Open Innovation @ Philips Research

Business Symposium “Open Innovation in Global Networks”
OECD & Danish Enterprise and Construction Authority
Copenhagen, February 25-26, 2008

Jan van den Biesen
VP Public R&D Programs, Philips Research
“The former consumer electronics giant is reinventing itself as a design-led health, lifestyle, and technology player. Think in-home health-monitoring devices for heart patients, computer games with sensory effects, and energy-efficient color-changing lighting. Philips taps teams of futurists, cultural anthropologists, designers, and scientists to develop user-centered products and services.”
Royal Philips Electronics

• One of the largest global electronics companies with sales of €26,793 billion in 2007
  – 56 % of sales from new products
• Founded in 1891
• Multinational workforce of 123,800 employees end of 2007
• Active in the areas of Consumer Lifestyle, Healthcare and Lighting
• Manufacturing sites in 28 countries, sales outlets in 150 countries
• 2007 R&D expenditure of €1.629 billion
  – 6.1 % of sales
  – 12,800 R&D staff in 25+ countries
• 80,000 patents; inventor of CD

Headquarters: Amsterdam, The Netherlands
About Philips Research

• Over 90 years of industrial research
• 1,800 employees with >50 nationalities
• 600 PhDs
• Mix of expertise areas
• Source of R&D talent
• 1.5 patents filed per scientist/year
• 0.6 scientific publications per researcher per year
Philips Research: Thinking global, acting local

**London**
- New business

**Hamburg**
- Healthcare

**Eindhoven**
- Healthcare
- Lifestyle
- Technology

**Aachen**
- Lighting
- Healthcare

**Shanghai**
- Emerging markets
- Network

**Bangalore**
- Emerging markets

**Briarcliff (NY)**
- Clinical sites
- Healthcare

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Scope of innovation continues to change

Technology Research
1. Technology
2. Scientific attitude
3. Corporate funding

Product Research
1. Products
2. Engineering attitude
3. Contract funding

Entrepreneurship
1. Solutions & Services
2. Growth culture
3. Investment funding

1980 closed
1990 selective partners
2000 open
2010
New IP landscape

Proprietary “Exclusive IP”

Collaborative “Share IP”

Open Source/ Patent Commons/ RF Standards “Free IP”

Innovation is 99% shared technology and 1% exclusive technology
From Closed to Open Innovation

from .... to....

100%

Philips Research

Philips Businesses

Internal supply

Philips Research

Philips Businesses

Joint Ventures with Philips

External suppliers

Spin-in of Technology

Technology spin-out

Institutes

Companies
From closed to open mindset

Closed

- Smart people work for us
- Discover, develop, ship
- First to discover, first to market
- Create most ideas
- Control and IP

Open

- Smart people tap into world
- Claim own portion of
- Profit from Research by others
- Use most ideas
- Trade IP

The lab is our world
Not invented here

Free and Henry Chesbrough, Harvard

Proudly found
High Tech Campus Eindhoven

World-class technology centre of high tech companies working together in development of new technologies

- 910,000 m²
- 50 nationalities
- 40 companies and institutes
- 7,000-8,000 people by 2008
- € 500+ million invested by Philips

Open Innovation ecosystem
ExperienceLab

• Strengthening our people and customer focus by starting with end-users
• Three facilities for testing feasibility and usability
MiPlaza: industrial R&D expertise and support

Turning ideas into reality in a “one stop shop”

- Access to clean rooms, expertise, technical services, tools and facilities
- Low entry barrier and flexible support (lab, equipment, experts)
- Complete toolbox of enabling technologies
- Microsystems, nanotechnology, life sciences, electronic systems
Holst Centre

- Joint centre of TNO (4,500 fte, NL) and IMEC (1,300 fte, Belgium)
- Open innovation through precompetitive shared programs with industry
- Created in 2005, co-funded by government and industry
- Critical mass: 120 + 60 fte in 2007; 220 + 100 fte planned in 2010
- Partnering worldwide and employing 18 nationalities
Internal ventures and incubators

Areas: Healthcare               Lifestyle               Technology

Venture capital from a.o.

Examples of spin-outs
Creative Conversion Factory

• Open Innovation Incubator Initiative for turning ideas into products

• Opened November 12, 2007; located in business accelerator on HTCE

• Still part of Philips Research, soon (Q1/2008) separate foundation

• Focus on Ambient Experience; two projects already up and running
  – Intelligent Playgrounds (TU/e ID, Philips Design, Philips Research)
  – Ambient Way Finding (NH Hotels, Philips Design, …)
Technology licensing
Philips’ windows on European Research Area

Status end of Q3, 2007

• About 100 projects in European and national R&D programmes
• About 900 partnership links in these 100 collaboration projects
  – 48 % PROs + universities, 32 % large firms, 12 % SME, 8 % unknown/other
  – Involving about 550 different partners
• About 16 % of Philips Research FTEs involved in public programmes
• Numerous research contracts granted to universities
• Participation in various institutes, e.g. Holst Centre, CTMM, ESI
• About 25 part-time professors + 10 professors as external advisors
• Numerous visiting students, R&D trainees and postdocs
  – 40 graduate students + postdocs and 150 undergraduates at Philips Research Eindhoven
Philips Research headquarters .......

1999
…… to open high-tech campus
Policy implications - 1

- Foster user involvement, customer intimacy, pilots, trials
  - For success in marketplace
- Stimulate start-ups, venturing, entrepreneurship
  - For Growth and Jobs
- Support Open Innovation Centres and innovation intermediaries
  - For sharing facilities, services and expertise
- Provide SMEs with innovation vouchers
  - For knowledge, advice or services from public or private R&D labs
- Avoid segregation of SMEs, large firms and research organisations
  - As complementary actors in Open Innovation
Policy implications - 2

• Don’t geographically constrain MNE exploitation of publicly supported R&D
  – Allow IP access and transfer to worldwide affiliates

• Encourage temporary staff exchanges
  – Via Marie Curie (FP7) and similar national mobility schemes

• Promote 10 commandments of “Responsible Partnering”
  – See http://www.responsible-partnering.org/

• Provide operational guidelines on R&D PPPs and EU State aid rules
  – See http://www.eicta.org/index.php?id=34&id_article=181
Thank you for your attention!
New tool for assessing State aid in R&D PPPs

Three key parameters

- **S_p**: Share of project (as % of cost) performed by public sector
- **C**: Ceiling of allowable aid intensity including bonuses
- **S_f**: Share of project (as % of cost) funded by public sector
- **S_{f_{max}}**: Maximum allowable share of public funding
  \[ S_{f_{max}} = C(100-S_p)/100 + S_p \]

Example:
- **S_p**: 50%
- **C**: 65%
- **S_f**: x-axis

*) Provided that project share performed by private sector receives no direct public funding