



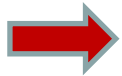
European Robotics Forum

EC Forum

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European Commission



- Robotics at the heart of digital innovations
- From R&D&I to an industrial strategy for robotics
- Building on achievements so far
 - Robotics in FP7
 - The PPP
- Looking ahead

Five major tracks driving digital innovations

- "Big data"
 - Analytics, decision support systems, modelling, simulation,..
- IoT, smart connected objects,
 - Cyber-physical systems,
- Advanced robotics
 - Autonomous systems
- KETs: Smart sensors, MEMs, photonics
 - More Moore, ..
- Hyper connectivity and higher computing power
 - Cloud, HPC, embedded micro-servers..


Reminder: Importance of robotics

- Essential for the competitiveness of all industries
 - Reindustrialisation, ageing workforce, ..
- Essential to address our societal challenges
 - Health, ageing population, environment, security
- Strategic importance for our safety, security
 - sovereignty
- A high growth market
 - Double digit growth, emergence of service markets
- Autonomous systems are transforming ICT
 - And not only ICT but also automotive, etc..

Main challenges

- Transform promptly research and knowledge assets into commercial/industrial successes
 - New business opportunities are picking up
 - Recent acquisitions/announcements raise expectations
 - Competition will only grow accelerating innovations pace
- Capitalise on strengths in industrial and professional markets to capture new growth areas
 - "Consumer" markets, but also aeriels, autonomous mobility, robotised surgery, elderly, etc..
 - Require different business models, production schemes, ...



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What to do about it?

- Maintain leading edge technology
 - Creating differentiating factors across the value chain
 - From cognitive systems and sensing up to robotic applications
 - Access to technology, notably SMEs
- Wide adoption across society and industry
 - Industrial robots beyond "high-tech" industries
 - Huge opportunity for re-shoring and for product innovation
 - In public sector services: health, security, etc..
 - In our homes, cities, etc..
- ELS, Acceptability of robots
-

- Work in partnerships
 - PPPs as EU-wide ecosystems for innovation and business growth
- Address the whole value chain and innovation chain
 - R&D&I providing differentiating factors to compete across the value chain
 - Supply-demand interaction, multiple stakeholders
 - SMEs as key players
- Connect to national and regional actions
 - Pool resources to reach critical mass, align strategies and policies
 - Links to hubs of excellence and regional clusters
- Combine policies to achieve goals
 - Beyond financial to support to R&D&I
 - State aid, standards, access to finance, etc.
 - Skills, outreach
 - Links with other fields (in LEIT, societal challenges and FET)

- Financial:
 - R&D&I instrument toolbox (Horizon 2020)
 - Research projects, innovation actions, pilot lines, large-scale demonstrators, pre-commercial procurement, SME scheme, ...
 - European Structural and Investment Funds (ESIF)
 - Bringing regions to dedicate investments to ICT, to foster the emergence of clusters through regional smart specialisation strategies
- Awareness raising, mobilisation, coordination
 - Stakeholder engagement, community building
 - Political leadership to mobilise stakeholders, investors, policy makers
 - Act as game changers in Europe
- Legislation when needed/mandated
 - E.g. Liability issues, responsibility, standardisation
 - Adaptation of state-Aid rules
 - more favourable to investments
 - European Important Projects of Common Interest

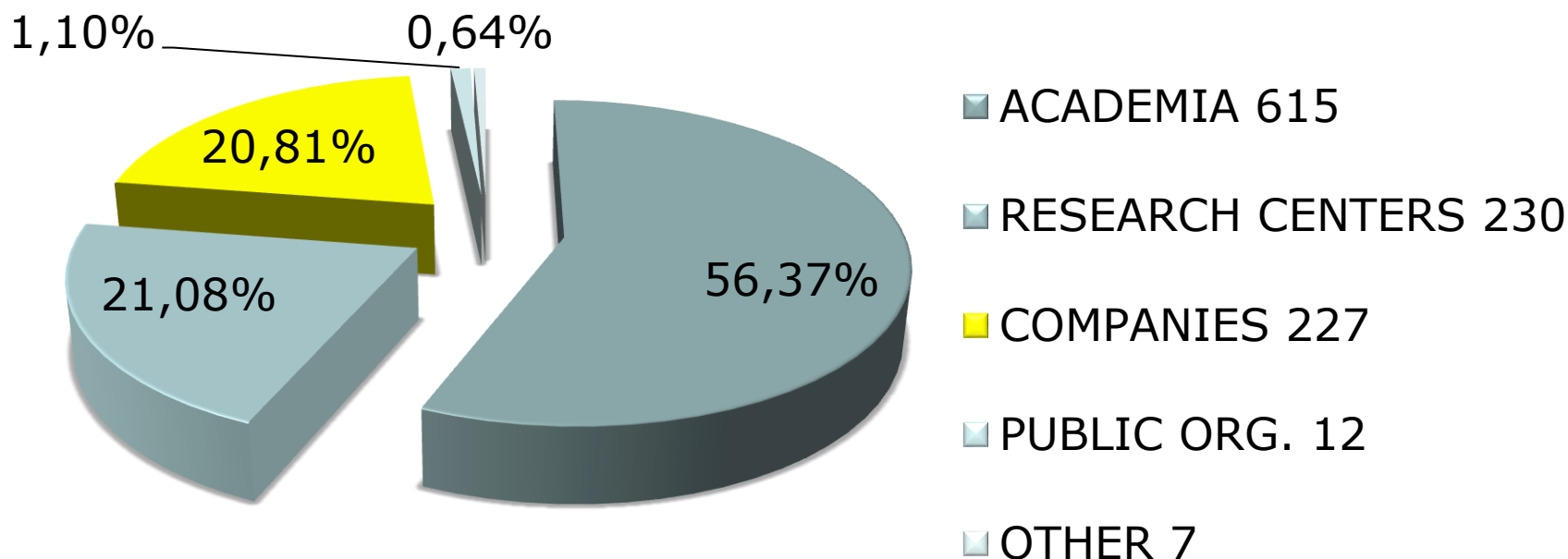


- Robotics at the heart of digital innovations
 - AS illustrated by recent business developments
- From R&D&I to an industrial strategy for robotics
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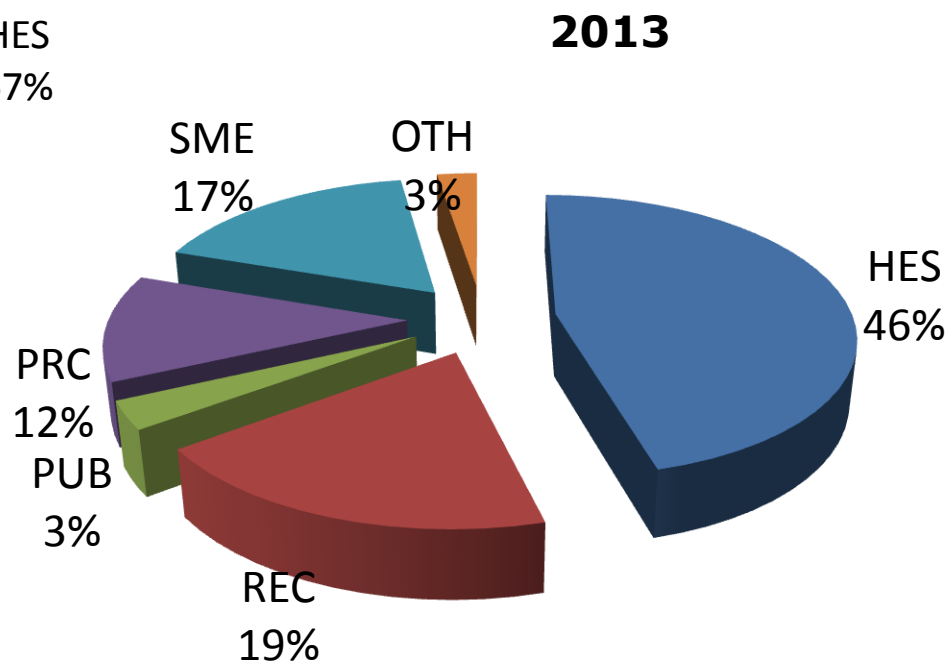
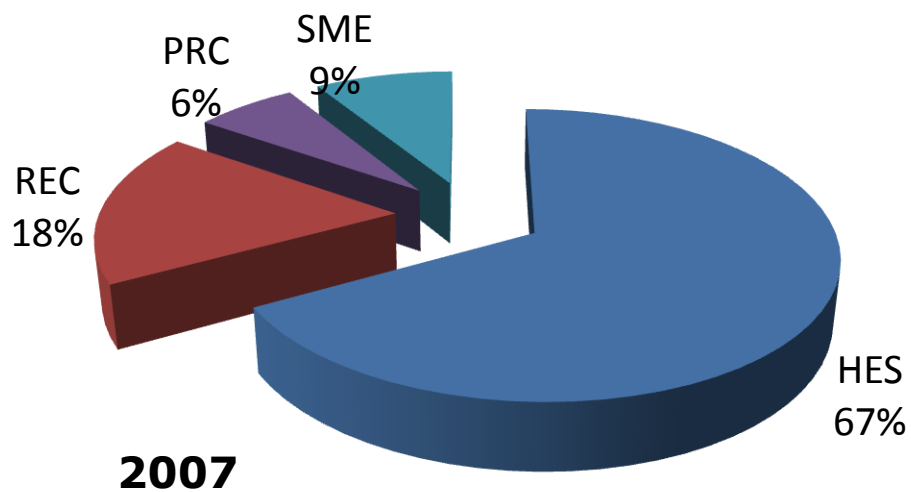
Robotics in FP7

In total more than 550 M€ of investments

- *Evolution: Industry from 15% (2007) to 30% (2013)*
 - *SMEs represent 55 % of companies*



Participation evolution



PPP in Robotics - State of Play

- PPP in Robotics officially signed and launched in Dec 2013
- First Partnership Board meeting held in February in Brussels
- First H2020 Work Programme developed in close collaboration with private side (prioritisation of market domains)
- EC engagement up to 700 M€ to support the PPP in 2014-20
 - + additional 150-250 M€ for robotics in other parts of H2020
 - Including FoF, Health and elderly SC, FET, transport etc..

Good cooperative spirit! PPP delivers!



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From the cPPP objectives

- Establish/maintain a competitive "robotics industry" support the whole economy and address the societal challenges
- Quantified targets: A strong European Robotics industry for a competitive Europe
 - Europe's supply share of the world market in 2020
 - Overall 42% of ~62bn€ by 2020
 - industrial robotics: 35% of 43bn€
 - professional service: 65% of 16bn€ (healthcare, environment, agriculture)
 - consumer service robotics: 20% of 2.4bn€ (vacuum cleaner, lawnmower)

- **Roadmap-based research driven by application needs**
→ **Robotics PPP**
- Effort to close the innovation gap to **allow large scale deployment of robots and foster market take-up**: use-cases, pre-commercial procurement, industry-academia cross-fertilisation
- Additional activities: shared resources, performance evaluation & benchmarking, community building and robotic competitions
- **Organised in two annual calls**
(of 74 M€ and 83M€ respectively)



Additional aspects for the PPP: Regional Policy & Structural Funds

- EC Structural Funds is more than building bridges: ICT and Innovation are new foci of revamped EC Structural Funds
 - Building of physical research infrastructure could be funded through structural funds (lab building, flight test cage, etc.)
 - No actual funding of research possible, only indirectly through pre-commercial procurement
- Huge amounts of money: Structural Funds have a budget of €320bn until 2020 (focus on new Member States, but also old Member States can benefit)
- Speak to your regional authorities and see what is possible
- Attend workshop tomorrow afternoon to see how it is working

Additional aspects for the PPP: Access to Risk Finance

- Essential for SMEs growth
- EC offers special tools for access to risk finance to facilitate commercialisation
- Dedicated work programme "Access to Risk Finance" with different target outcomes focusing on:
 - Piloting Co-Investments by Business Angels (robotics specifically mentioned, budget: €30 million)
 - Technology Transfer Financing Facility Pilot (co-finance investments made by existing technology transfer funds, budget: €60 million)
- Good example: ROBOLUTION

Additional aspects for the PPP: Importance of protecting IPR

- Recent case: EC-funded RoboEarth project
- Crucial phase for robotics: Technology is getting mature for commercialisation (see recent Google acquisitions)
- We want value creation in Europe!
- IPR protection and results exploitation are "serious" matters

Thank you!

**Any question/remark?
(after Juha's presentation)**