

US-EU R&D Procurement Cooperation Industry Perspective

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“Ways of successful science, technology and
innovation cooperation between Europe and the
USA”



Participation of SAP Research and Successes with Framework Programs

SAP Research

- ❑ **Drives Business Impact by Exploring and Materializing Disruptive Innovation Trends**
- ❑ **Operations** at 19 Locations on all Continents
- ❑ **Eco-System:** 500+ Researchers; 100+ Partners
50+ Universities

Our Motivation in Framework Programs

- ❑ **Co-Innovation** Environment
- ❑ **Cooperation** with Key Stakeholders
- ❑ **Leadership** of EU Innovation Landscape

Role of SAP on FP7 Projects (for the Period Jan'08 – Dec'14)

- ❑ **62 Projects; Leading 18**
 - ❑ **€ 60M Investment by SAP**
 - ❑ **175 Full Time Researchers**
- ❑ **50 Proposals in Call 8**

Success Stories: Productization from Selected Framework Projects

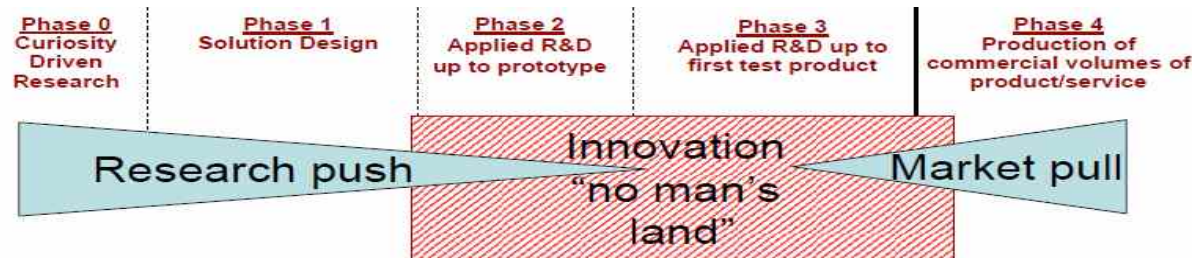
- ❑ **SAP Business Process Management Solution - Galaxy.**
(EU projects : SUPER, Nepomuk, R4eGov, FUSION)
- ❑ **SAP Manufacturing Real-world Integration Platform.**
(EU projects Ginseng, SmartProducts, Sensei, Apollon)
- ❑ **SAP Security and Trust Solution: Cross-Border Processes, Public Security and Global Benchmarking Services**
(EU Projects R4eGov, AVANTSSAR, SecureSCM, Ginseng, WASP)
- ❑ **SAP e-Government Solutions - Constituent-Centric Services ,**
(EU Projects: PICTURE, FIT, Ecospace, SUPER, Laboranova)
- ❑ **SAP ByDesign and Application Platform Engineering**
(EU Projects ATHENA, SUPER, R4eGov)

SAP Experiences with Framework Projects

Where are we today?

Room to Improve Innovation Capacity of Framework Programs

- ✓ No Continuity of **Consortiums** to move results into Marketable Innovations
 - ❖ Framework Consortiums Disappear at the end of Projects, thus the Eco-System
 - ❖ Collective Follow-up to Next Steps in the Innovation Cycle do **not** Materialize
- ✓ A Gap (No-man's-Land) Between Research and Market is Created ⁽¹⁾



- ✓ Public Entities can create demand for Innovation for the benefit of Society as Early Adopters whereas Industry can bring research results into market.
 - ❖ This link is not fully addressed in the current Framework Programs

➤ How can we successfully convert **Research results** into **Breakthrough Innovations**?

(1) EU Commission ICT 2010 - FP7-ICT-2011-12 Pre-Commercial Procurement (PCP) Actions. Lieve Bos - Strategy for ICT Research and Innovation Unit DG INFSO

Moving Forward From Research To Innovation

Innovation Takes Place When Invention is Transformed
Successfully into a Commercial Application

1. Recommended Horizon 2020 Funding Policy and Instruments

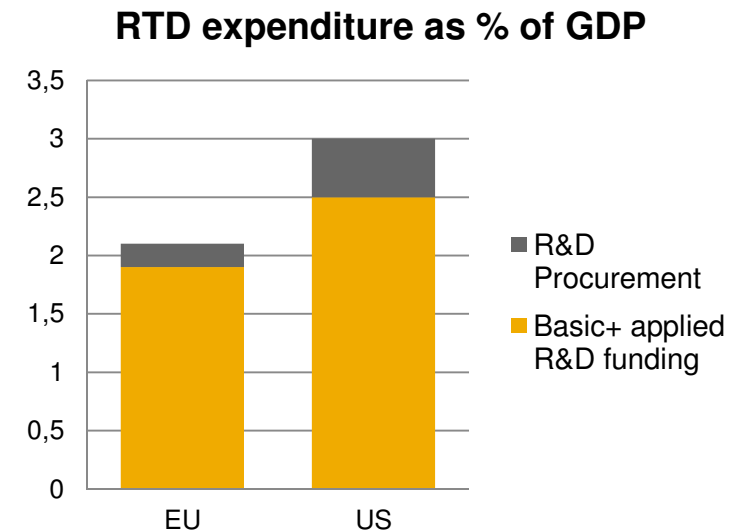
- ❑ **Improve EU's Capacity to Transform Research into Innovation**
- ✓ *Involve More User Industries and Public Sector on Framework Projects as Early Adaptors*
- ✓ *Stimulate Innovative Pre-Commercial Public Procurement at Member States*
- ✓ *Attract More Venture Capital Funding - EIT Initiative can Play an Important Role*

2. Recommended Horizon 2020 Structures

- ❑ **Focus on Fewer Lighthouse Projects with Higher Impact**
- ✓ *Target Projects Addressing Grand Challenges of Europe*
- ✓ *Define Clear Commercialization Roadmap for Framework Projects from the Beginning*
- ✓ *Fund More Focused Lighthouse Projects like PPP Initiatives (Future Internet, Factory of the Future) which Support Foundation of the European Digital Economy*
- ✓ *Implement Financial, Reporting and IPR Simplification Measures*

Pre-Commercial/Technology Procurement EU/US Comparison

- Many public sector challenges unsolvable via public procurement of existing solutions thus, *forward looking R&D procurement strategy required*
- Public expenditure 1/2 of national economy (47% of EU-25 GDP)
- R&D procurement happens less frequently in Europe (than US/Japan)
- ~16 times less is spent on R&D procurement in Europe (€2,5Bn/Y) compared to for example the US (\$50Bn/Y).



- ❑ **% of Total Procurement Spending on R&D Procurement**
 - **15% US vs. 1% EU**
- ❑ **% of Total R&D Procurement Spending on Defense/HS**
 - **90% US vs. 51% EU (*spill-over effects due to dual use of technologies*)**
- ❑ **US spending on non-Defense R&D Procurement is 4 times higher than EU**

ftp://ftp.cordis.europa.eu/pub/fp7/ict/docs/pcp/precommercial-procurement-of-innovation_en.pdf

R&D Procurement - Practices in the US

- US Agencies/Departments funding R&D Procurement projects are also beneficiaries of the results and they become *Early Adopters*
 - Department of Health
 - Department of Defense (DARPA)
 - Department of Energy (ARPA-e,)
 - Department of Homeland Security (HSARPA,...)
 - Department of Transportation (RITA,...)
 - Office of the Director of National Intelligence's Director of Science and Technology (IARPA,...)
- R&D Procurement programs have been in place in the US since 60's (Technology Procurement, Pre-Competitive R&D Procurement)

Examples of innovative solutions that emerged from US R&D procurements include

- Internet Protocol technology,
- Global Positioning System,
- High performance super computing,
- Key innovations in semiconductor technology.

In Europe at the European Commission and EU member State Level There is a Big Push on Pre-Commercial Procurement and Procurement of Innovation

- Becoming a Key Driver of Innovation in Horizon 2020 and Overall Digital Agenda

PCP activities in FP7-ICT-WP2013

Proposal under discussion

- EC co-financing for cross-border PCP pilots
 - CP-CSA instrument: Commission not involved in PCP
 - Digital preservation (5 €m)
 - E-learning (5 €m)
 - ICT for Health / Ageing well (8 €m)
 - Call open to joint PCPs in any area of public interest (4 €m)
 - Joint Commission - MS PCP procurement
 - eGov / Cloud Computing (10 €m)

Top 10 Priority of USG: Accelerate Secure & Effective Cloud adoption
- EC support for networking procurers in preparation of PCPs
 - ICT for health / ageing well
 - Robotics
 - Future Internet

Role of the Industry

The Transatlantic Innovation Economy Enabled By the Industry

- The U.S. and EU account for **63%** of the top R&D companies; **58%** of all global R&D; and **18** of the top 20 knowledge regions in the world.
- In Europe U.S. affiliates invested **\$22.7** billion on R&D, ~ 63% of total R&D expenditures by U.S. foreign affiliates of **\$36** billion in 2009.
 - R&D expenditures by U.S. affiliates were greatest in Germany, the UK, Switzerland, France, Sweden, Belgium and Ireland → **84%** of US spending on R&D in Europe in 2009.
- In the U.S, R&D expenditures by majority-owned foreign affiliates totaled nearly **\$43.4** billion in 2009, around **15%** of total R&D spending in the U.S. R&D spending by European affiliates totaled **\$31.3** billion, accounting for **72%** of all R&D performed by majority-owned foreign affiliates in the US

Source: THE TRANSATLANTIC ECONOMY 2012 Annual Survey of Jobs, Trade and Investment between the United States and Europe DANIEL S. HAMILTON AND JOSEPH P. QUINLAN VOLUME 1: CENTER FOR TRANSATLANTIC RELATIONS JOHNS HOPKINS UNIVERSITY PAUL H. NITZE SCHOOL OF ADVANCED INTERNATIONAL STUDIES

New Opportunities for EU-US Cooperation on Innovation

- Acknowledge in EU the potential of Public entities as **Early Adopters** to create demand for innovative products and **industry** which can bring research results into the **market**
- Stimulate innovation through” Pre-Commercial Procurement/Technology Procurement for Economic Growth on both sides of the Atlantic
 - ❖ Definition of joint mission, objectives, strategies plus tangible results to be achieved.
- Encourage exchange of information, best practices from procuring bodies between EU-US
 - Funding instruments from respective agencies on both sides of the Atlantic
 - Develop a Common Framework of IPR, Finance, Reporting, Administration
 - Create Technology Dialogs between US-EU Public Entities and Industry
- Focus on the Common Challenges
 - Climate Change, Environment, Homeland Security, Cybersecurity, Cloud Computing, Health Records, Data Protection and Privacy, Energy (Smart Grids), Transportation, Aging Population
- Leverage mature R&D Procurements programs of US Federal R&D Procurement Programs to develop joint initiatives with emerging Pre-Commercial Procurement programs at the European Commission and Member States



Thank You!

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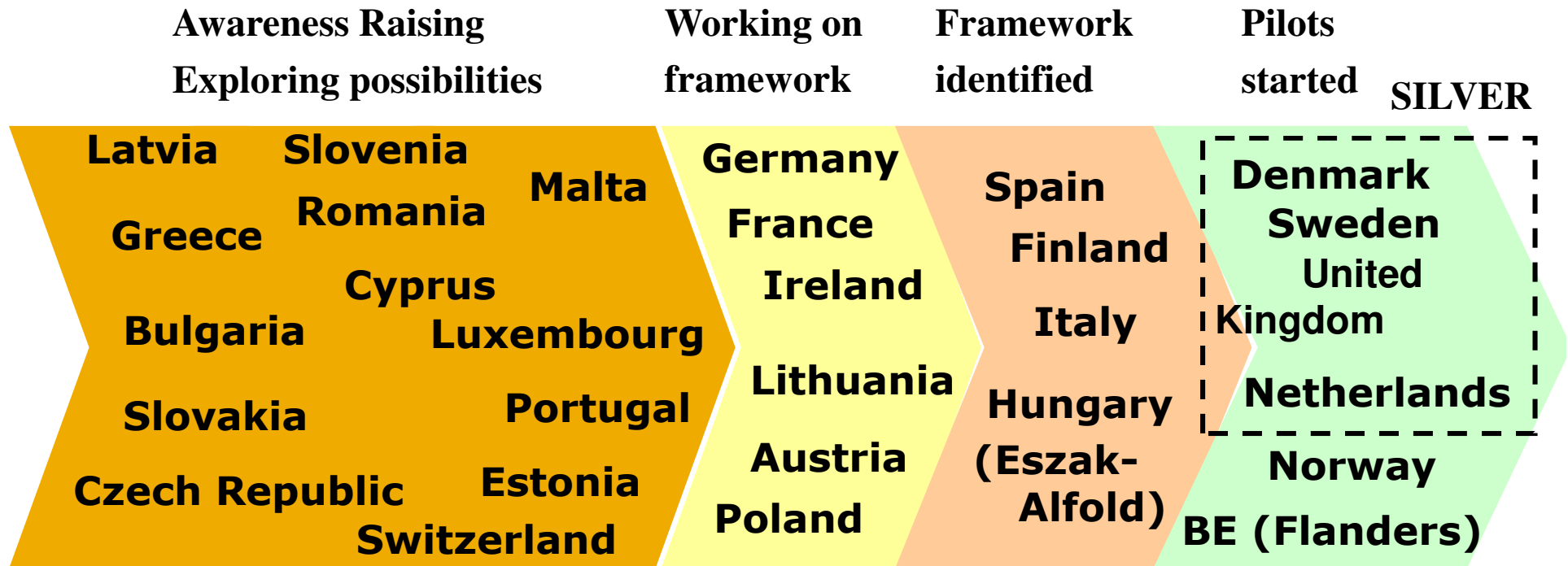
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Supporting Documents

Status of PCP implementation across Europe

Update February 2012 status



SILVER: First EC co-funded PCP pilot started January 2012
(Supporting Independent Living of Elderly through Robotics)