

Building Up R&D Capacity in Portugal

European Commission Annual

Lisbon Strategy Monitoring Visit

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Portugal

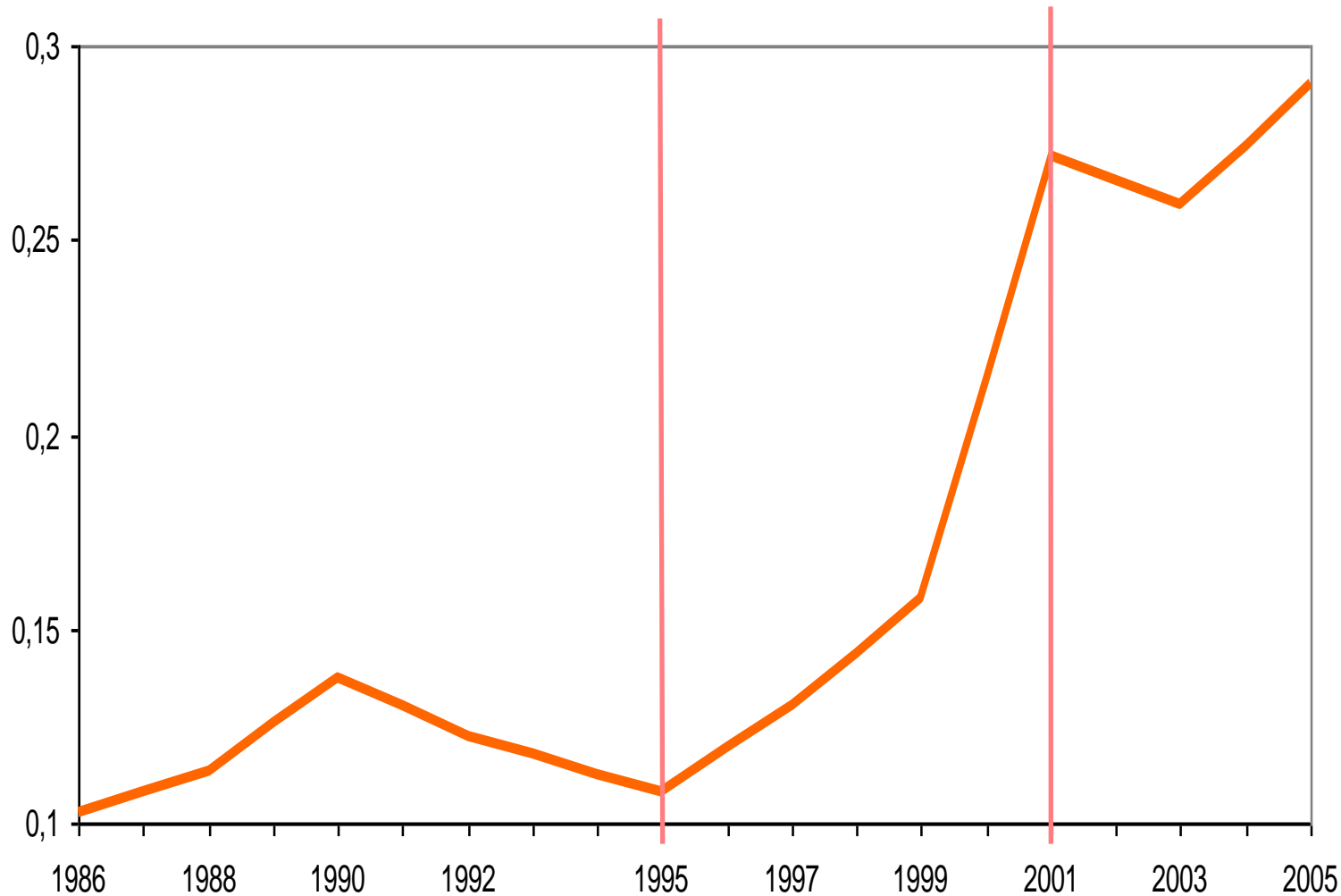


UMIC

Knowledge Society
Agency

Between two periods of stagnation,
specially successful policies in 1995-2001 provided
a sharp BERD/GNP growth (17% per year) ...

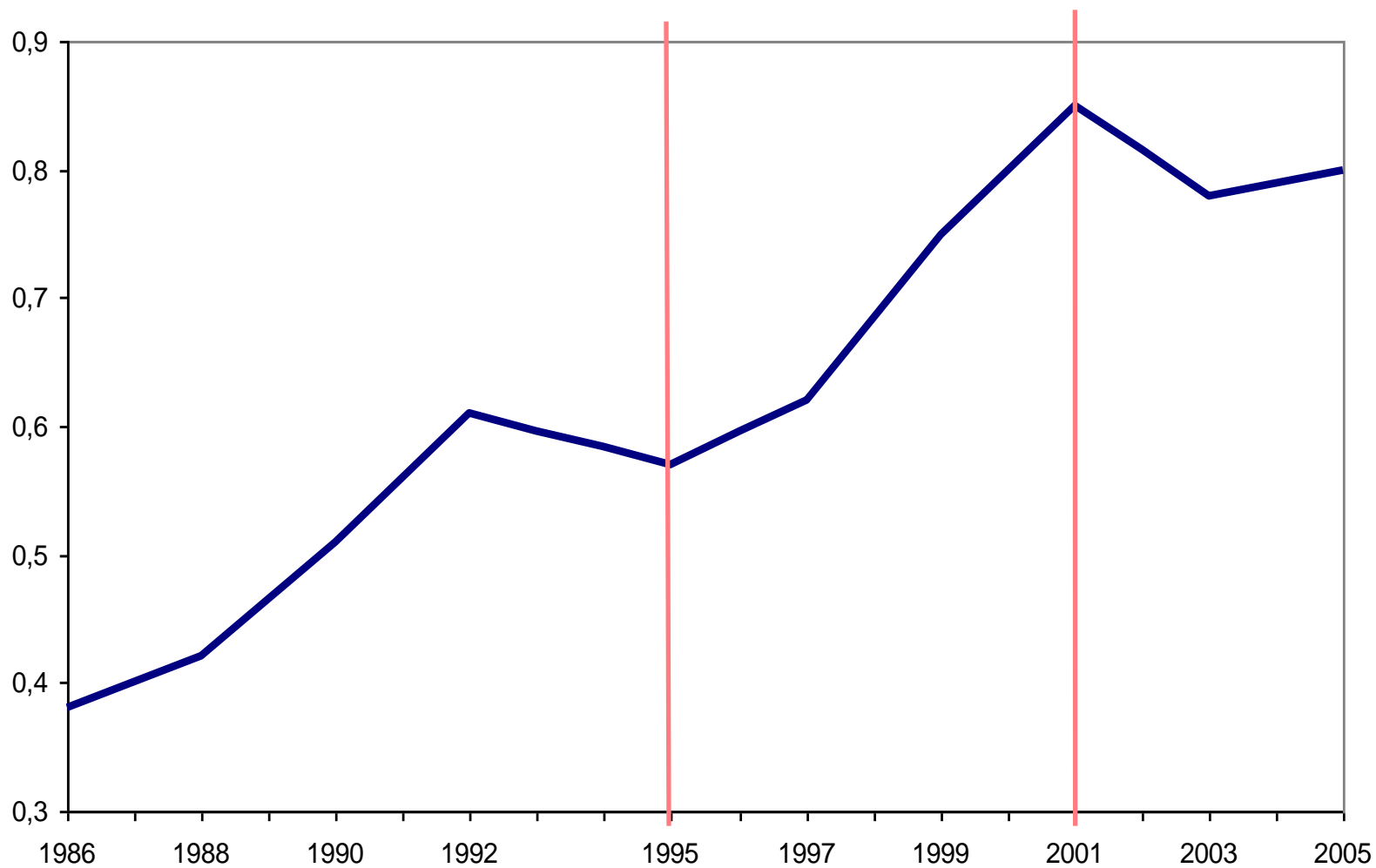
% Business Expense on R&D relative to GNP



Source: Eurostat

... while **GERD/GNP** grew at 7% per year in 1995-2001 ...

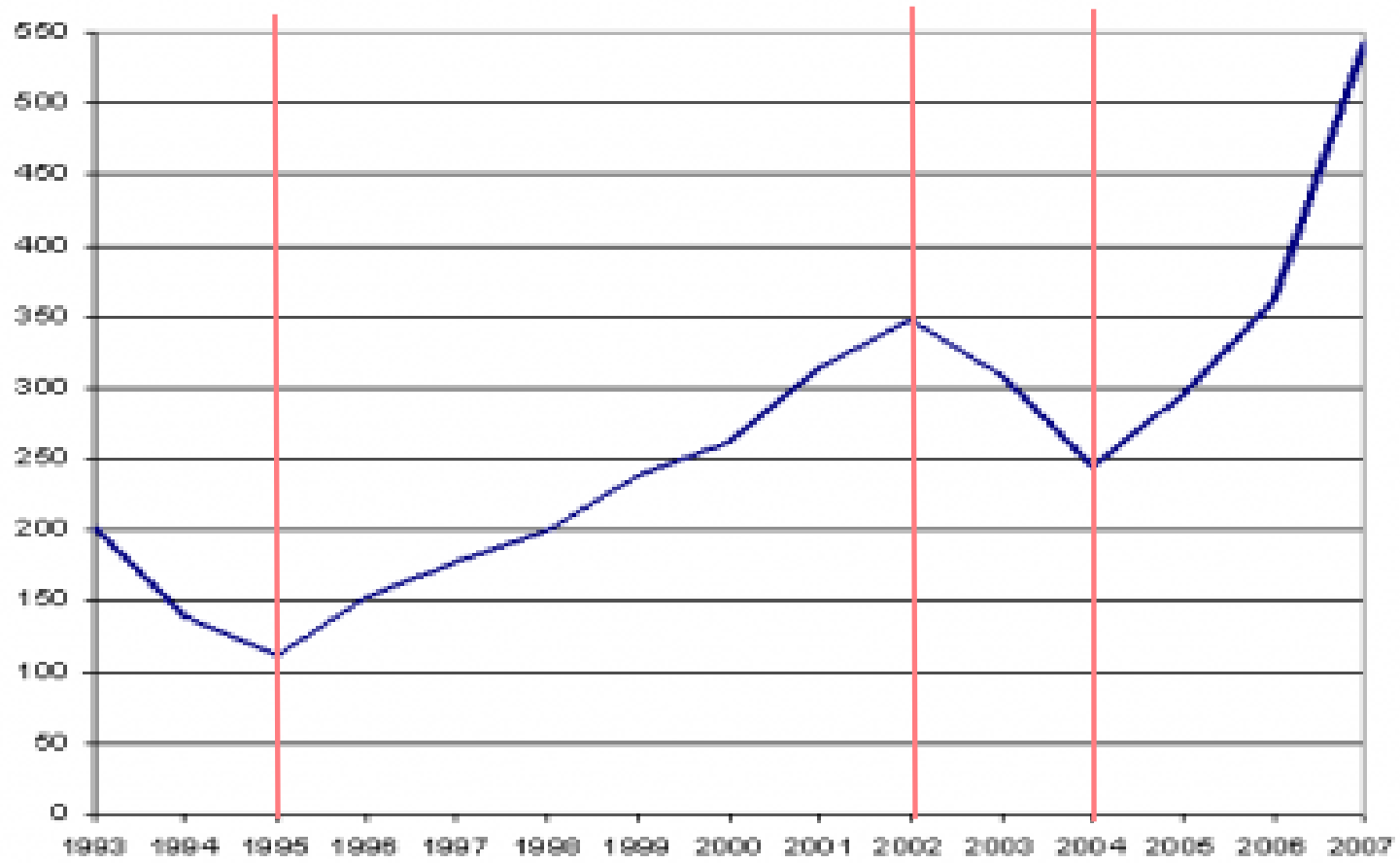
% Gross Expense on R&D relative to GNP



Source: Eurostat

... driven by a **competitive science push** growth of **22% per year** in 1995-2001 which, after decreasing in 2002-03, was made to grow at **28% per year** in 2005-07 ...

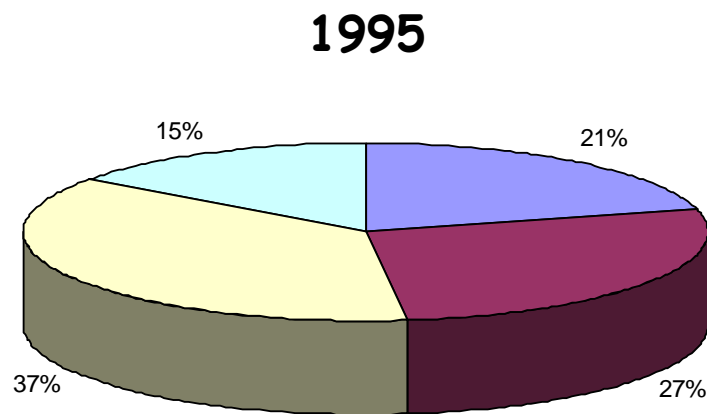
Budget of Competitive Public R&D Funding Agencies (M€ of 2007)
(JNICT/FCT + ICCTI+GRICES (1988-2007) + UMIC(I&D))



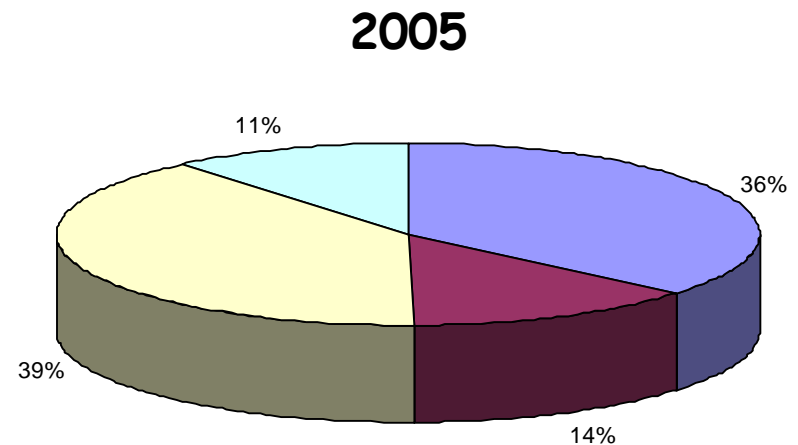
... leading to expectations of reaching about **0.8% BERD/GNP** and **1.8% GERD/GNP** in 2010, and radically shifting share of the GERD from the State to Enterprises.

Enterprises share grew 71% from 1995 to 2005, a structural reform of the GERD allocation of a magnitude unique in EU

Share of GERD by Enterprises, State, Higher Education, NonProfit Inst.



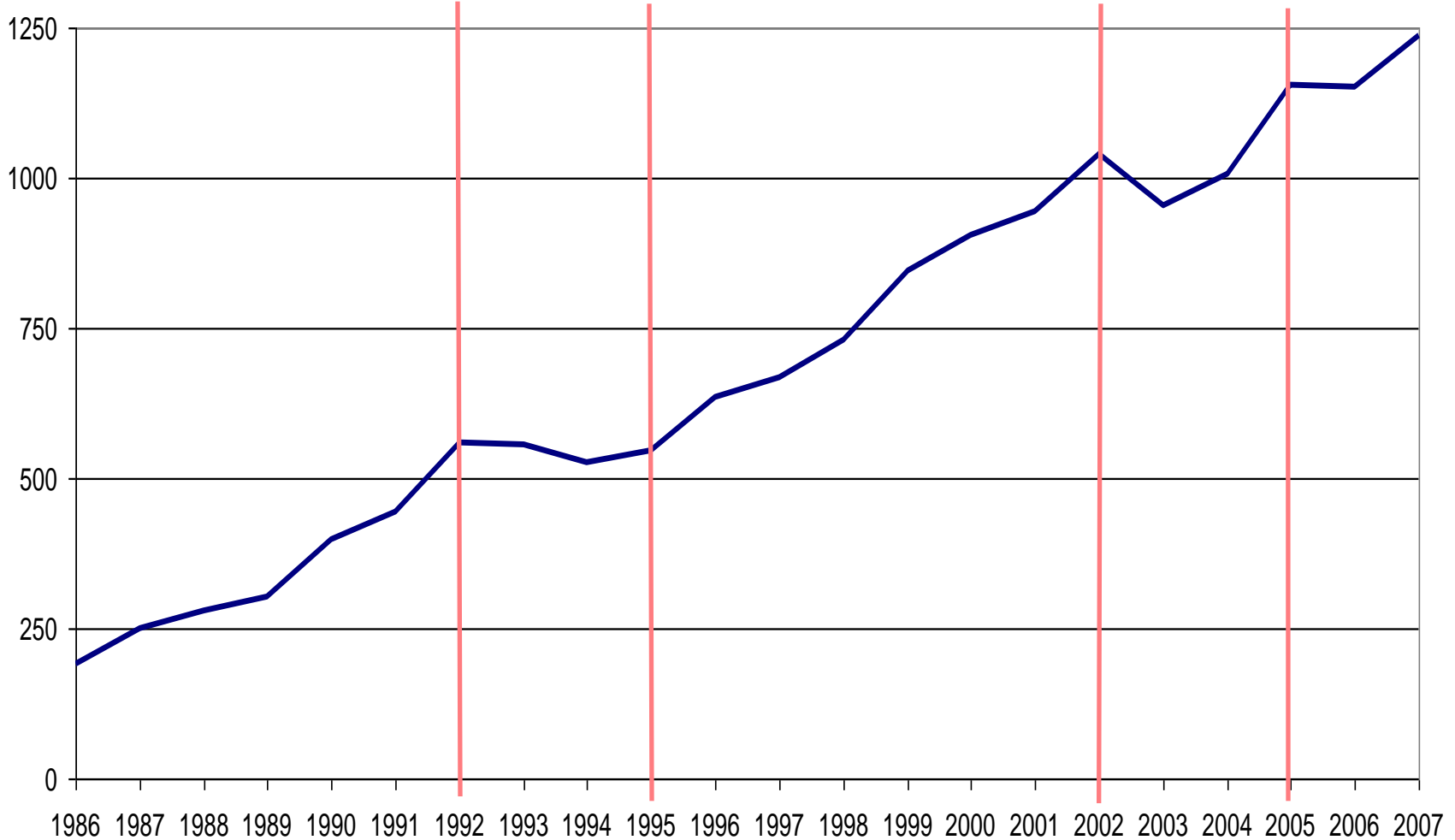
■ Empresas ■ Estado □ Ensino Superior □ IPSFL



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Total R&D Public Budget (GBAORD) grew at 11% per year from 2004 to 2007, while it had grown at 10% per year from 1995 to 2002, among the highest values in EU

R&D Public Budget (constant prices 2007, M€)



Source: OCT/OCES

Partnerships for the Future

Building Ambitious International Knowledge Networks

MIT – Portugal Programme (11 Oct 2006)

Engineering Design and Advanced Manufacturing, Energy Systems, Transportation Systems, Bioengineering Systems.

Also with *Sloan School of Management*: International MBA and *Lisbon-Sloan Seminar Series in Management Science*.

Involves 6 universities, 6 Associate Labs, 1 National Lab,

VW-Autoeuropa, EADS-CASA and 18 Portuguese companies, including Galp Energia, EDP, EFACEC, Simoldes Plásticos

CMU – Portugal Programme (27 Oct 2006)

Software Engineering, Information Networking, Information Security, Critical Infrastructures and Risk Assessment, Language Technology, Technical Change and Innovation, Mathematics.

Includes the creation of an international virtual institute: the *Information and Communication Technologies Institute (ICTI)* operating first with two nodes, *ICTI@Portugal* and *ICTI@CMU*.

Involves 11 universities, 4 Associate Labs,

Portugal Telecom, Siemens Networks Portugal, Novabase SA and 16 SMEs

Partnerships for the Future

Building Ambitious International Knowledge Networks

Further examples:

UT Austin – Portugal Programme (2 Mar 2007)

Digital Media, Advanced Computing, Mathematics.

Includes the creation of an international virtual institute: the *International Collaboratory for Emerging Technologies (CoLab)* operating first with two nodes, *CoLab@Portugal* and *CLab@UTAustin*.

Involves 15 universities, 3 Associate Labs, 4 Science and Technology Parks, 9 SMEs.

Harvard – Portugal Programme (16 Apr 2007)

Biomedicine and Health Care Content. Signed MoU for assessment phase with Harvard Medical School. Will involve Universities, Associate Labs, large and SMEs.

Fraunhofer – Portugal Programme (18 Apr 2007)

ICT, Biotechnology, Nanotechnology, Advanced Manufacturing Engineering, Logistics. Signed MoU for assessment phase with *Fraunhofer Gesellschaft*.

One objective is the creation in Portugal of the 1st Fraunhofer Institute outside Germany (on *Technology, Applications and Services for Ambient Assisted Living*).

Will involve Universities, Associate Labs, large and SMEs.

Partnerships for the Future

Building Ambitious International Knowledge Networks

Further example:

International Iberian Nanotechnology Laboratory (19 Nov 2005)

Nanomedicine (drug delivery, nanotechnology for diagnostics), Environmental Applications, Food Quality Applications, Electronic Devices. 200 researchers. International research organization under UN umbrella whose joint creation was decided by Spain and Portugal governments at the Spain-Portugal Summit of 2005. Convention signed in Summit 2006 (25 Nov 2006).

“The ambition of both countries is to create a research site of world scale relevance, capable of attracting scientists and technicians from all points of the world”

José Mariano Gago, Minister of Science, Technology and Higher Education, Portugal

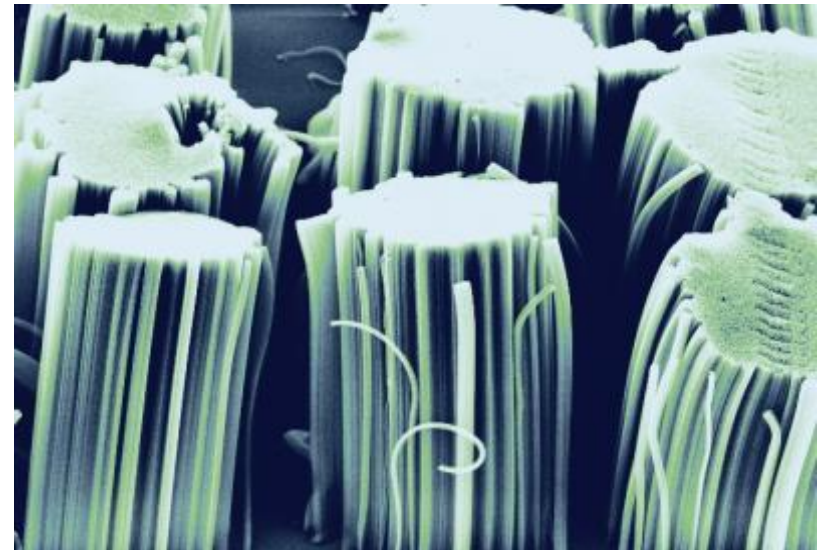


Figure: Carbon nanotubes

Partnerships for the Future

Committing Affiliated Enterprises to Invest in R&D

- Signed commitment contracts with 50 enterprises,
With large enterprises such as Portugal Telecom, Autoeuropa, Novabase, Siemens Network, EDP, Galp Energia, and SMEs
- Enterprises commit to invest in R&D 3% to 5% (depending on specific agreements) of the value of their sales, and to hire a certain number of researchers

Fiscal Incentive to Enterprise R&D System

Adopting Globally Competitive Tax Deductions for Industrial R&D

- Reintroduced in 2005 for period 2006-2010 after being operational 1997-2003
- Base deduction: 20% of R&D expenses
- Incremental deduction: 50% of R&D expenses relative to average of two preceding years, up to 0.75 M€
- Presently: the most competitive fiscal incentive to enterprise R&D in OECD countries

NEOTEC – New Technology-Based Enterprises Initiative

Inducing the Creation of New Knowledge-Based SMEs of Global Reach

a Knowledge Society Agency (UMIC) Program
implemented by the Innovation Agency (AdI)

- Targeted at university researchers/students entrepreneurial projects, with high growth potential oriented to world markets (on the average 74% of sales abroad)
- Support for 3 phases of enterprise creation:
 - 1) From idea to new products/services/processes (≤ 6 months)
 - 2) Developing business model and business plan (≤ 6 months)
 - 3) Launching enterprise operation (≤ 14 months)
- Approved 103 new projects enterprise since 2005
54% ICT, 11%-12% Agrifood Biotech, 11% Health Biotech,
5% other Biotech, 8% others
- Already in operation more than 40 new enterprises

Networks of Competence

Enabling Networks of Competence to Reach Global Markets

a Knowledge Society Agency (UMIC) Program
implemented by the Innovation Agency (AdI)

- Approval of 9 Networks of Competence involving enterprises, research centres, universities, industrial associations, public bodies:
 - Telecommunication and Information Technologies
 - Mobility
 - Agro-forestry and Food
 - Bio-Energy
 - Health Care and Medicine
 - Mould Micro-Machining
 - Polymers
 - Dematerialization of Transactions
 - Fashion
- They involve 158 entities, including 87 enterprises
- Selected from more than 40 applications prepared bottom up following a call for proposals

Public Procurement

Enabling Enterprise Investment in R&D

- ➔ New Public Procurement Code (to be approved)
For purchases over 25 M€, suppliers should fund R&D projects on the value of at least 1% of the purchase
To be carried out by the supplier or a third party.
Possibly reduced that to 0,5% in exceptional cases

Increasing the Number of Young PhDs in the Associated Laboratories and other Top Quality Research Institutes and Centers

Building up the Human Base for R&D

- ➔ Program-contracts signed with several research institutions and universities, approving funding for hiring 628 new PhDs in 2007 (6% increase of present numbers)
International calls for applications.