sense and simplicity

European programmes for R&D and innovation –
Philips’ participations and perspectives

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1. Overview of Public-Private Partnerships for R&D&I in ERA

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Europe’s toolbox for PPPs for R&D & innovation - 1

Source PPP typology: J. Guinet, OECD; ISRs: Industry-Science Relations
Europe’s toolbox for PPPs for R&D & innovation

- Public procurement
- Public execution of R&D
- Subsidisation of business R&D
- Infrastructural support to business R&D
- Clever procurement
- Technology extension services
- Clever financing
- Transfer from public research
- Public execution of R&D

**EU 7th Framework Programme (FP7)**
- Cooperation
- Reimbursable loans
- RSFF Loans (EIB + EC/FP7)
- Tax incentives
- National R&D programmes
- Regional R&D programmes (some with EU co-funding via Structural Funds)

Source PPP typology: J. Guinet, OECD; ISRs: Industry-Science Relations
FP7 budget (2007-2013): €55 billion

= ~6% of public R&D investment in Europe
FP7 Cooperation programme thematic areas (€32.4 billion)
Restructuring a fragmented European Research Area (ERA)

Public Funding for Research (Source: ERA Key Figures 2005, EC)
Europe’s toolbox for PPPs for R&D & innovation

- Public procurement
- Public execution of R&D
- Subsidisation of business R&D
- Infrastructural support to business R&D
- Clever procurement
- Technology extension services
- Clever financing
- Transfer from public research
- ISRs-oriented P/PPs
- Cluster-oriented P/PPs
- Mission-oriented P/PPs
- Market-oriented P/PPs

**Joint Programs**
- Coordination: ERA-NET (plus)
- Eurostars
- Ambient Assisted Living
- Neurodegenerative Diseases
- Several new JP initiatives

**FP7 PPPs**
- Factories of the Future
- Energy Efficient Buildings
- Green Cars
- Future Internet

**EUREKA** (intergovernmental)
e.g. ITEA, CATRENE

**Joint Technology Initiatives**
- Innovative Medicines
- Clean Sky
- Fuel Cells & Hydrogen
- ARTEMIS* (embedded systems)
- ENIAC* (nanoelectronics)
  *co-funded by 20+ MS

Source PPP typology: J. Guinet, OECD; ISRs: Industry-Science Relations
Overview of Public-Private R&D Partnerships - 3

CIP
Competitiveness & Innovation Programme
- Entrepreneurship & Innovation
- ICT policy support
- Intelligent Energy Europe

FP7 - Capacities
- Research Infrastructures
- Research for SMEs
- International Cooperation

Lead Markets
- e.g. eHealth

Pre-commercial R&D procurement

US
- DARPA, NASA, DoE

FP7 - People
- Marie Curie Fellows

FP7 – Ideas
- ERC (European Research Council)

Transfer from public research

Clever procurement

Public procurement

Public execution of R&D

Subsidisation of business R&D

Infrastructural support to business R&D

Clever financing

Technology extension

SMEs-oriented P/PPs

Mission-oriented P/PPs

Cluster-oriented P/PPs

Market-oriented P/PPs

ISRs-oriented P/PPs

Source PPP typology: J. Guinet, OECD; ISRs: Industry-Science Relations
Overview of Public-Private R&D Partnerships - 4

KICs (Knowledge & Innovation Communities) of EIT (European institute of Technology & Innovation)
- ICT
- Sustainable Energy
- Climate Change

Source PPP typology: J. Guinet, OECD; ISRs: Industry-Science Relations
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25+ years fruitful Philips participation in EU FP

- Amongst 12 ICT firms involved in 1984 launch of FP1
- About 1,000 projects since FP1
  - #1 industrial participant in ICT
  - #1 industrial participant in NL
- 95 projects so far in FP7 (2007-2013)
  - #2 industrial participant (consolidated)
- Also involved in several other EU programmes for R&D&I
  - 17 projects in Joint Technology Initiatives (ARTEMIS, ENIAC, IMI)
  - 3 projects in Ambient Assisted Living (AAL)
  - 2 projects in Competitiveness & Innovation Programme (CIP)
  - 2 EIT Knowledge & Innovation Communities (KICs ICT and Energy)
  - 1 EIB loan through Risk-Sharing Finance Facility (RSFF)
25 years of fruitful Philips participation in EUREKA

• Among first four companies supporting 1985 launch of EUREKA
• Probably #1 participant
• Involved in 40+ past projects, e.g. HDTV, DAB, JESSI
• Currently engaged in 2 ICT clusters
  – ITEA 2 2006-2013 software-intensive systems & services
  – CATRENE 2008-2011 nanoelectronics
Philips’ partnership links in public R&D programs

<table>
<thead>
<tr>
<th>EU, EUREKA, NL, GER programs</th>
<th>2007</th>
<th>2010</th>
</tr>
</thead>
<tbody>
<tr>
<td>Running projects</td>
<td>100</td>
<td>190</td>
</tr>
<tr>
<td>Partnership links</td>
<td>900</td>
<td>1,800</td>
</tr>
<tr>
<td>Different partners</td>
<td>550</td>
<td>1,100</td>
</tr>
<tr>
<td>Public Research Organisations (PROs) in top-10 partners</td>
<td>4</td>
<td>7</td>
</tr>
</tbody>
</table>

[Bar chart showing distribution of partnership links between types of partners (large firms, SME, PRO, other/unknown) for 2007 and 2010.]
Why participate in public programmes for R&D&I?

• Leveraging own R&D efforts with external resources
  – Partners
  – Facilities
  – Knowledge
  – Temporary staff
  – Contracts from public and private customers
  – Public funding

• Benefiting from trusted regulatory frameworks for Open Innovation
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EU2020: Raising R&D investments to 3% of GDP

• Company investments are driven by expected returns
• Low private R&D investments in EU reflect unfavourable framework conditions for innovation
• Wide range of policy measures across EU innovation system are needed to boost private R&D and innovation
  – **Input**: more public investments in Knowledge Triangle
  – **Throughput**: more efficiency & effectiveness
  – **Output**: more market demand for innovative products & services
Philips’ health and well-being offer leverages critical global trends

Ageing population
- The number of people aged over 60 will double from 500 million today to 1 billion by 2015

Emerging markets
- 99% of future population growth will be in emerging markets; Emerging economies are expected to account for 2/3rd of global GDP by 2016

Empowered consumers
- Consumers are increasingly focused on their Health and Well-being and look for products that fit their lifestyle

Climate change and sustainable development
- 19% of global electricity consumption is used for lighting; Energy efficient lighting can save 40%...or 600 power stations worth of energy
Invest more in Knowledge Triangle

• Shift direction of investments towards societal challenges in common interest of society, public sector and private sector
  – Sustainability
  – Energy efficiency
  – Clean water
  – Personal well-being
  – Ageing population
  – Homecare, independent living
  – Better healthcare for all, at lower cost

• Gear EU budget more towards future knowledge-based economy
  – Increase budget of FP, CIP, EIT, LLL, R&D&I activities in SF
Improve efficiency & effectiveness - 1

• Simplify Framework Programme
  – Industry participation down from 39% in FP4 to 25% in FP7
  – Most EC proposals for simplification make sense
  – Only transition to output/results-based financing causes major concern

• Cut red tape by implementing risk-tolerant & trust-based approach
  – NL High Trust approach is good example
  – EC proposal for Higher Tolerable Rate of Error for R&D is welcomed
  – Personal liability for Staff officers should be eased
Improve efficiency & effectiveness - 2

• Turn Joint Technology Initiatives into true and lean PPPs
  – Current regulatory straightjacket of Community body is unsuitable for PPPs
  – EC proposal for more flexible PPPs in Financial Regulation should be adopted

• Develop smarter ERA instrument for pooling national funding in e.g. JTIs and JPIs, also in context of EIPs
  – To synchronize national project funding between countries
  – To cope with unbalance in available national budgets
  – To combine national and common interests in joint selection of proposals
Meaningful innovations in energy-efficient lighting
Boost demand for innovative products and services

• Stimulate market demand by innovation-friendly regulation, standardisation and public procurement
  – Without market demand, companies have little reason to invest in R&D

• Complete Single Market and remove national barriers
  – E.g. in tendering processes for healthcare systems, privacy legislation regarding patient data, reimbursement models for healthcare costs

• Unleash power of public procurement to promote innovation
  – Total public procurement in EU amounts to over 2 trillion euro per year
  – Mainstream Pre-Commercial Procurement (PCP) of R&D and clarify that no State aid is involved and no explicit compensation for retained IPR is required if tendering is competitive, open and transparent
  – Provide EU co-funding via Structural Funds as incentive for procurers