Delivering innovation that matters to you

Eureka Innovation Days – Smart Health Panel

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Head of Public-Private Partnerships – CTO Innovation Management
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Contents

• Introduction to Philips
• Profound Changes in Healthcare
• Need for Public-Private Partnerships
127 years of innovation: from light bulb to HealthTech

1900 – Carbon-filament lamp

1930 – Mobile metalix X-ray

2017 – Image Guided Therapy suite

2017 – Sonicare Connected
Our businesses in 2017

<table>
<thead>
<tr>
<th>Personal Health businesses</th>
<th>Diagnosis &amp; Treatment businesses</th>
<th>Connected Care &amp; Health Informatics businesses</th>
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<tbody>
<tr>
<td>41% of Group sales</td>
<td>39% of Group sales</td>
<td>18% of Group sales</td>
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<tr>
<td>16.7% Adjusted EBITA margin</td>
<td>10.4% Adjusted EBITA margin</td>
<td>11.8% Adjusted EBITA margin</td>
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<tr>
<td>Sales of EUR 17.8 billion and Adjusted EBITA margin of 12.1%</td>
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1 Other accounts for 2% of sales and includes HealthTech Other
Royal Philips in 2017

EUR 17.8 billion sales

More than 1/4 of sales from solutions

4% comparable sales growth

~74,000 employees in over 100 countries
Royal Philips in 2017

2.2 billion lives improved\(^1\)

EUR 1.76 billion invested in R&D

62,000 patent rights

USD 11.5 billion brand value\(^2\)

62,000 patent rights

37,600 trademarks

\(^1\) Includes contribution of Philips Lighting

\(^2\) As measured by Interbrand
At Philips, we take a holistic view of people’s health journeys, starting with healthy living and prevention, precision diagnosis and personalized treatment, through to care in the home – where the cycle to healthy living begins again.
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Four major trends are shaping the future of health technology

- Global resource constraints
- Aging populations and the rise of chronic illnesses
- Increasing consumer engagement
- Digitalization

5% of the population accounts for 50% of healthcare spend
Economic realities are driving the need for new approaches in healthcare.
Key Trend: the Data Explosion in Healthcare

Dense data
Pattern recognition in aggregated data sets – across a population

Deep data
From anatomy to cells and molecules

Wide (longitudinal) data
Continuous monitoring over time
AI & Data Science will be a key enabler for Care Everywhere

- **Precision medicine and personalized treatment** enabled by smart algorithms
- **Transition to value-based care** through analytics and pathway optimization
- **Digital Platforms for data-driven solutions** across the care continuum
- **Networked care** patient engagement & coaching via portals & apps
Discovering unmet needs and validating solutions together with clinical and technology partners.
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For Philips, the future of innovation is collaboration: in ecosystems and on open platforms

However, especially for Europe there is a challenge to stay competitive....
Europe needs a better uptake of R&I

Overall, Europe is a global research powerhouse. With only seven per cent of the world's population, it is responsible for 20% of the global investment in R&D and about one third of all high-quality scientific publications. Yet, Europe faces difficulties in transforming its scientific leadership into the breakthrough and disruptive innovations that are necessary at scale to address these challenges and that create new markets and redefine whole industries. Europe suffers from insufficient uptake of R&I. We are struggling to support the creation and scale up of the new technological champions of the 21st century.

Source: EU Presidency note on “Research and Innovation within the context of the next Multiannual Financial Framework” May 7, 2018
EU companies spend less on Research and Development than their competitors

Evolution of business R&D intensity, 2000-2016

Source: European Commission DG Research and Innovation. Data: Eurostat, OECD
In ICT, the EU companies are fewer and older than in US and Asia
Both EU (new Horizon Europe) and EUREKA can help address this issue with the right priority setting. EUREKA has certain advantages (1)

<table>
<thead>
<tr>
<th>EUREKA-Clusters</th>
<th>EU-Instruments</th>
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<tbody>
<tr>
<td>At least bi-national</td>
<td>At least tri-national</td>
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<tr>
<td>Flexible in the addressed thematic area</td>
<td>Clearly defined topics</td>
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<tr>
<td>(Bottom-up approach)</td>
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<tr>
<td>Thematically relevant co-operations</td>
<td>European strategies, big missions</td>
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<tr>
<td>bi- and multi-national</td>
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<tr>
<td>More influence of involved member countries</td>
<td>Consideration of all member states</td>
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<td>Flexible configuration based on national guidelines</td>
<td>Complex EU-wide alignment</td>
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Both EU (new Horizon Europe) and EUREKA can help address this issue with the right priority setting. EUREKA has certain advantages:

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<td>Active involvement &amp; direct support of SME</td>
<td>SMEs are discouraged by the complexity</td>
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| Detailed feedback from the evaluators  
  => increase quality & success rates | Little to no specific feedback from the evaluators: „fire and forget“ |
| Evaluators are typically from industry  
  => market trends taken account | Evaluators come mainly from academia  
  => danger of missing crucial trends |
| Acceptable funding opportunities  
  => motivation to participate | Very high oversubscription |
| Targeted funding of strategically sound and best quality project ideas | Targeted funding is rather rare |

30+ years of fruitful Philips participation in EUREKA

- Among first four companies supporting 1985 launch of EUREKA
- Probably #1 participant
- Involved in 50+ past initiatives, e.g. HDTV, DAB, JESSI, MEDEA, CATRENE
- Currently engaged in 2 ICT clusters:
  - PENTA 2016-2020 micro/nano-electronics
  - ITEA3 2014-2021 software-intensive systems & services
Example Medusa*: 1st project working on cloud based innovation

**PROJECT CONSORTIUM**

**START DATE** JANUARY 2013  
**END DATE** DECEMBER 2015

*Medical Distributed Utilization of Services & Applications (MEDUSA)*
Example Medusa project: start of driving digital transformation in healthcare

**Goal:** improve efficiency and effectiveness in critical situations  
**Means:** cloud based sharing of medical images and expertise

**Partnering key to success:**
- Innovating Philips’ platform to support use cases from Amsterdam Medical Center (AMC) in stroke & trauma
- Integrating fast decision support know-how from Sopheon (SME)
- Integrating secure cloud management know-how from Prologue and Atos-Bull
- Continuing with 5 countries & 19 partners, Medolution: sensor data integration, real-time decision support

**Benefits:**
- Reduce time to first response
- Secure and fast huge image processing and exchange
- Fast collaborative distributed decision making
- Est. annual saving for society >€60M million (Europe)
- **ITEA provides such opportunities: already in 2010 bottom-up discussions how to engage in this area!**