



MINISTERIO
DE CIENCIA
Y TECNOLOGÍA

National RTD Policy

National RTD Policy

José M. Fernández de Labastida

Deputy Director General for Research Programmes



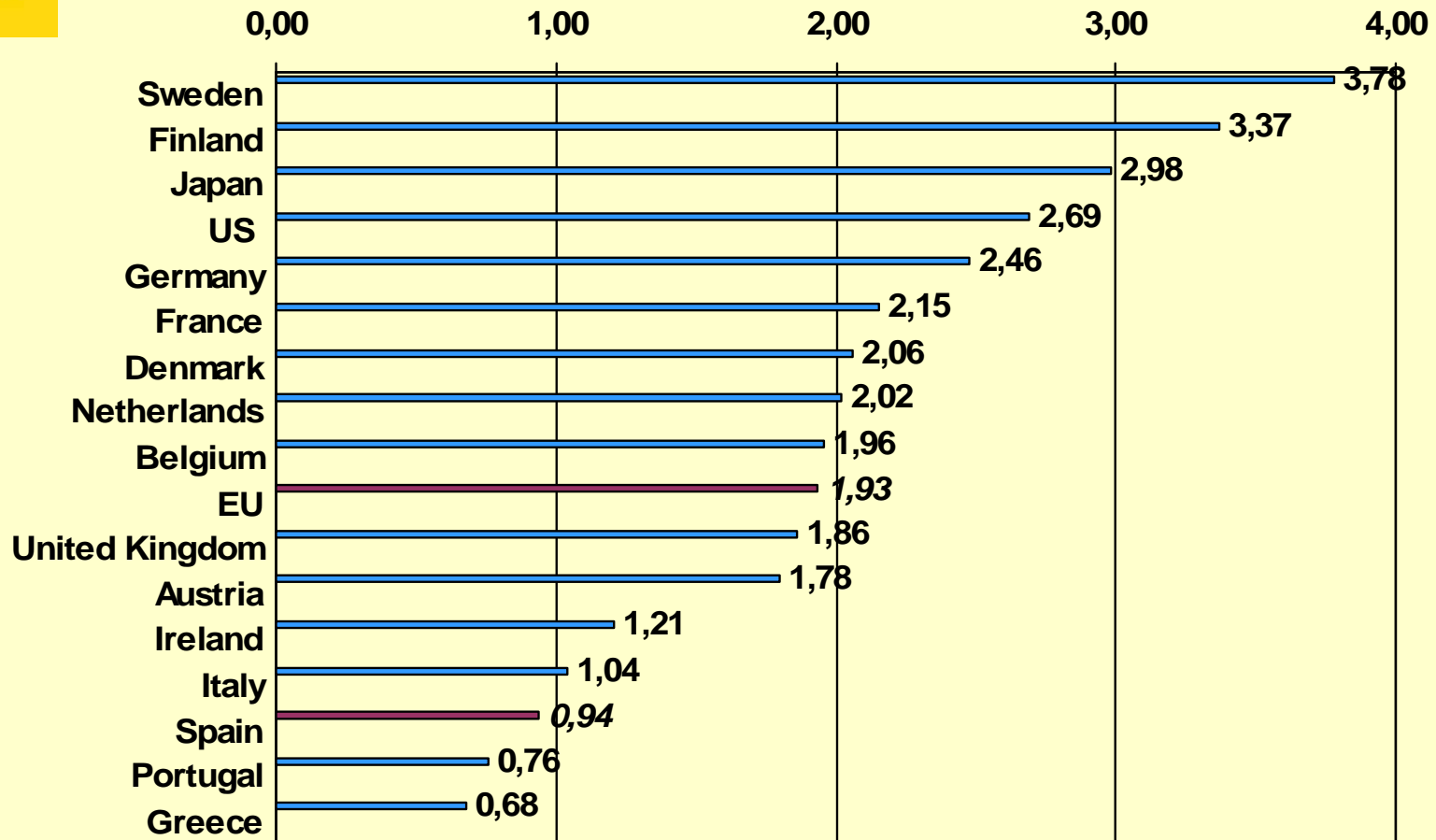
- **Key figures of the Spanish RTD System**
- **Diagnosis and description of the RTD System**
- **Main RTD Policies**



MINISTERIO
DE CIENCIA
Y TECNOLOGÍA

National RTD Policy

GERD AS A PERCENTAGE OF GDP



Source: DG Research; Data: Eurostat, Member States

Key Figures 2002

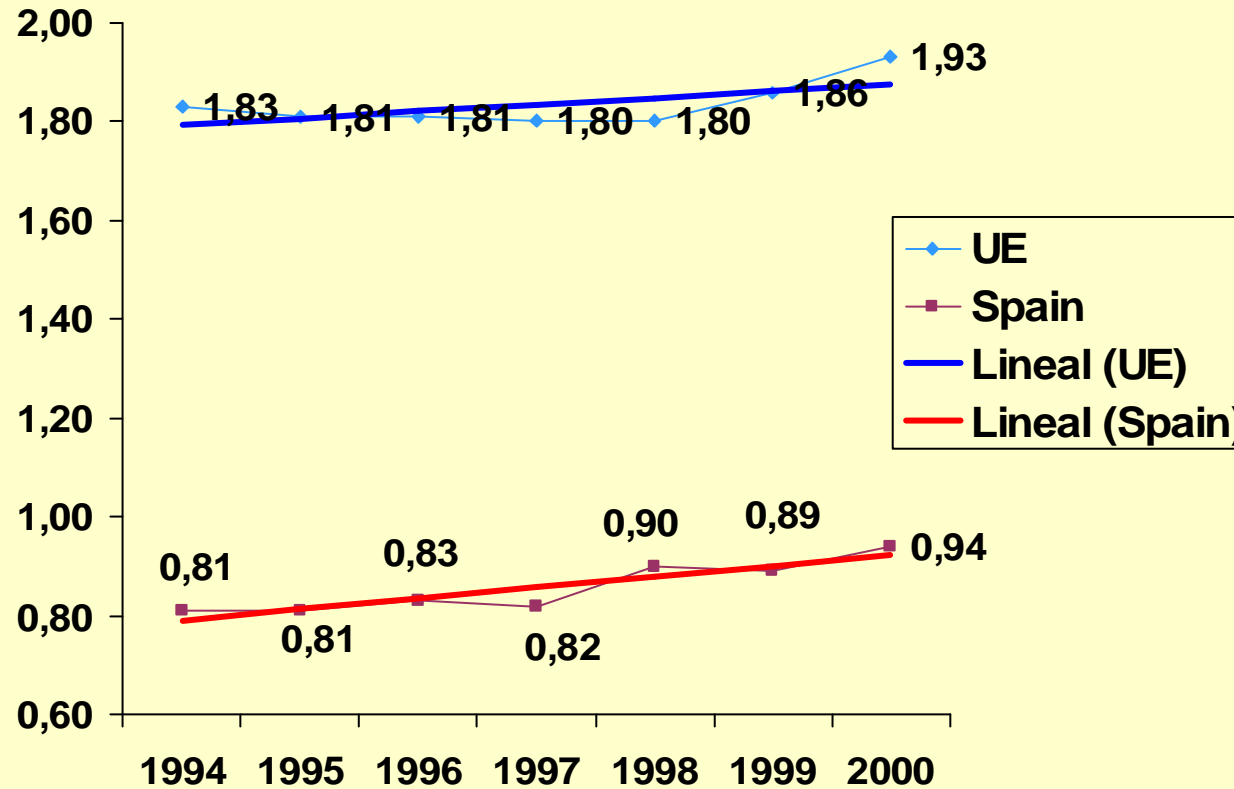
Note: (1) EL, IRL, I, B, NL, DK, S: 1999; all other countries and EU: 2000 (2) L is not included in the EU average



MINISTERIO
DE CIENCIA
Y TECNOLOGÍA

National RTD Policy

GERD AS A PERCENTAGE OF GDP



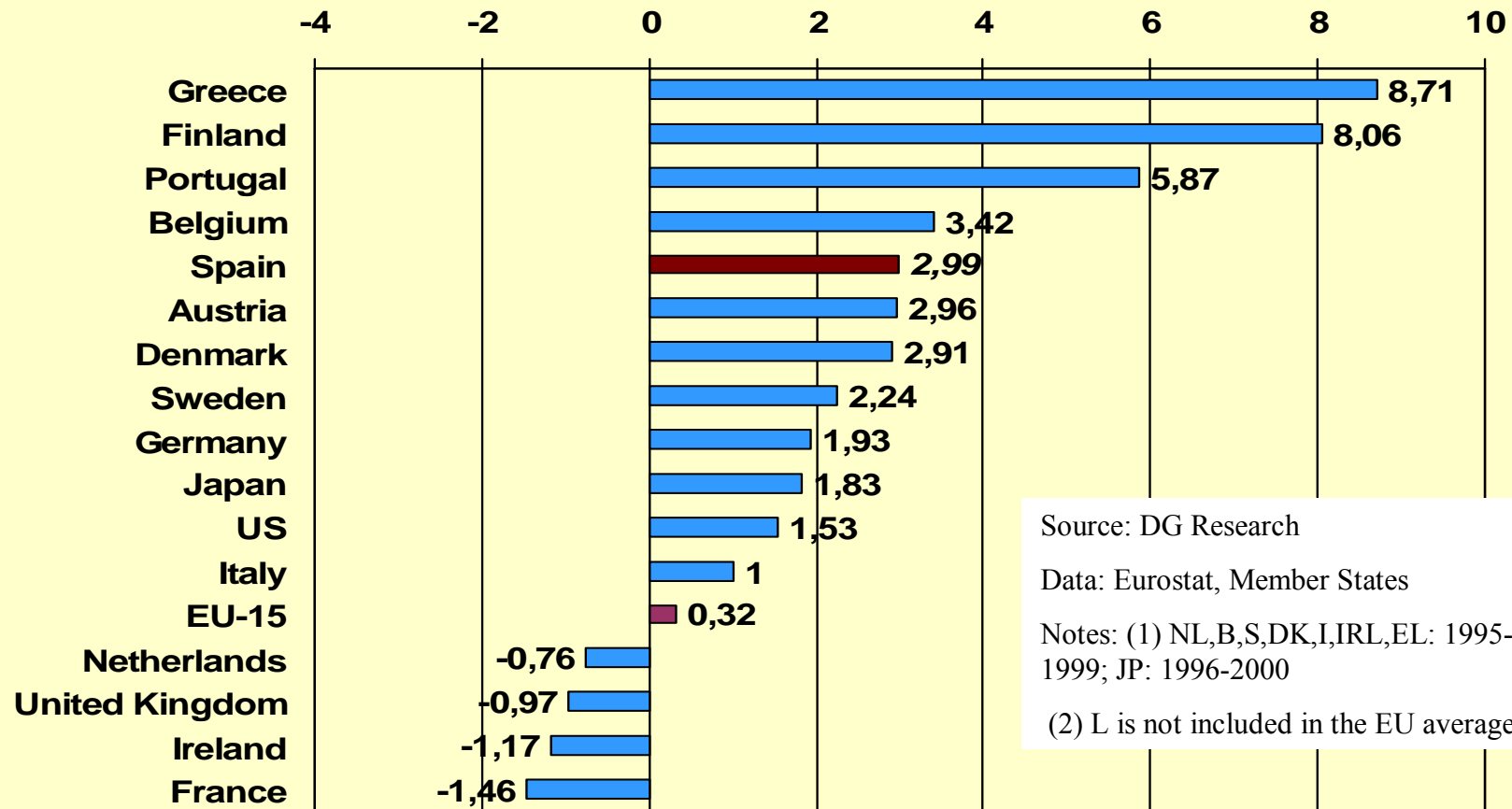
Source: UE: OECD, Main Science and Technology Indicators, November 2001; Spain: INE 2001



MINISTERIO
DE CIENCIA
Y TECNOLOGÍA

National RTD Policy

R&D EXPENDITURE –AVERAGE ANNUAL REAL GROWTH (%), 1995 TO LATEST AVAILABLE YEAR (1)

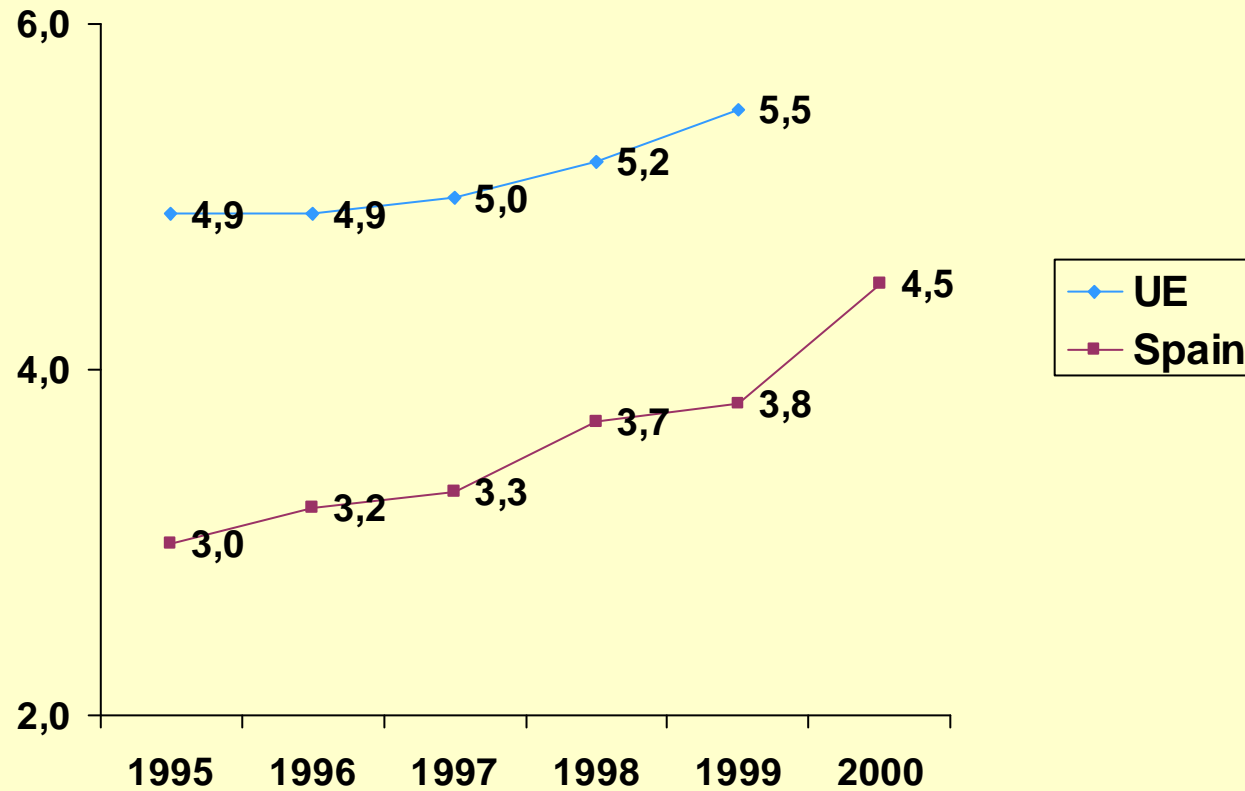




MINISTERIO
DE CIENCIA
Y TECNOLOGÍA

National RTD Policy

TOTAL RESEARCHERS PER THOUSAND LABOUR FORCE



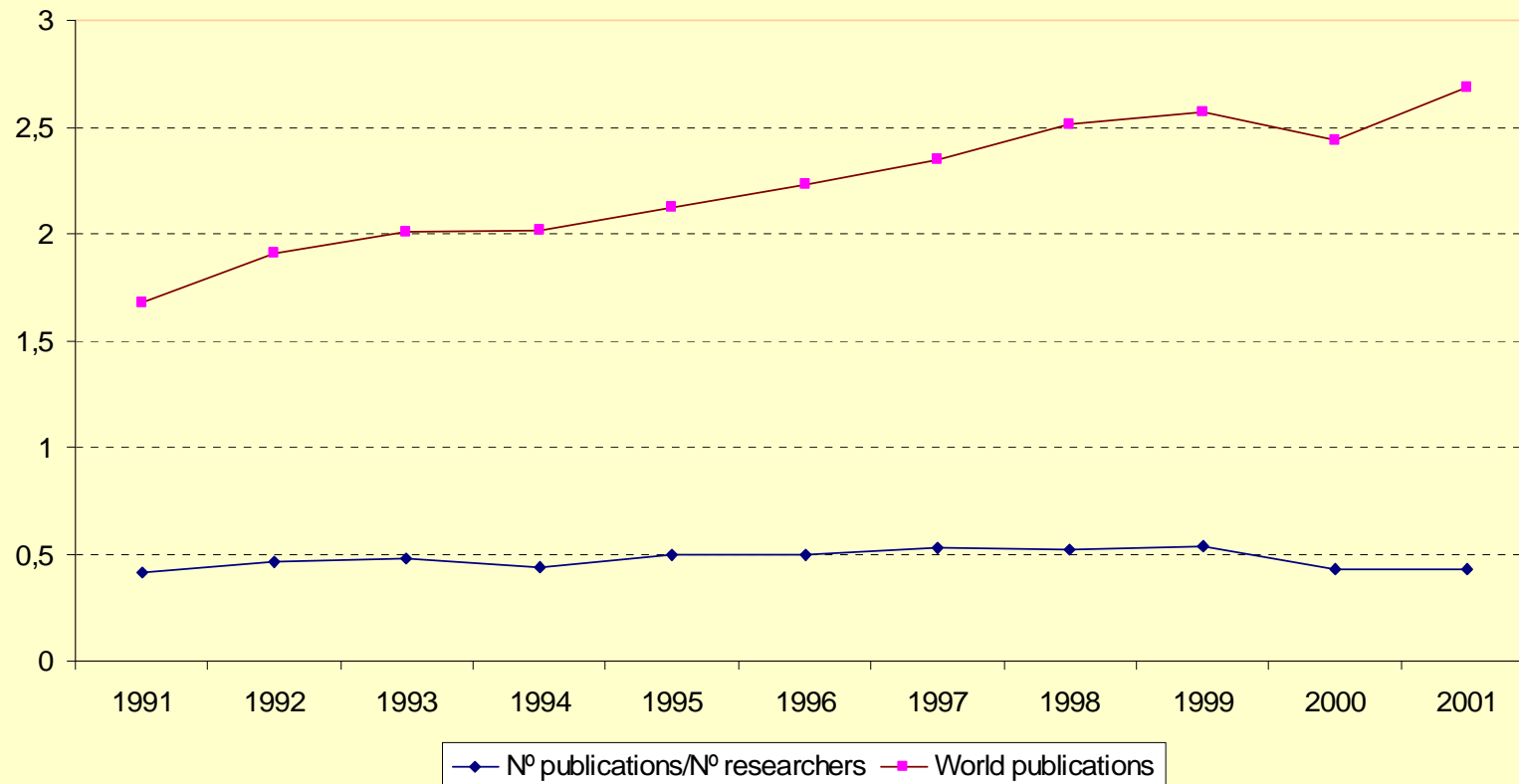
Source: UE: OECD, Main Science and Technology Indicators, November 2001; Spain: INE 2001



MINISTERIO
DE CIENCIA
Y TECNOLOGÍA

National RTD Policy

SCIENTIFIC PRODUCTION



(1) Full Time Equivalent; Only Government and Higher Education; (*) In Spanish institutions where at least one author belongs to the Institution; Source:SCI Search 1992-2001 (CINDOC)



DIAGNOSIS

- **Bigger gap in GERD (50 % aver. EU) than in GDP per capita (85%)**
- **Still small effort (GERD/GDP) but increasing**
- **Insufficient Human Resources in R&D (84% aver. EU),**

RTD System

Research activity in public sector (universities and PRC) and promotion of R&TD is regulated by specific Laws:

- General Promotion and Coordination of Scientific Research and Technological Development Law (1986).**
Creates a Policy coordinating body (CICYT) and an instrument (indicative planning) for coordinated action to promote science and technology: The IV National Plan for Research and Technological Development and Innovation (2000-2003). It also has created a “common” legal frame for the government laboratories.
- Health Law (1986)**
Creates a Health Research promotion Fund (FIS) mostly for clinical research.
- University Law of 2001 (1983)**
R&D receives high attention and also technology transfer and promotion of technology-based firms.



RTD System

Research activity in society is also supported or limited by other Laws:

Private sector:

- Patents, copyright Laws
- Corporate Tax Law
- Private Foundations and Charities Law

Public sector:

- Laws for Administrative Procedure, Public Function, State Contracts, etc



Public funding mechanisms for research

RTD funding in Spain is mainly done through Annual State Budget.

There is a four year lasting National Plan for Research, Development and Innovation (2000-2003), structured on National Programmes, with identified objectives and priority lines.

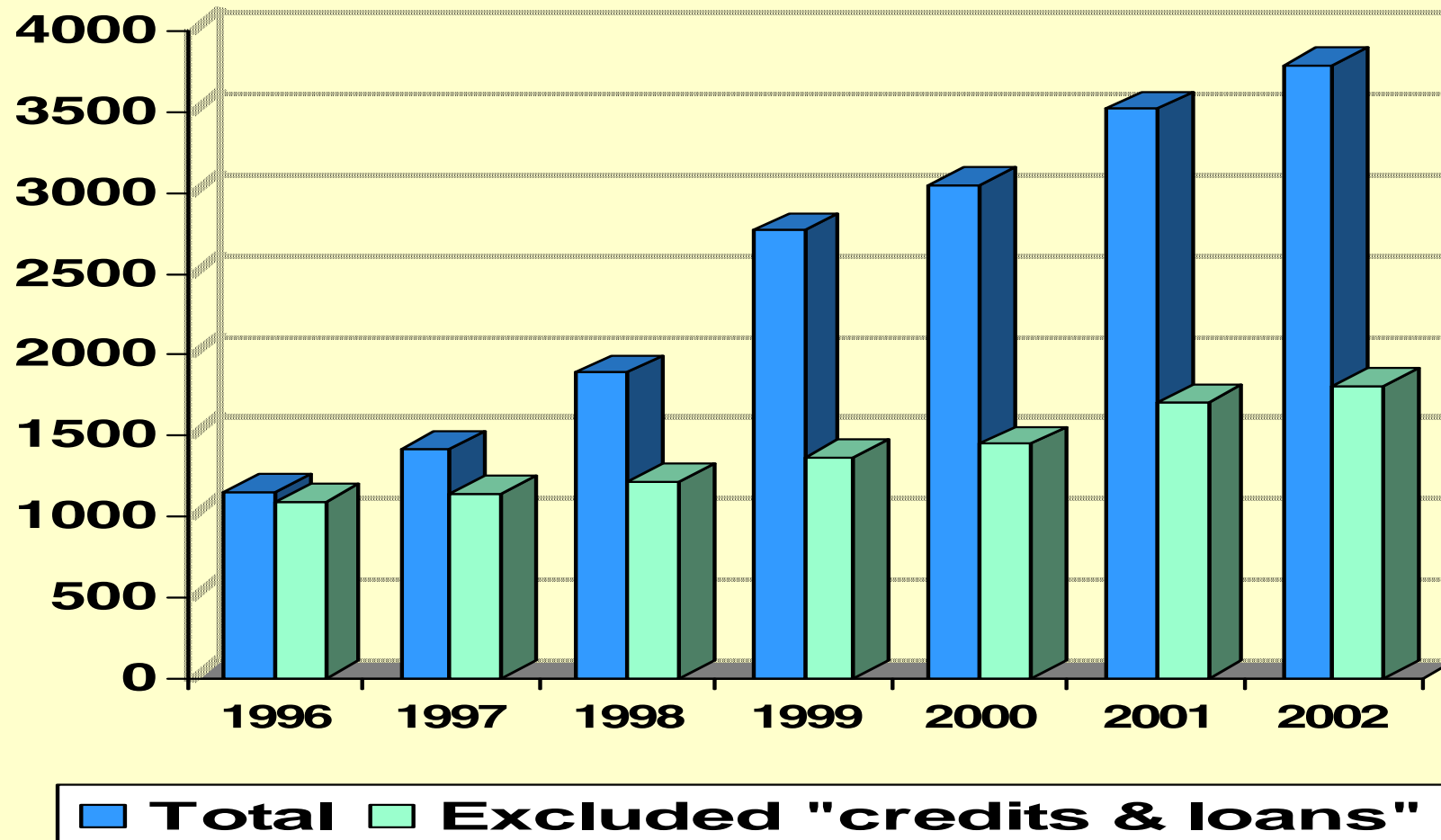
Every year different type of actions are identified by public call for proposals and funded after a process of evaluation: anonymous peer review for R+D projects, and technical evaluation for innovative projects.



MINISTERIO
DE CIENCIA
Y TECNOLOGÍA

National RTD Policy

Evolution of Public Budgets (M€)





New policy action

- **The new Ministry for Science and Technology, born 2000**
 - Brings together units and directorates for Research and Innovation management that previously were in five different Ministries (Industry, Education, Public Works, Agriculture and Environment).
 - Five Public Centers of Research, formerly depending from different sectorial ministries are also given the same dependence (CSIC, CIEMAT, INIA, IGME, IEO).
- **Missions of the Ministry for Science and Technology**
 - Promotion and transformation of the scientific and industrial base, to update the Science-Technology-Enterprise system
 - Development of the Information Society and to spread its benefits to all citizens

New Policy Action

- The Ministry for Science and Technology coordinates **85%** of the expenses of the total public RTD&Innovation budget (Fiscal year 2002. Total: **3,792 M€**, excluded “loans”:**1,804 M€**).
- This represents **1,9%** of the total State Annual Budget.
- Public Centers of R&D which carry on direct implementation RTD had a budget (2002) of **724 M€** funded by State Budget.



MINISTERIO
DE CIENCIA
Y TECNOLOGÍA

National RTD Policy

Distribution of National R&D Budget

By Sectors	Budget 2001 (M €)	S/total (%)	Budget 2002 (M €)	S/total (%)
Government	2.810,22	79,8	3.066,58	80,9
P.R.C.	711,36	20,2	724	19,1
Total F54	3.521,58	100	3.790,58	100

By Departments	Budget 2001 (M €)	S/total (%)	Budget 2002 (M €)	S/total (%)
Science & Technology	2.993,34	85,0	3.253,25	85,8
Defence	316,94	9,0	314,04	8,3
Health & Consume	116,21	3,3	120,65	3,2
Education, Culture & Sports	77,47	2,2	83,61	2,2
Other Deparments	17,62	0,5	19,03	0,5
Total "F F54"	3.521,58	100	3.790,58	100



Main RTD Policies

- Funding for RTD projects
- Increase of human resources in RTD
- Incentivate private RTD investments
- Improving the European dimension of Spanish R&D system
- Improving infrastructures for S&T

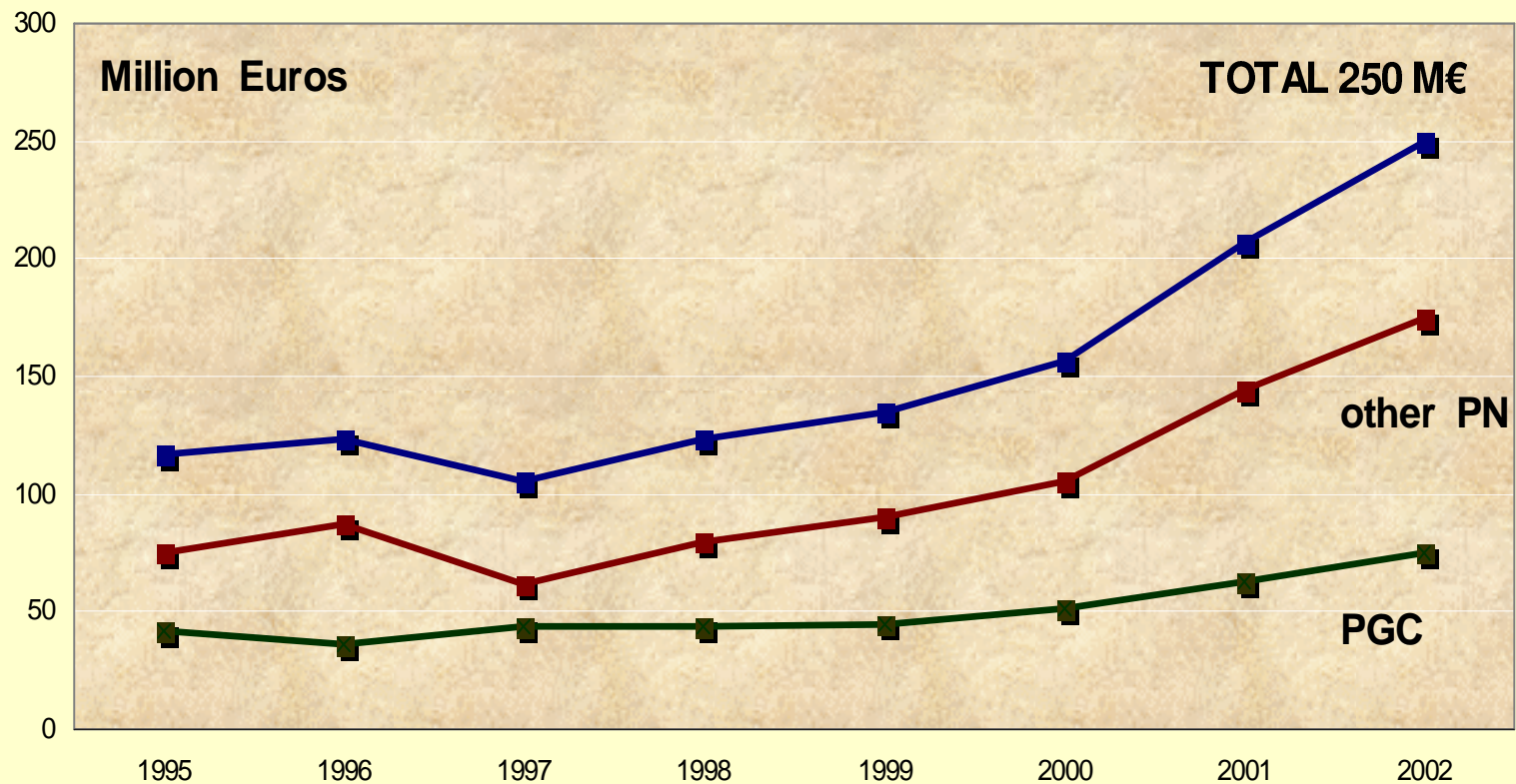


MINISTERIO
DE CIENCIA
Y TECNOLOGÍA

National RTD Policy

Evolution of assigned funds to RTD projects

(Including co-financing structural funds)



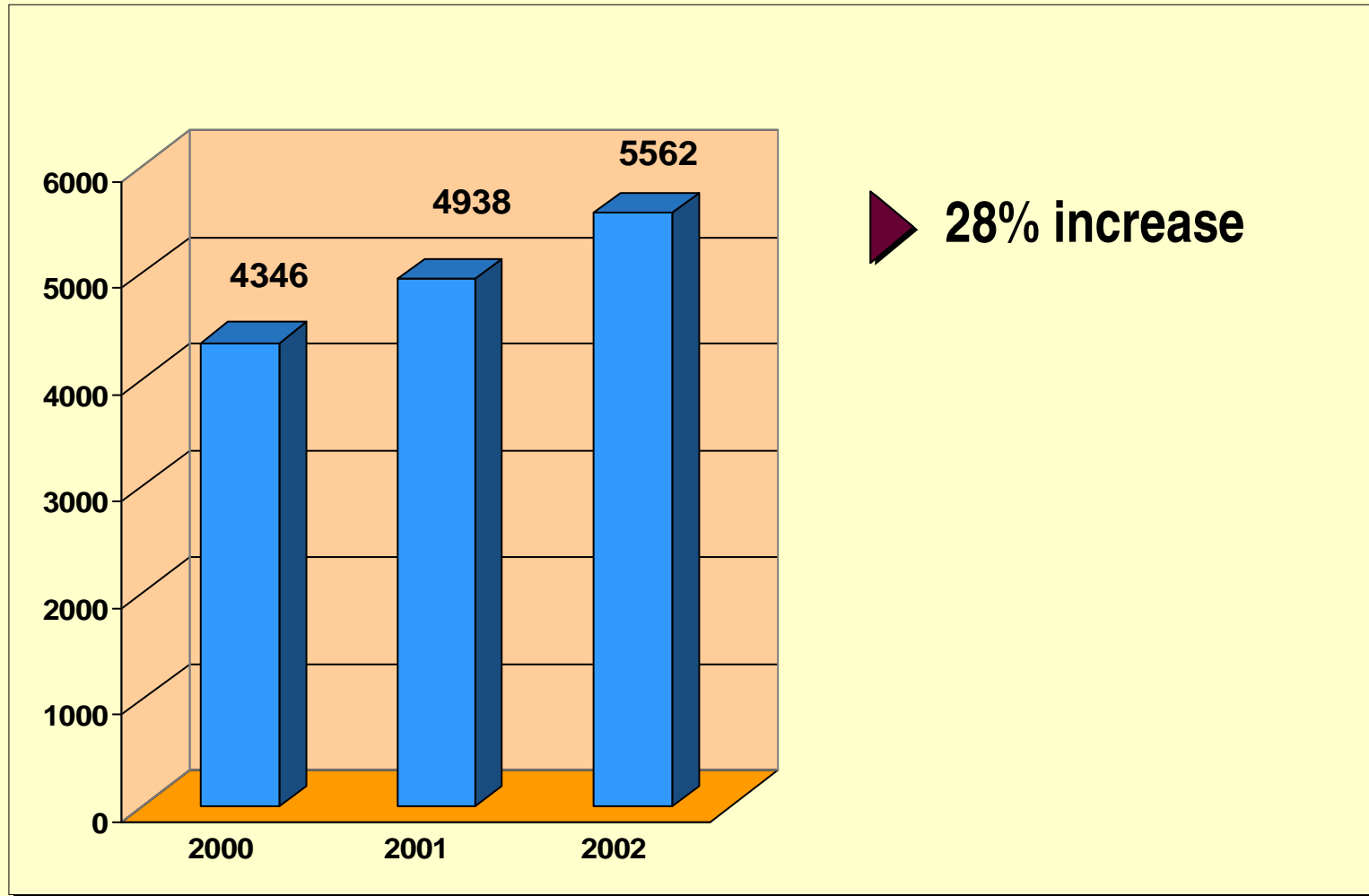
Clear growth from 2000 onwards



MINISTERIO
DE CIENCIA
Y TECNOLOGÍA

National RTD Policy

Proposals for RTD projects received

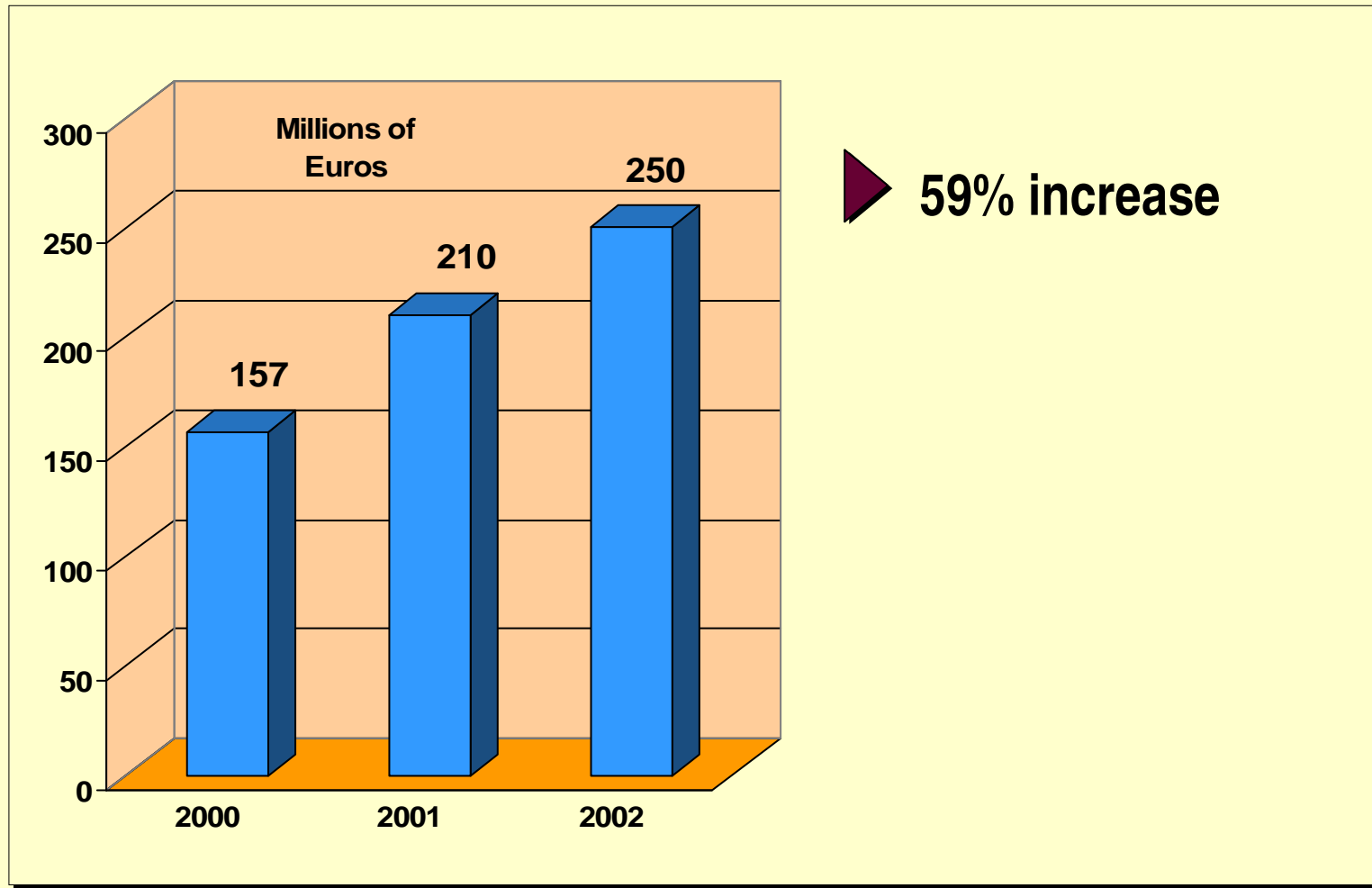




MINISTERIO
DE CIENCIA
Y TECNOLOGÍA

National RTD Policy

Total funding for RTD projects approved (M€)

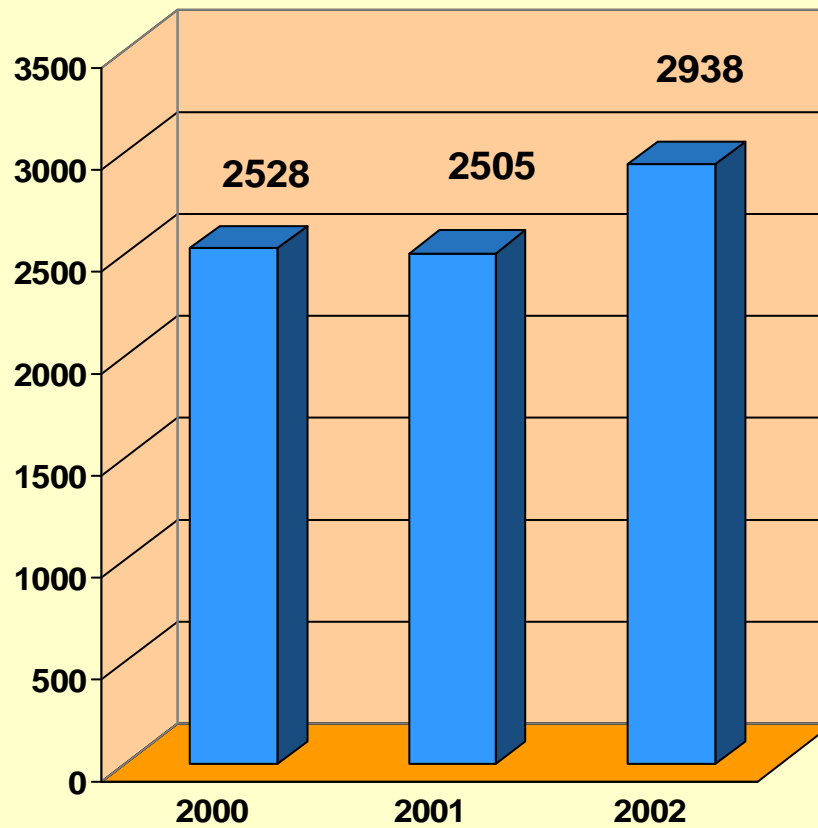




MINISTERIO
DE CIENCIA
Y TECNOLOGÍA

National RTD Policy

RTD projects approved



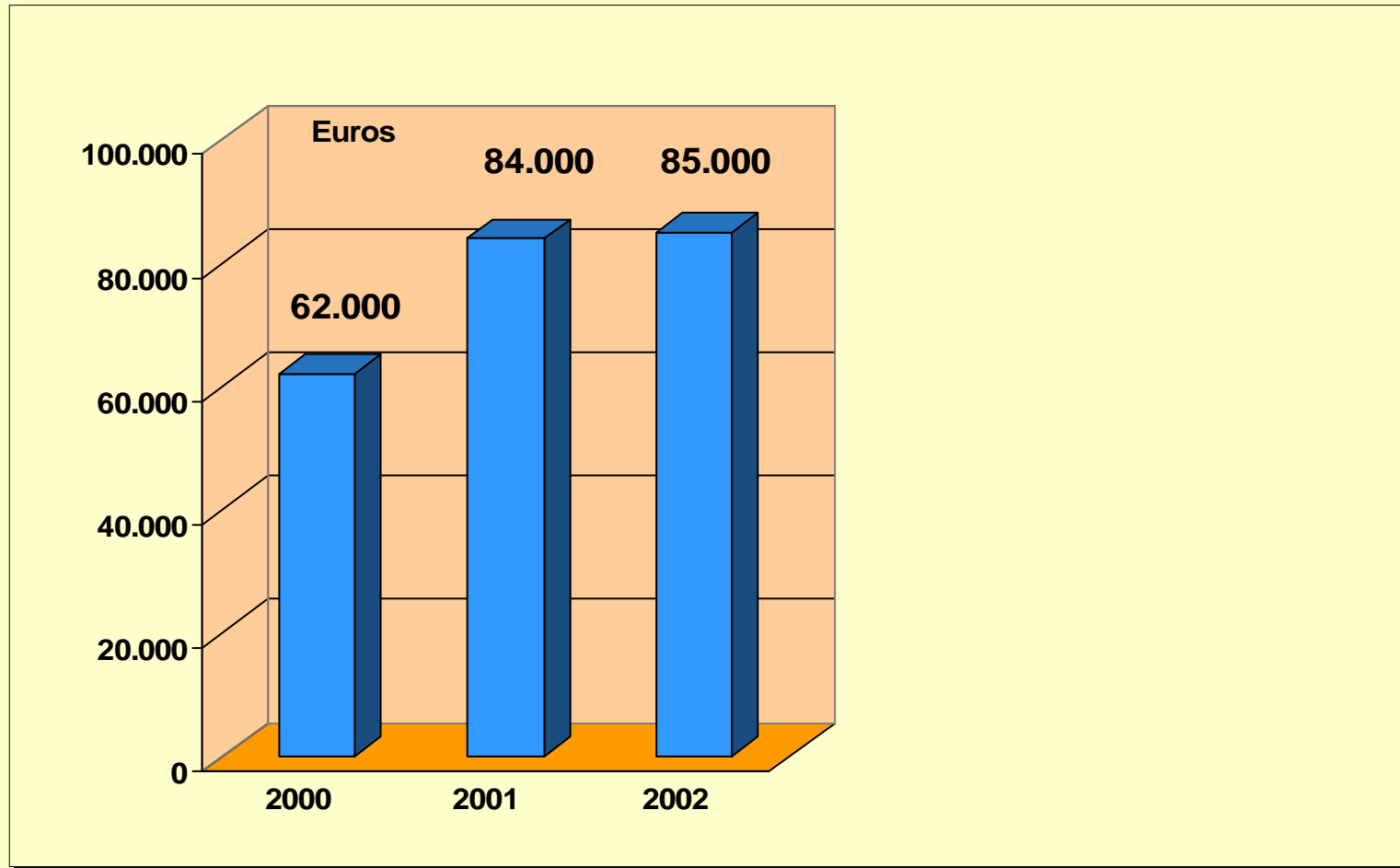
► 19% increase
in 2002



MINISTERIO
DE CIENCIA
Y TECNOLOGÍA

National RTD Policy

Average RTD project funding

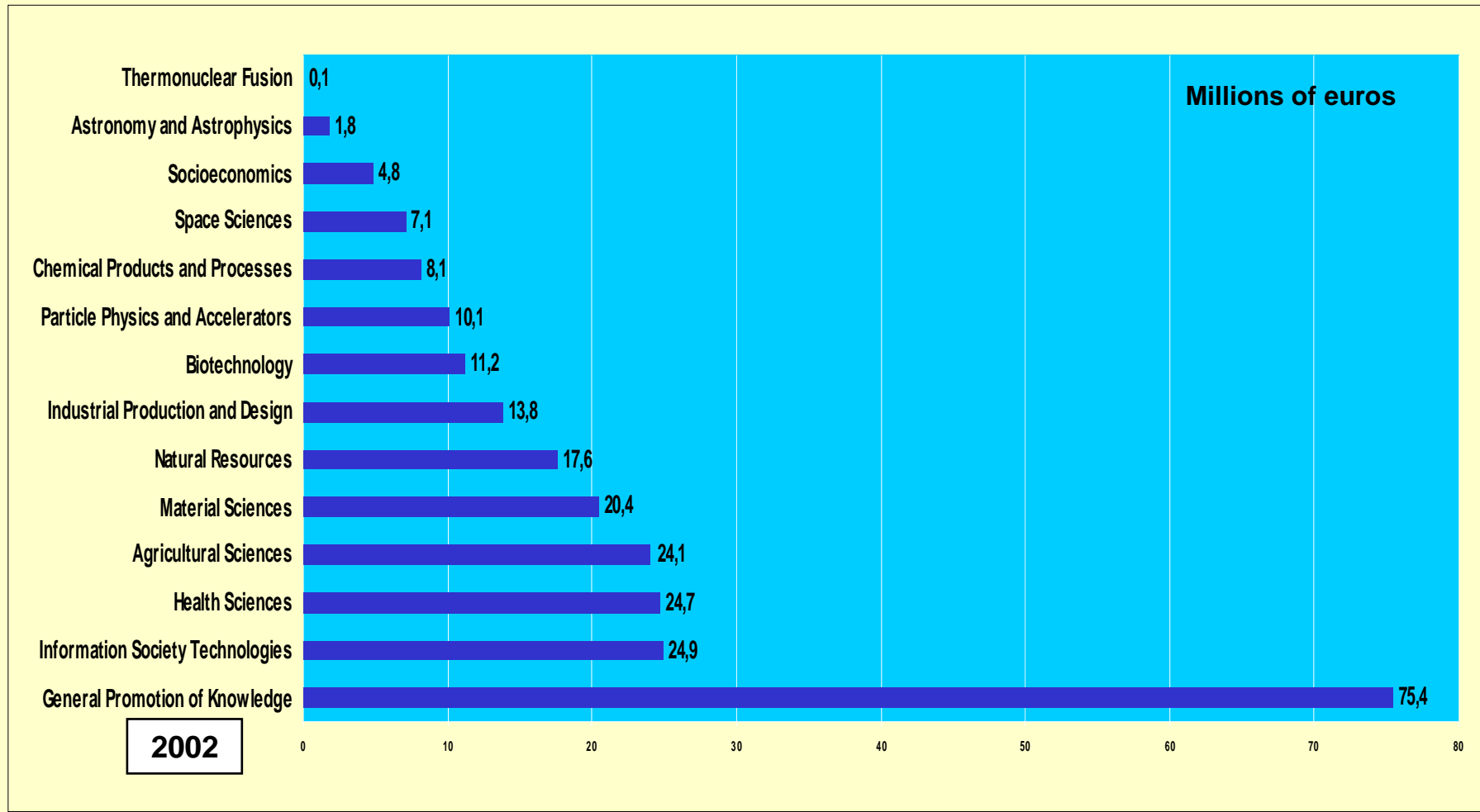




MINISTERIO
DE CIENCIA
Y TECNOLOGÍA

National RTD Policy

Funds allocated to National Programmes

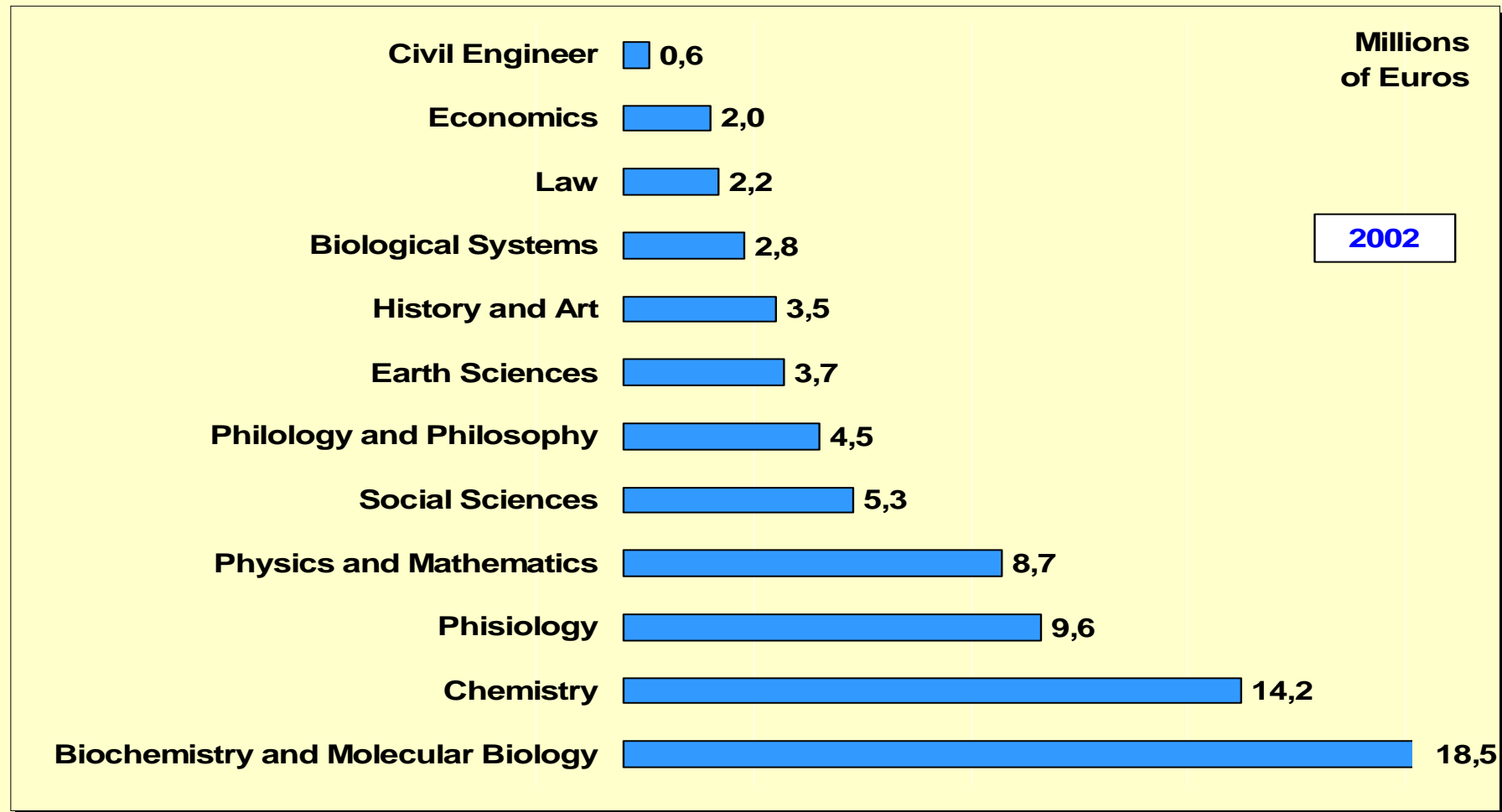




MINISTERIO
DE CIENCIA
Y TECNOLOGÍA

National RTD Policy

Funds allocated to PGC

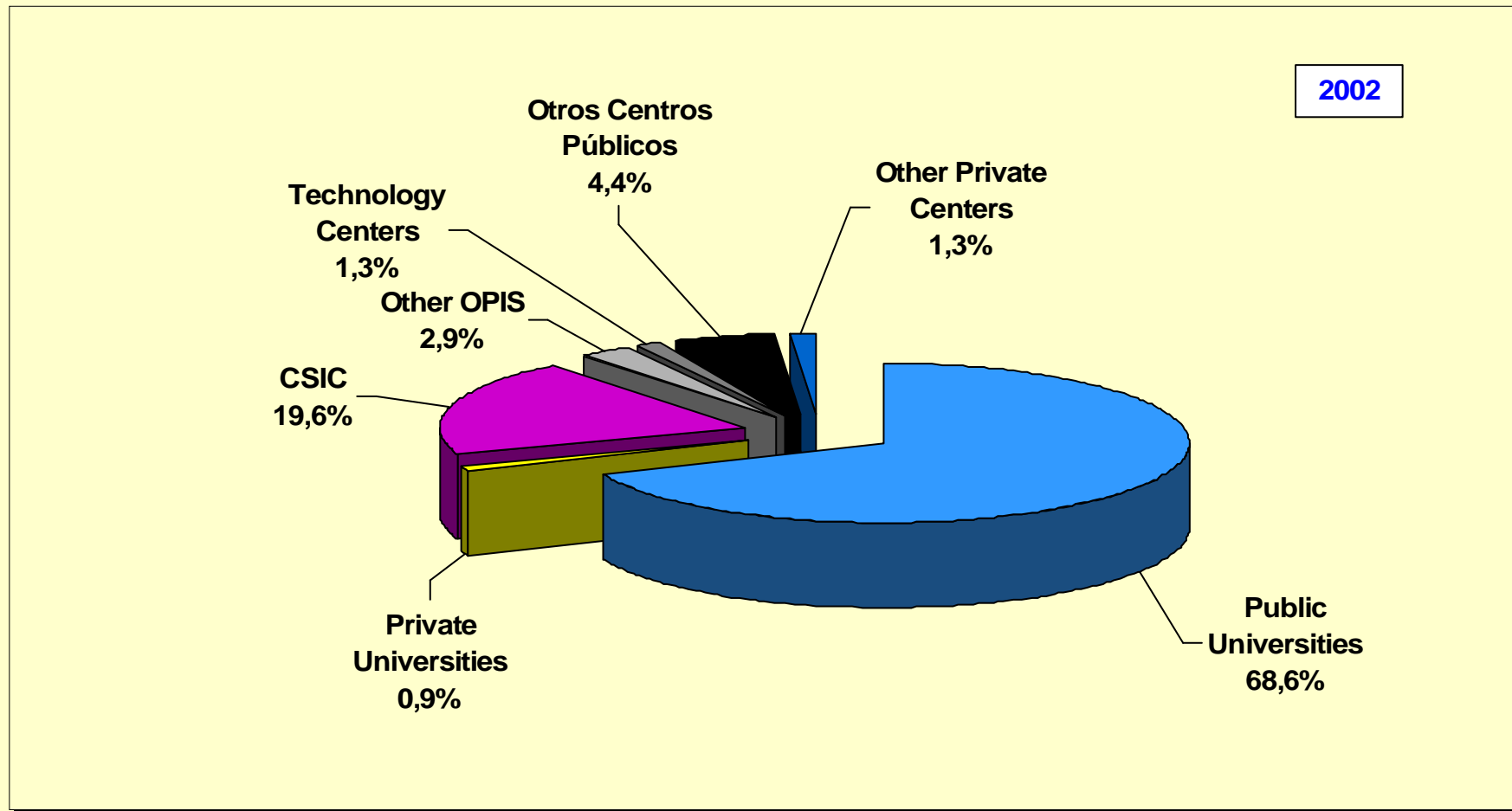




MINISTERIO
DE CIENCIA
Y TECNOLOGÍA

National RTD Policy

Distribution by type of entities





Increasing number and quality of Human Resources in RTD

- **Predoctoral fellowships (FPI)**
- **Contract PhD Program (Ramón y Cajal)**
- **PhD and R&D personnel in companies (Torres Quevedo)**



Fellowships for training of researchers (FPI)

- Fellowships to perform a Ph.D. thesis are linked to the best R&D projects, whose teams are well evaluated for their training capacity.
- Each R&D project might receive more than one fellowship, accordingly with its team's size, the remaining conditions being equal.
- 750 new fellowships every year for 2500 candidates (2002)
- Total running fellowships MICYT: 1,900 (54% women).
- Amount: 962 € / month.
- 4 year duration, 9 months of stay in other research centres

“RAMÓN Y CAJAL” PROGRAMME

- To create a step in a “researcher’s career” (tenure track, 5 year)
- To stabilize and improve the working conditions of “post-doc” researchers
- To facilitate the return of researchers working abroad
- To identify the best quality researchers, to facilitate their insertion within the Spanish R&D system
- To support mobility and transferability of researchers
- To establish co-responsibility of research receptors, the R&D Centers and the Autonomous Communities.

2001	2002	2003
800	500	700

“TORRES QUEVEDO” PROGRAMME

- ❖ To incorporate Ph.D. researchers and technologists to enterprises and Technological Centres, in order to improve their research and innovation capacities and raise their competitiveness.
- ❖ To facilitate the execution of R&D and innovation to SME's, specially from less developed regions, by co-funding three year contracts of highly qualified researchers and technologists.
- ❖ To promote the transference of R&TD project's results from public to private entities.
- ❖ More than 500 contracts in 2002



Incentivate private RTD investments

- **PROFIT: promotion of RTD projects in business sector**
- **New tax breaks and deduction in the corporate taxes**
- **Measures for Academic-Industry relationships**

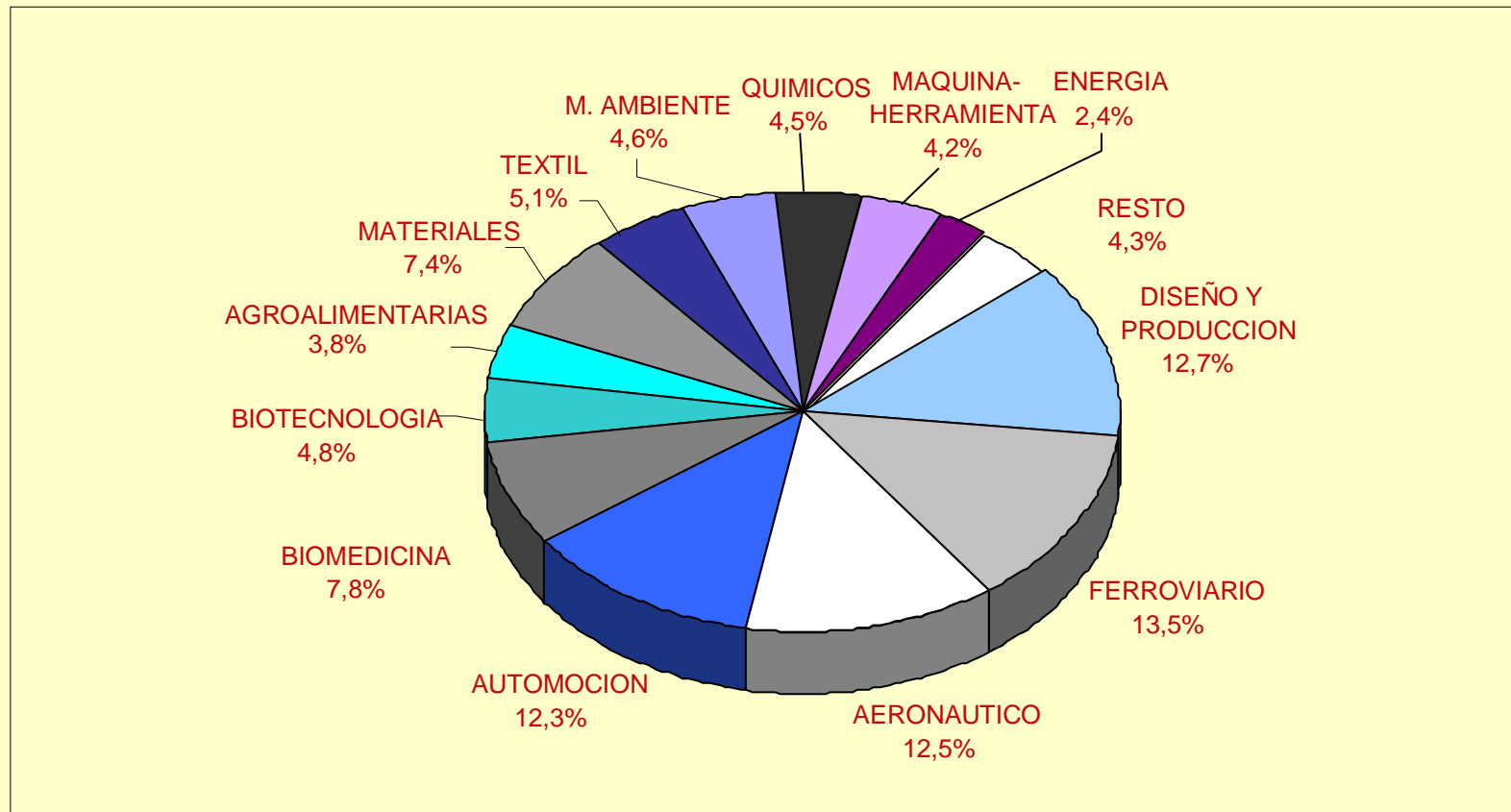


MINISTERIO
DE CIENCIA
Y TECNOLOGÍA

National RTD Policy

PROFIT PROGRAMME

2001: total funds allocated 764 M€





European and International Dimension

Large projects and international programmes:

ESA, CERN, ESO-ENO, GBIF

ERA and the VI Framework RTD Programme

EUREKA

Strategic areas of large dimension:

Astronomy, astrophysics and astrobiology,

Large particle accelerators (CERN, LURE, Soleil)

Termonuclear fusion (ITER)

Oceanographic ships,

Solar platform,

Total International fees: 250 M€



MINISTERIO
DE CIENCIA
Y TECNOLOGÍA

National RTD Policy

Scientific Infrastructure 2000-2002

- Scientific equipment,
- Enlargement of R&D centers, promote new R&TD areas,
- Creating or modifying large scale R&D facilities

Funds allocated: 500 M€
(co-financed with structural funds)

