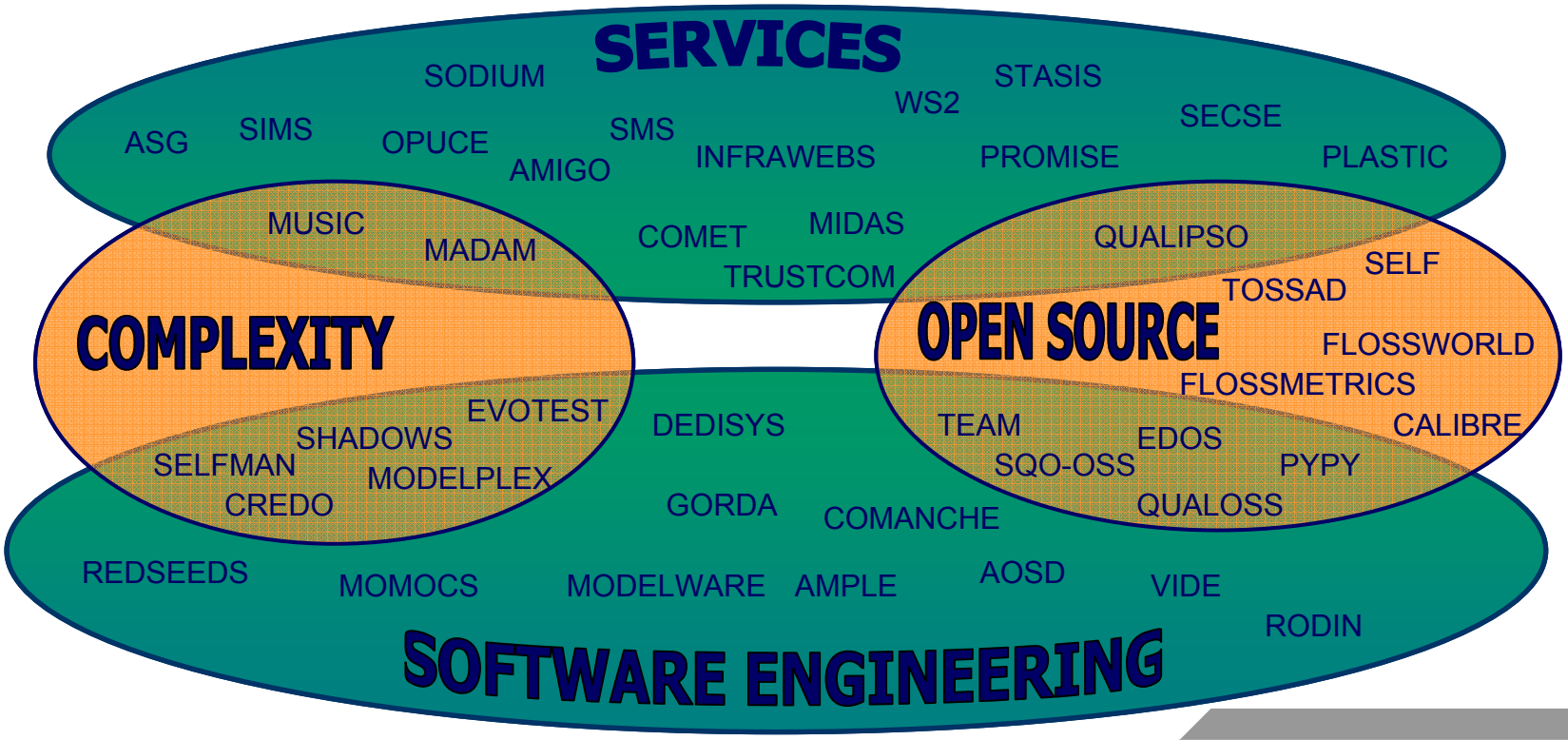
Project portfolio



R O A D M A P P I N G
Fassbinder, NessiSoft, 3S

46 projects + 4 studies
275 M€ (Total investment)
168 M€ (EC funding)
525 Participants
2400 Person/year

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http://cordis.europa.eu/ist/st/projects.htm

Conclusions

- Convergence and change in the technology landscape
- Software and Services are more important than ever before
- Strengthen EU research policy in Software and Services – FP7
- Strong Industry commitment – NESSI
- Is an EU strategy on Software needed?