

HORIZON 2020; an industry view

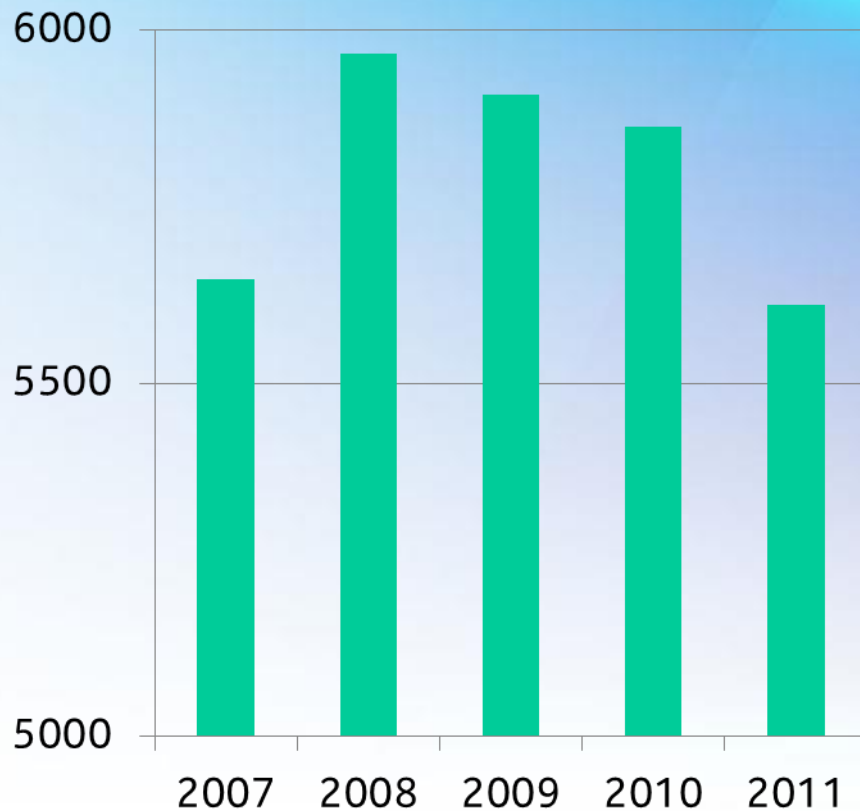
NOKIA

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- **Nokia R&D**
 - **New innovation paradigm**
 - **Ecosystem game**
 - **Democratising Innovation**
 - **It Takes Two to Tango**
 - **Innovation calls for people**
 - **Horizon 2020**
 - **The Way Forward**

Nokia's Strong Investment in R&D

R&D expenditure totaled EUR 5.6 billion in 2011 (14.5% of net sales)



- Global network with R&D centers in 16 countries
- 34 876 people in R&D at the end of 2011 (~27% of employees)
- Collaboration with more than 100 universities globally
- 2007 - 2009 figures are not comparable due to the formation of Nokia Siemens Networks

Ecosystem game



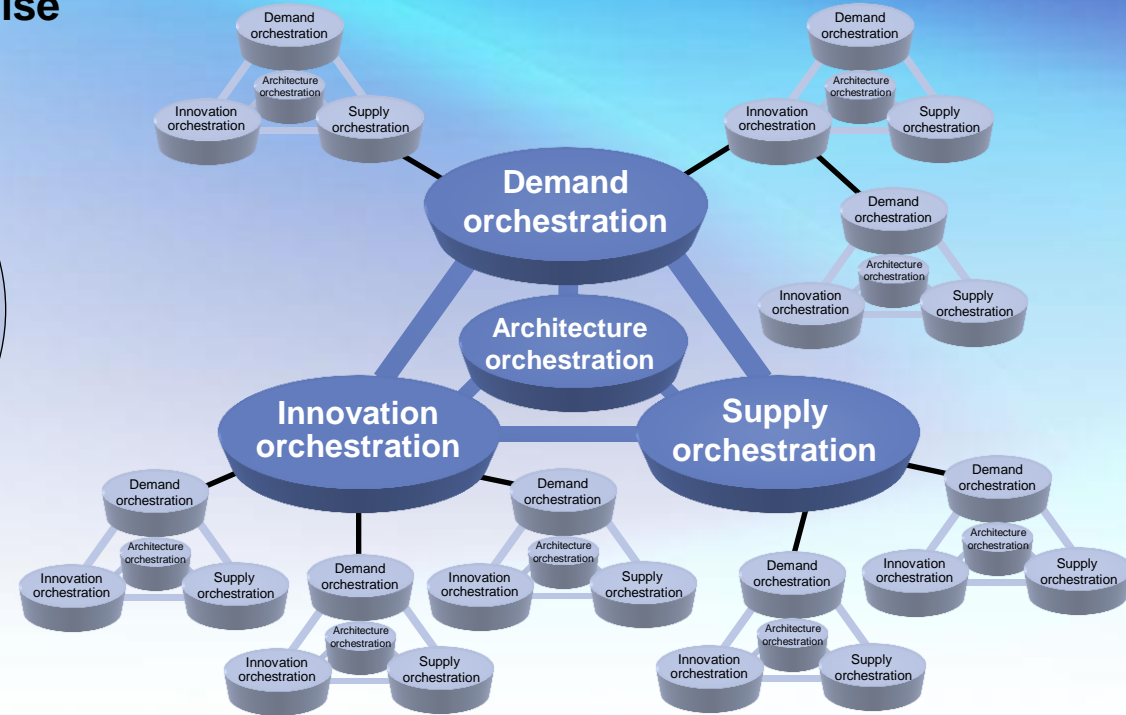
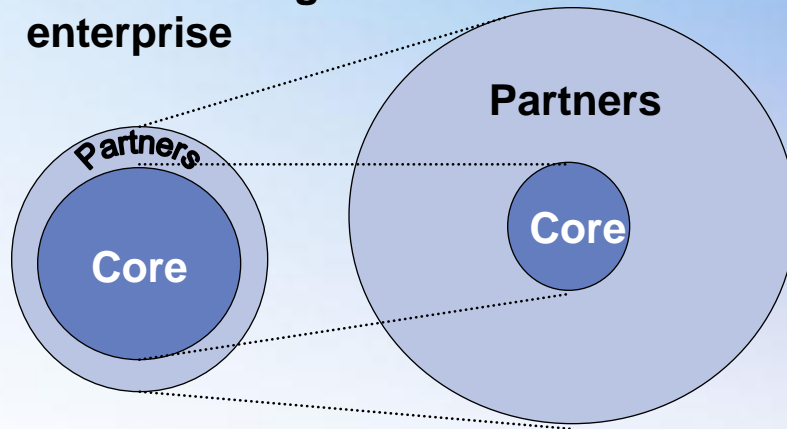
Innovation networks and ecosystems

enable new ways of knowledge creation and utilization

to extended enterprise

with orchestration capability

From traditional large enterprise





Democratising Innovation

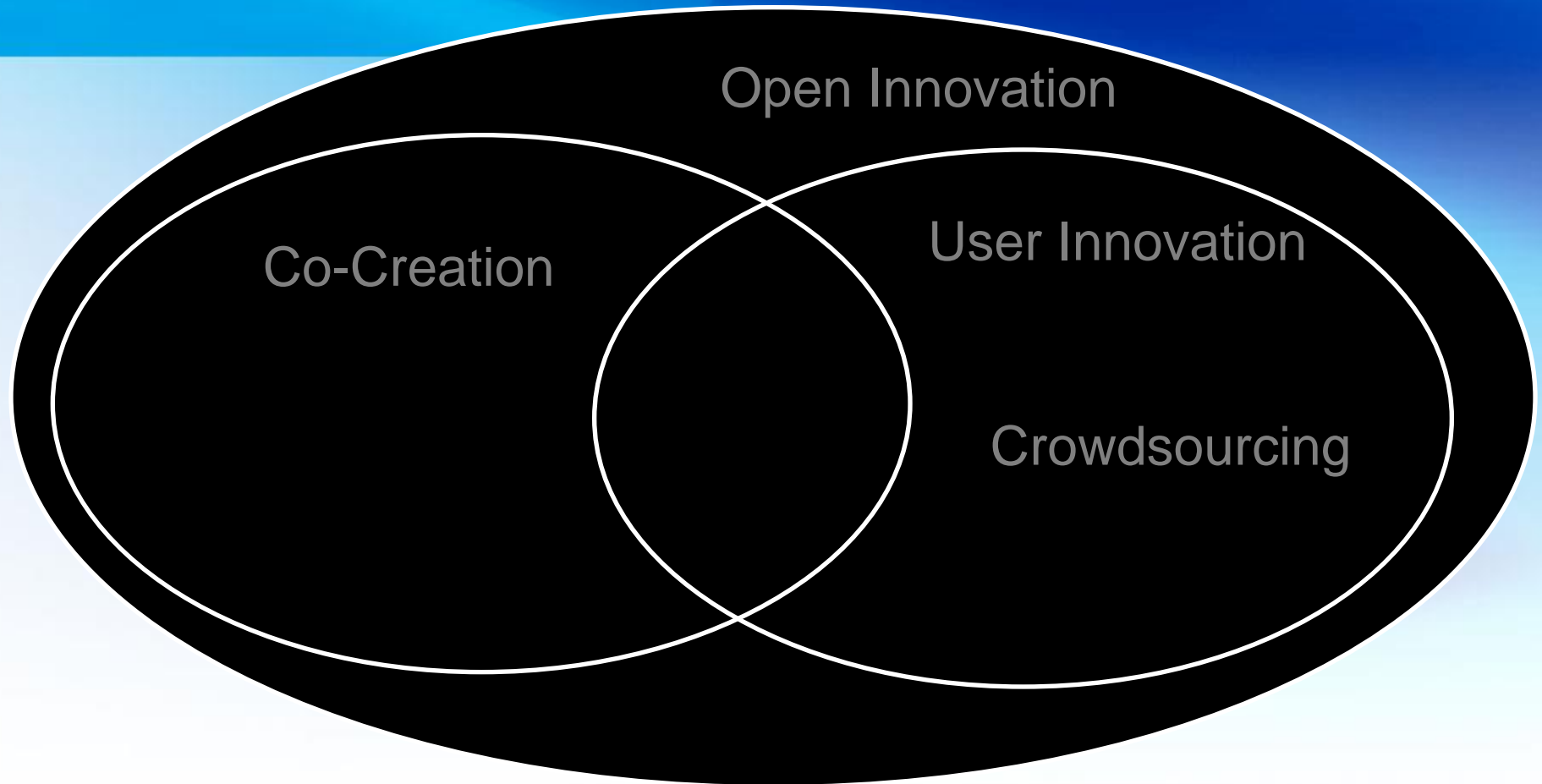
R&D
Department of
Millions

New Developers Communities – Large and Active



Source: Nokia, March 2007

Crowdsourcing





It Takes Two to Tango: Public/private partnership

Open Innovation

Engaging the World's Leading Institutions

- Access and drive global intellectual vision and insight
- Form strategic collaborations with world-leading institutions to multiply our efforts
- Build global test beds to learn from broader audiences



Open Innovation

Research

University

Knowledge
sharing

Education

Open Innovation/Knowledge Sharing

- **Complementary competence and excellence**
- **Genuine commitment for knowledge sharing/trust**
- **Collaboration platforms/joint campus presence**
- **Mobility of research personnel**
- **R&D/recruitment/education all involved**
- **Transparent management and collaboration rules**
- **Fair rules for IPR ownership and use**
- **Reformed reward and incentive systems**

Innovation Calls for People



Innovation Calls for People

- with educated mind set
- with networking skills
- with problem solving skills
- with global view, cultural understanding
- with tolerance for uncertainty
- who have courage to look beyond their own comfort zone
- who are open for different views
- with open mind and flexibility for the change
- with passion to work
- with language skills

People need to think beyond the routine, and need to have the ability not just to adapt to change, but to help create it

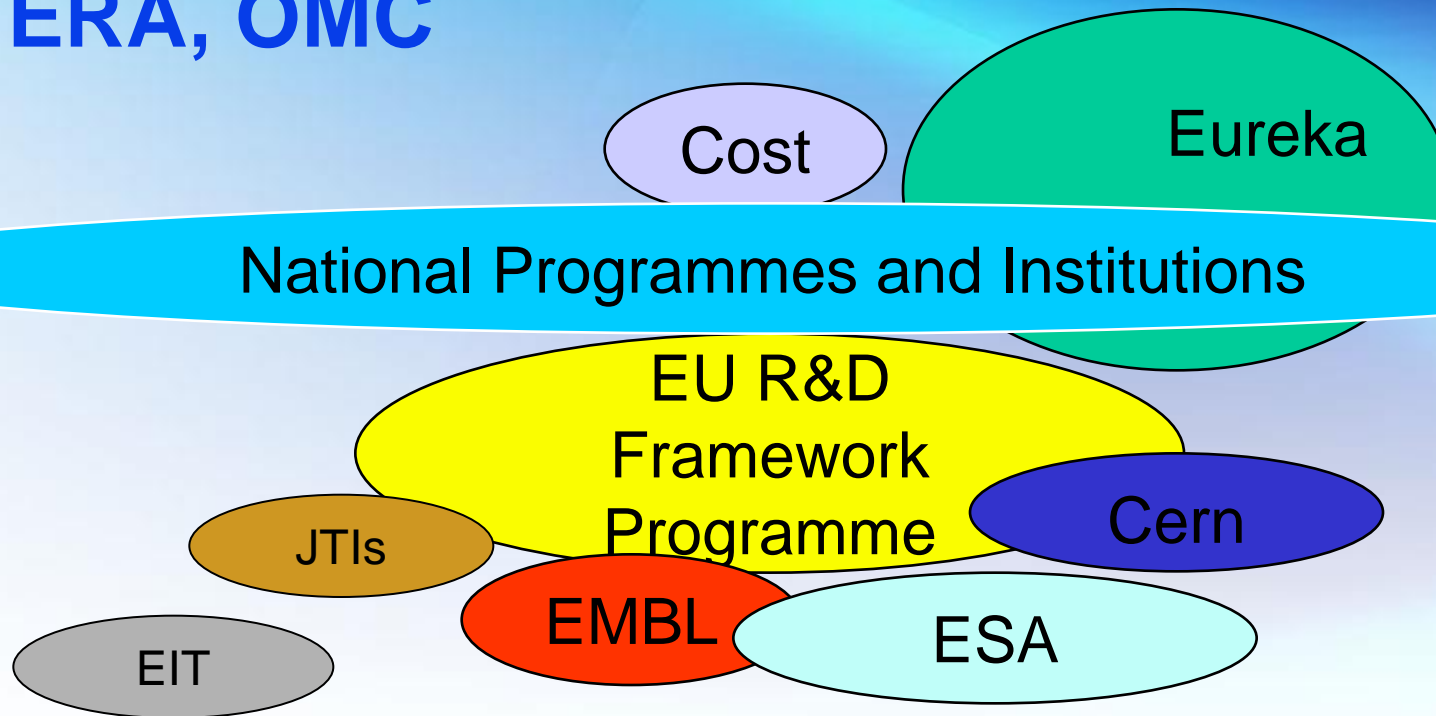
HORIZON 2020 challenge

European R&D and Innovation Landscape

- Good, but fragmented scientific performance
- Declining industrial R&D
- Insufficient innovative performance
- Increasing competition from outside
- Low interest in science and engineering
- Inability to mobilize sufficient resources to respond to the global challenge

European R&D cooperation architecture

ERA, OMC



Horizon 2020

- **Excellent science:** ERC, FET, Marie Curie actions, research infrastructures
- **Industrial leadership:** leadership in enabling and industrial technologies, access to risk financing, innovation in SMEs
- **Societal Challenges:** Health, food, clean energy, transport, climate, inclusive societies
- Budget by 2020 80 billion €

Industry views

- Industry supports Horizon 2020
- Adequate budget must be achieved
- Increase industry participation
- Relevance and excellence in research should be the sole principles
- Simplification;
 - Shortening the time to grant: six months
 - Participants' usual accounting should be accepted
- Rules of participation; no state aid rules
- Gradual development of the EIT
- Joint ownership of IP should support unrestricted use by a joint owner and its affiliates



The Way Forward

NOKIA

Nokia's vision

The way forward

- **Respect the new innovation paradigm**
- **Create an environment that attracts creative top talents**
- **Improve framework conditions and innovation funding schemes**
- **Develop globally leading universities with a strong leadership and PPP culture**
- **Educate people for innovation, not only for research**
- **Look for the scientific frontier and cross disciplinary opportunities**
- **Build industrial ecosystems to gain leadership of the new emerging value domains**
- **Capture the critical knowledge assets to enhance value generation in the network economy**

Thank You

