

A large graphic in the top half of the page features a spiral of concentric circles in shades of green and yellow. The spiral is centered on a map of Ireland, which is repeated in smaller sizes as it spirals inward. The background of the spiral is a grid pattern.

# **Science and Technology *in Ireland***



Éire 2004 Uachtaránacht an Aontais Eorpaigh  
Ireland 2004 Presidency of the European Union

[www.eu2004.ie](http://www.eu2004.ie)

[www.eu2004.ie](http://www.eu2004.ie)  
[www.cordis.ie](http://www.cordis.ie)

Prepared by Forfás in conjunction with the Office of Science and Technology, Department of Enterprise, Trade and Employment



The National Policy and Advisory Board for Enterprise,  
Trade, Science, Technology and Innovation



Department of  
Enterprise, Trade  
and Employment

Office of Science & Technology

# Contents

	Page
<b>Introduction</b>	2
<b>Overarching Framework for Research Policy in Ireland</b>	3
<b>National Development Plan, 2000-2006</b>	5
<b>National R&amp;D Funding</b>	6
<i>Sectoral</i>	6
<i>Government</i>	7
<i>Research, Technological Development and Innovation in the National Development Plan</i>	8
<i>Public Sector Research Structures</i>	9
<b>National R&amp;D Investment</b>	13
<b>National R&amp;D Performance</b>	14
<i>Sectoral</i>	14
<i>Business</i>	15
<b>Human Resources in R&amp;D</b>	16
<b>Science and Engineering (S&amp;E) Graduates</b>	17
<b>Women in Science and Technology</b>	19
<i>Female Representation in Third Level Education</i>	19
<i>Representation of Women in Industrial Research</i>	20
<i>Irish Initiatives to Increase Representation of Women in the SET Work Force</i>	20
<b>Science Awareness</b>	21
<b>International Co-Operation</b>	22
<b>Ireland and the EU</b>	23
<b>Government Departments, Research Funders, Research Performers</b>	24

# Introduction

This brochure sets out the key institutional elements of the science and technology system in Ireland together with the national funding organisations. It provides an overview of the research and development performance of the private and public sectors in Ireland.

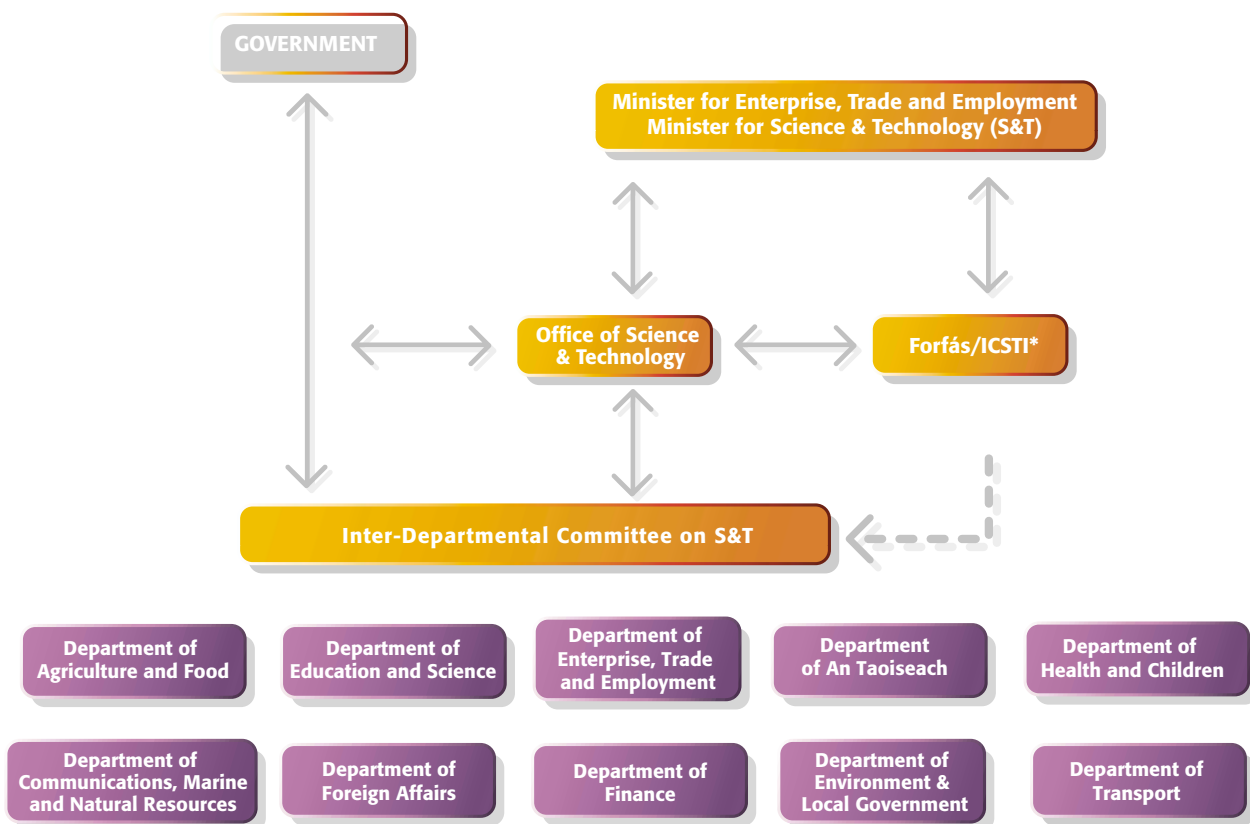
As part of its strategy to develop as a knowledge and innovation-based economy, Ireland has significantly increased its investment in science and technology over recent years. The promotion of science and technology is at the heart of Irish enterprise development policy.

# Overarching Framework for Research Policy in Ireland

In 1996, following the first ever Irish Government White Paper on Science, Technology and Innovation, the Government set out a new overarching framework for science, technology and innovation (STI) policy entitled 'Overarching Framework for Research Policy in Ireland' as illustrated in Figure 1.

Figure 1:

## Overarching Framework for Research Policy in Ireland



\*ICSTI = Irish Council for Science, Technology and Innovation

Source: Forfás

The various elements of this Overarching Framework of the Irish research system are the:

**Inter-Departmental Committee (IDC) for Science, Technology and Innovation**, which is chaired by the Minister for Enterprise, Trade and Employment. The IDC has responsibility for working towards the prioritisation of STI spending across Government Departments.

**Irish Council for Science, Technology and Innovation (ICSTI)**, which was established in 1997, ([www.forfas.ie/icsti](http://www.forfas.ie/icsti)), is an independent body appointed by the Minister for Science and Technology and Forfás. The Council provides expert, independent advice to Government within a firm legal mandate and foundation under the powers delegated to it by Forfás. Its membership comprises 25 experts from industry, academia and public sector organisations.

**Office of Science and Technology**, within the Department of Enterprise, Trade and Employment, which is responsible for the development, promotion and national co-ordination of STI policy. It is responsible for the science and technology budget, including EU funding, promoting research and technological development in industry and developing and co-ordinating Ireland's policy in international research activities. This includes the EU Framework Programmes for Research, Technological Development & Demonstration (RTD&D) and the development of the European Research Area.

In 1997, the Government decided to rename the Department of Education as the Department of Education and Science. It appointed a Minister for Science and Technology to the Department of Enterprise, Trade and Employment and the Department of Education and Science. Following the Government elections in 2002, the Tánaiste (Deputy Prime Minister) and Minister for Enterprise, Trade and Employment assumed responsibility for the science and technology portfolio.

**Forfás**, ([www.forfas.ie](http://www.forfas.ie)), is the national Board responsible for providing policy advice to Government on enterprise, trade, science, technology and innovation in Ireland. Legal responsibility for the promotion and development of indigenous and overseas enterprise and the promotion of science and technology in Ireland is vested by the State, through the Department of Trade, Enterprise and Employment, in Forfás. The Board fulfils its mandate either directly, or by delegating responsibility to associated agencies with which it has close working relationships. These agencies include **Enterprise Ireland** for promotion of indigenous industry, **IDA Ireland** for attraction of inward investment and **Science Foundation Ireland** for funding basic research.

# National Development Plan 2000-2006

The National Development Plan 2000-2006 is an investment plan designed to underpin the development of Ireland as a dynamic, competitive economy over that period. The Plan provides for a total investment of €51.5 billion, in 1999 prices, of which some €2.5 billion is allocated to science, technology and innovation (RTDI). The scale of this allocation represents a major upward step-change in the funding available to implement science and technology policy in Ireland, from approximately €0.5 billion over the period of the previous Plan 1994-1999.

The Plan's objective is to invest substantially in the research, technological development and innovation base of the country as a means of enhancing innovation and competitiveness by

- *Strengthening the research capability in the third-level education and State research institutes to meet RTDI and skills' needs of the economy;*

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- *Strengthening supports to researchers and research students;*

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- *Increasing RTDI linkages between institutions and companies;*

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- *Helping companies to develop innovative products, services and processes;*

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- *Increasing the number of companies performing effective R&D;*

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- *Increasing the scale of RTDI investment by companies in Ireland*

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- *Promoting research and development (R&D) and technology transfer;*

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- *Embedding the culture of R&D in small and medium sized enterprises;*

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- *Providing substantial public investment in niche technologies; and*

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- *Promoting balanced regional development.*

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*The Plan's objective is to invest substantially in the research, technological development and innovation (RTDI) base of the country*

# National R&D Funding

National R&D funding is outlined below under three areas: sectoral, government and RTDI in the National Development Plan.

## Sectoral

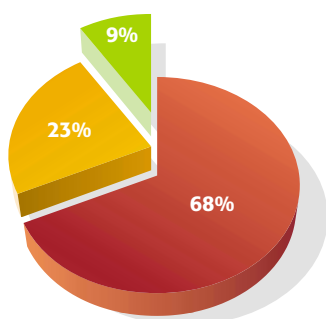
The major source of R&D funding in Ireland is industry, which accounted for 67% of total funding in 2001. This is shown in the following charts under Figure 2. This proportion shows a slight decrease between 1995 and 2001.

Government funding shows a significant increase over the years 1995 to 2001 (rising from 23% in 1995 to 28% by 2001). Other sources accounted for 5% in 2001 and include the EU Framework Programme of RTD&D.

**Figure 2:**

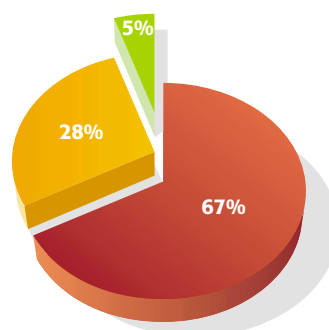
### Gross Expenditure on Research and Development (GERD) by Source of Funding, 1995 and 2001

**Funders of GERD 1995**



- % GERD funded by Industry
- % GERD funded by Government
- % GERD funded by Other Sources

**Funders of GERD 2001**



- % GERD funded by Industry
- % GERD funded by Government
- % GERD funded by Other Sources

Source: Forfás Surveys

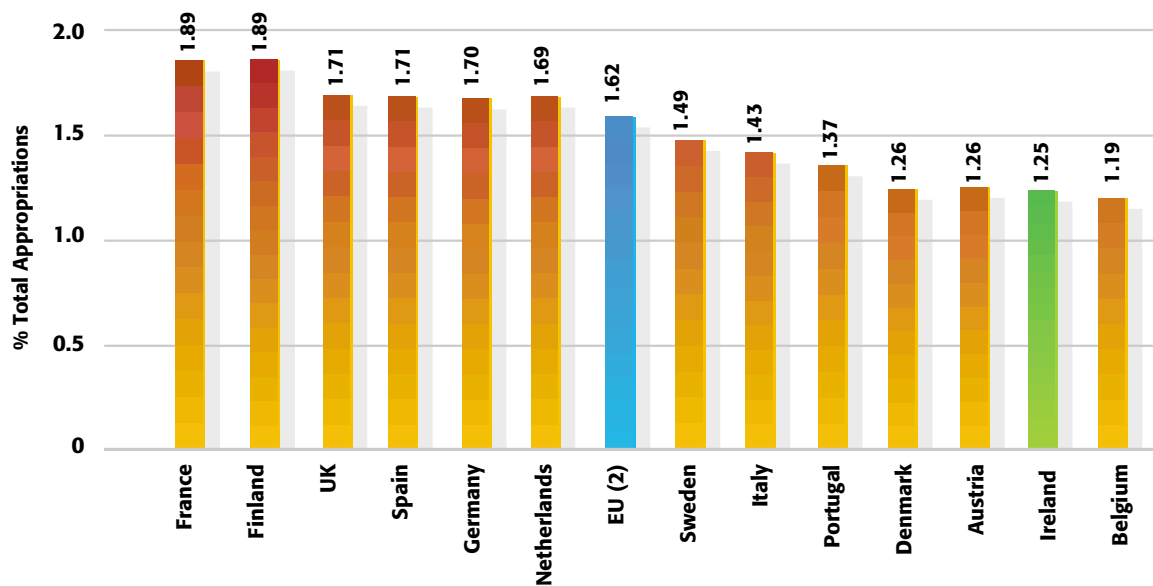


## Government

The share of Government's total appropriations in 2001 was 1.25% on Research and Development and this has increased significantly over recent years. It is below the EU average of approximately 1.62%, as illustrated in Figure 3:

**Figure 3:**

**Share of Government Budget (%) Allocated to R&D, Ireland and Selected Countries, latest available year (1)**



Notes (1) IRL, B, D, EL, E, F, FIN, I, SWE, UK and EU : 2001; DK: 2000; (2) EU does not include L

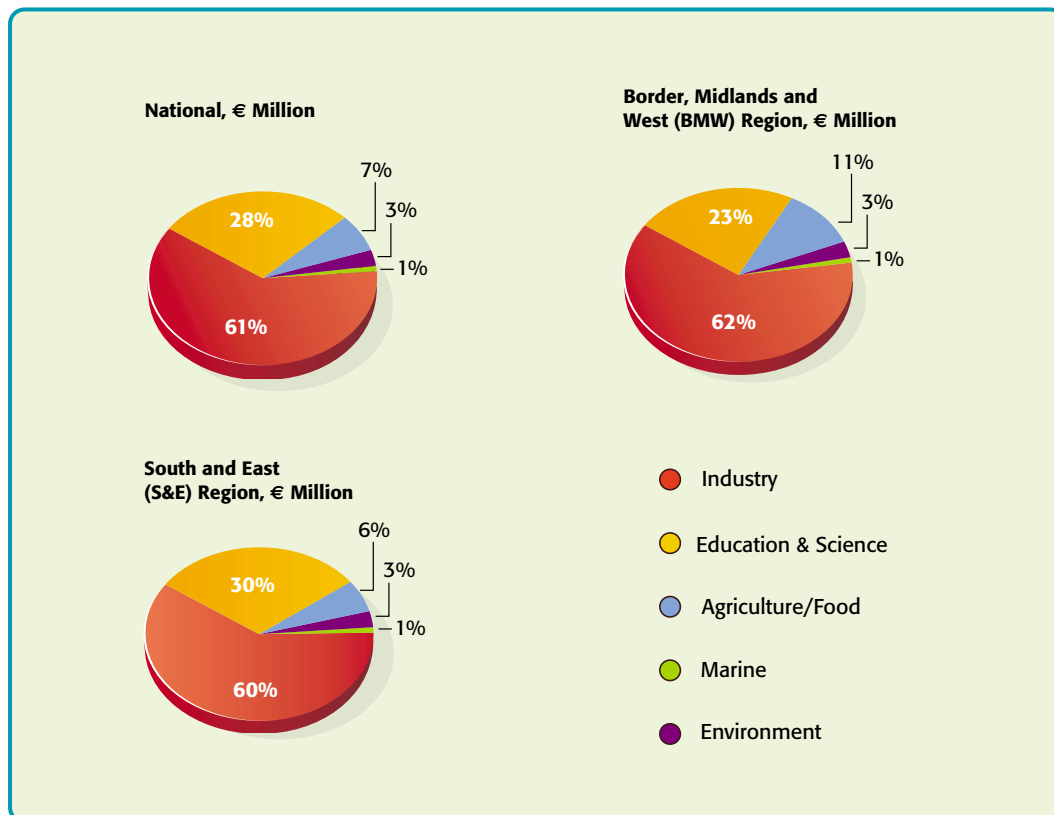
Source: *State Expenditure on S&T (2001) Forfás & Statistics on S&T Data, 1991-2001 (EC 2003 Edition)*

## Research, Technological Development & Innovation (RTDI) in the National Development Plan

The projected allocations of RTDI expenditure under the National Development Plan, 2000-2006, are as illustrated in Figure 4:

**Figure 4:**

### RTDI Expenditure, National Development Plan Projections, 2000 - 2006

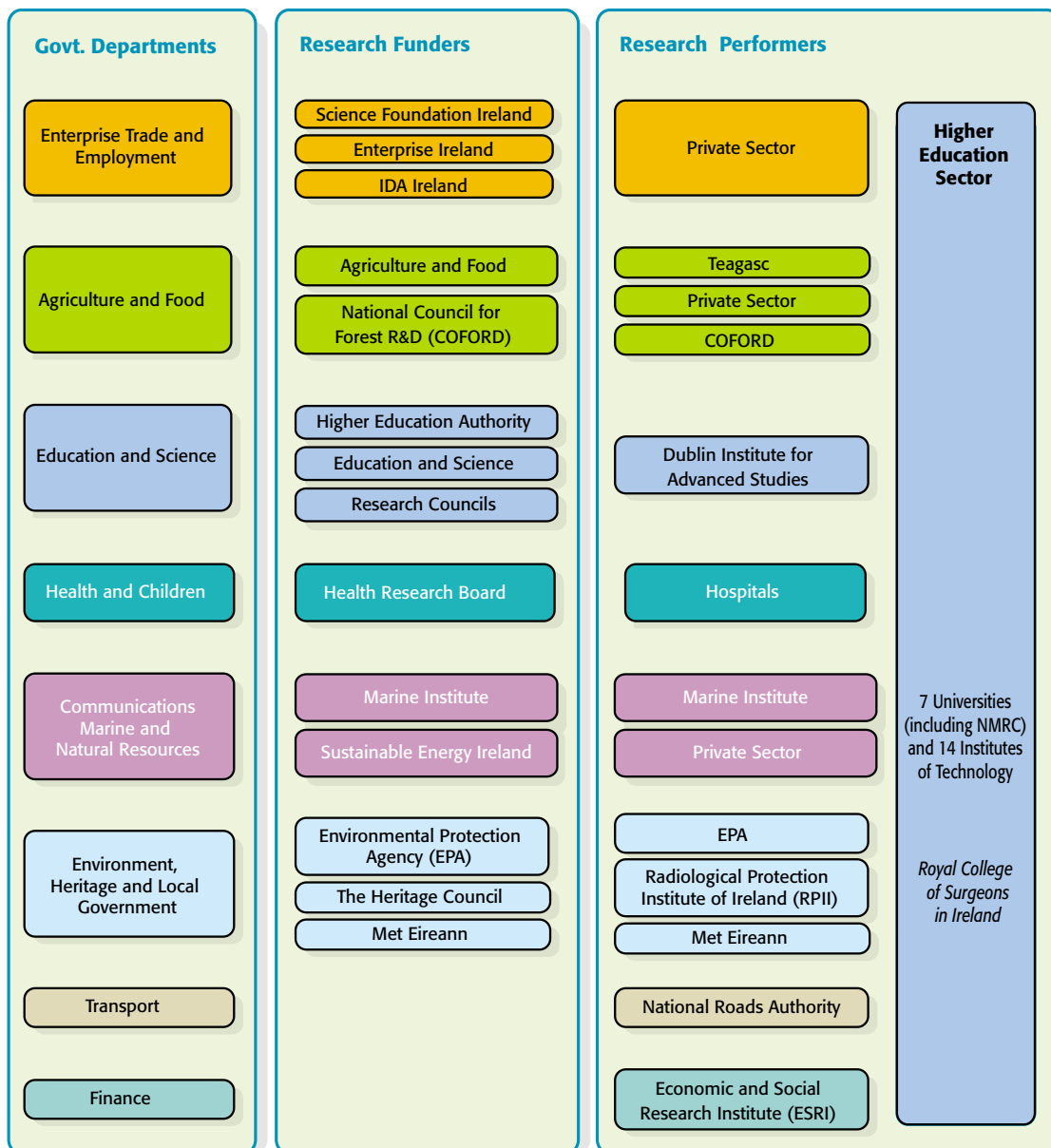


## Public Sector Research Structures

There are a number of public funding organisations for research, each under the auspices of individual Government Departments. Figure 5 maps out these funders, together with their associated research performers and the Government Departments to which they relate.

Figure 5:

### Public Sector Research Structures



Source: Forfás

A short description of each of these organisations is given in the inside back cover of this brochure.

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## Dr. Suzi Jarvis Introduces Electronics to Mother Nature

**Scientists trying to design ever-smaller computer circuits may have to borrow an idea from Mother Nature, "growing" miniature electronics, atom by atom, in a test tube.**

This exotic cross-over between physics, chemistry and biology is the focus of Science Foundation Ireland's researcher, Prof. Suzi Jarvis. Based at Trinity College Dublin, Prof Jarvis has embarked on a five-year, €3.75 million, research initiative, using the latest techniques in physics to examine individual atoms in a biological sample.

One project involves studying abnormal proteins called amyloid fibrils, formed in a biological process that might be useful for producing ultra-fine wires. "Maybe we could turn this around to physics. If we can understand it, then, maybe we can use it in a technological way", says Prof. Jarvis. "If we have a better understanding of how biological materials work in the body, then, we will be able to develop better biocompatible materials".

She also believes it may be possible to develop miniature diagnostic systems and to deliver drugs, in novel ways.

Many countries are scrambling to get involved in this important new area, she says. The SFI support, funded by the 2000-2006 National Development Plan (which is allocating €2.54 billion into Irish research) now allows Ireland to be a key player.



## Dr. Chris Dainty, SFI Fellow, National University of Ireland, Galway

**A set of spectacles that can give you 'super vision' is just one of the possibilities coming from advanced optics research underway at the National University of Ireland, Galway.**

The approach uses novel electronics, computer power and light-sensing devices to improve our view of the world. Known as "adaptive optics", the approach is already being used to enhance the images captured by earth-based telescopes, explains Prof. Chris Dainty who, until recently, was at Imperial College London.

SFI Research Professor Dainty, recently won a Science Foundation Ireland Fellows Grant worth €6.2 million. In the same way that adaptive optics can clean up a telescope image, Prof. Dainty is using the technique to get a clearer view of the back of the retina. A cleaner image of retinal cells can help diagnose disease, but also opens the possibility of sharper vision, he says.

Other applications include "line-of-sight", cable-free, communication links which operate in all weathers, and more powerful microscopes and CDs with greatly increased storage capacity.



# Higher Education Authority: Transforming the Irish Research Landscape

**The Programme for Research in Third-Level Institutions (PRTLTI) was launched in 1998 following the success of a pilot programme in science and technology. The Programme provides integrated financial support for institutional strategies, programmes and infrastructure and ensures that institutions have the capacity and incentives to formulate and implement research strategies, which will give them critical mass and world level capacity in key areas of research.**

Up to the end of 2003, €605m had been allocated to third level institutions under this competitive programme for research. Substantial funding has been also been provided from private philanthropic sources which have supported the strategic focus and competitive basis of the programme.

The Programme supports research in humanities, science, technology and the social sciences, including business and law.

## **Its objectives are:**

- *to enable a strategic and planned approach by third-level institutions to the long-term development of their research capabilities, consistent with their existing and developing research strengths and capabilities;*
- *to promote the development of high quality research capabilities in third-level institutions so as to enhance the quality and relevance of graduate output and skills;*
- *within the framework of these objectives, to provide support for outstandingly-talented, individual researchers and teams within institutions. In addition, to encourage co-operation between researchers both within the institutions and between institutions – having particular regard to the desirability of encouraging inter-institutional co-operation within Ireland, the EU and internationally.*

## **PRTLTI has allocated funding for:**

- *33 research centres, including multi-site, collaborative centres;*
- *90,000 square metres of additional purpose-built research space;*
- *State-of-the-art, sophisticated equipment and technology;*
- *800 researchers.*

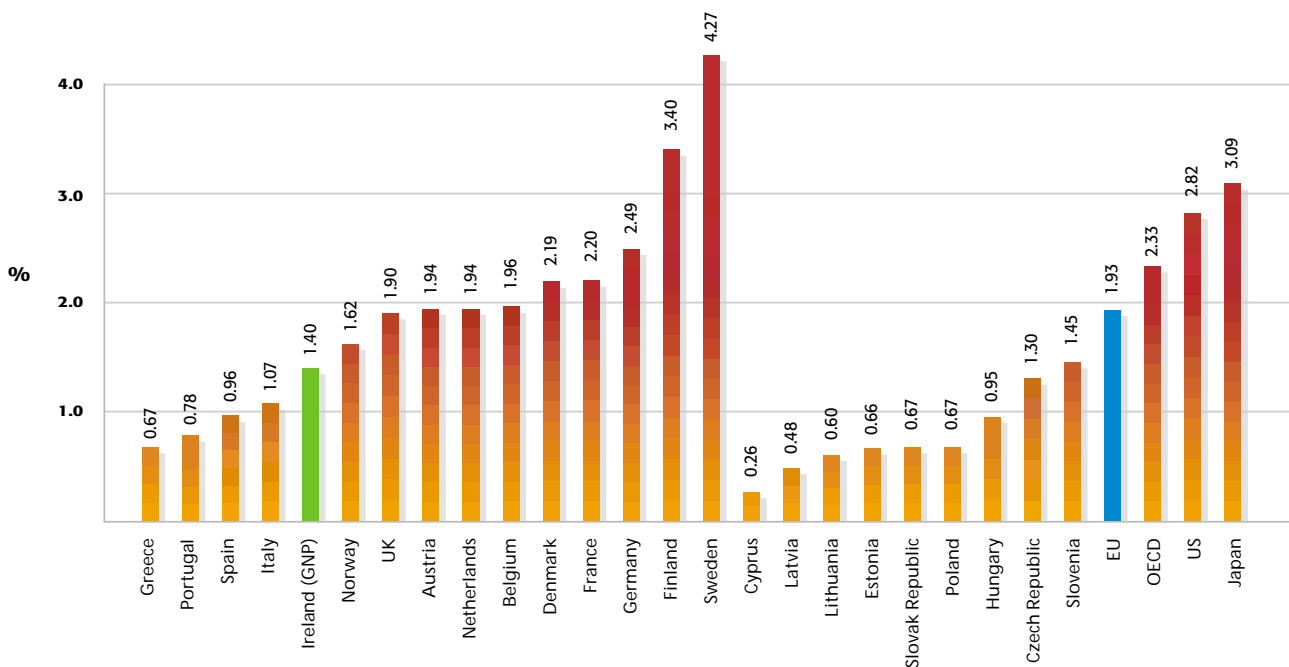
PRTLTI has enabled forty new inter-institutional programmes or initiatives which allow the research to achieve critical mass well beyond the capacity of individual institutions. This new collaborative approach is evident in the formation of the Dublin Molecular Medicine Centre (DMMC), a collaboration between the National University of Ireland Dublin and Trinity College Dublin, which has legal status. DMMC, in collaboration with the Royal College of Surgeons in Ireland (RCSI), is undertaking the Programme for Human Genomics – one of the largest programmes supported by the PRTLTI.

# National R&D Investment

Ireland's investment in research and development (R&D) is currently equivalent to 1.4% of Gross National Product (GNP), as illustrated in Figure 6.

**Figure 6:**

**Gross Expenditure on R&D as a % of GDP, (GNP for Ireland), latest available year**



**Source:** OECD, Eurostat. AU, D, PT, US (Year 2002) CZ REP, ESP, EU, FIN, FR, HUN, IRL, JAPAN, NO, OECD, PL, UK (Year 2001); IT, NL (Year 2000); B, DK, GR (Year 1999); DG Research: CY, LT, LA, EE, SL (No Year Specified)

As part of its strategy to develop as a knowledge and innovation-based economy, Ireland has significantly increased its investment in science and technology to build its reputation in areas of strategic importance to the country over recent years. The Forfás annual publication entitled *“State Expenditure on Science & Technology”* shows that Government allocations to science and technology in 2001 amounted to €1,760 million, an increase of almost 30% over 2000. This is mainly accounted for by an increase in public funds (Exchequer plus EU), which rose by 35 per cent in 2001 to €1,565 million. The balance of €195 million arises from income earned from the activities of the Government Departments and agencies.

# National R&D Performance

National R&D performance is set out under two areas: Sectoral and Business

## Sectoral

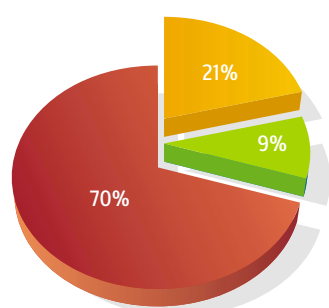
Figure 7 illustrates the profile of national R&D performance by sector. The largest performer of R&D in Ireland is Industry, followed by the Third Level Education Sector and Government. There has been a slight decline in the industry share of R&D performance, from 70% in 1995 to 68% by 2001.

Government's share of performance has increased by 1% since 1995, to reach 10% by 2001. The share of R&D performed by the Third Level Sector has also increased since 1995, to reach 22% by 2001.

Figure 7:

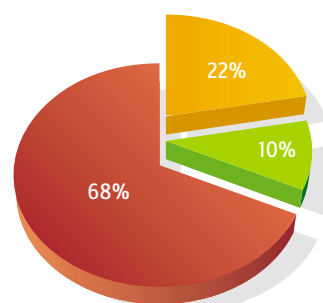
Performers of Gross Expenditure on Research and Development (GERD), 1995 and 2001

Performers of GERD 1995



- % GERD performed by Industry
- % GERD performed by Third Level Education Sector
- % GERD performed by Government

Performers of GERD 2001



- % GERD performed by Industry
- % GERD performed by Third Level Education Sector
- % GERD performed by Government

Source: Forfás

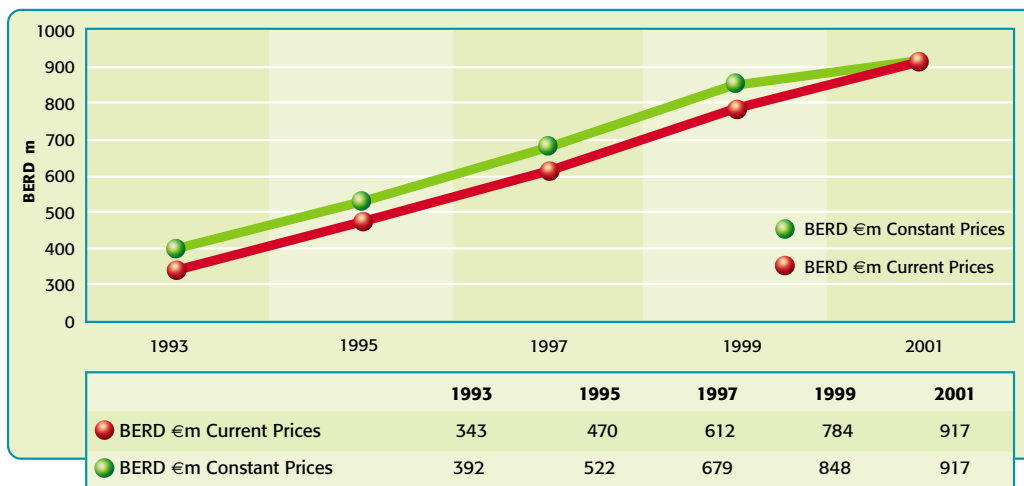


## Business

Figure 8 shows the Business Expenditure on R&D (BERD) in Ireland over the period 1993 to 2001. The level continues to increase and by 2001 BERD had reached €917 million.

Figure 8:

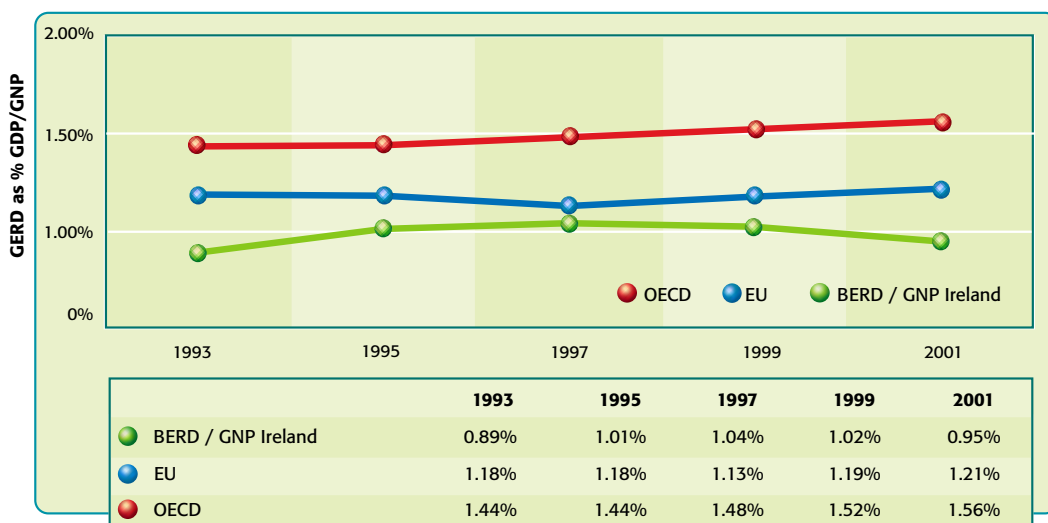
### Business Expenditure on R&D - Ireland, 1993 to 2001



BERD as a percentage of GNP rose from 0.89% in 1993 to peak at 1.04% in 1997/99, before falling back somewhat to 0.95% in 2001. This leaves Ireland below the EU average - a trend set against the background of a rapid increase in GNP over the period (see Figure 9).

Figure 9:

### Business Expenditure on R&D as a % GDP/GNP - Ireland, EU and OECD, 1993 to 2001

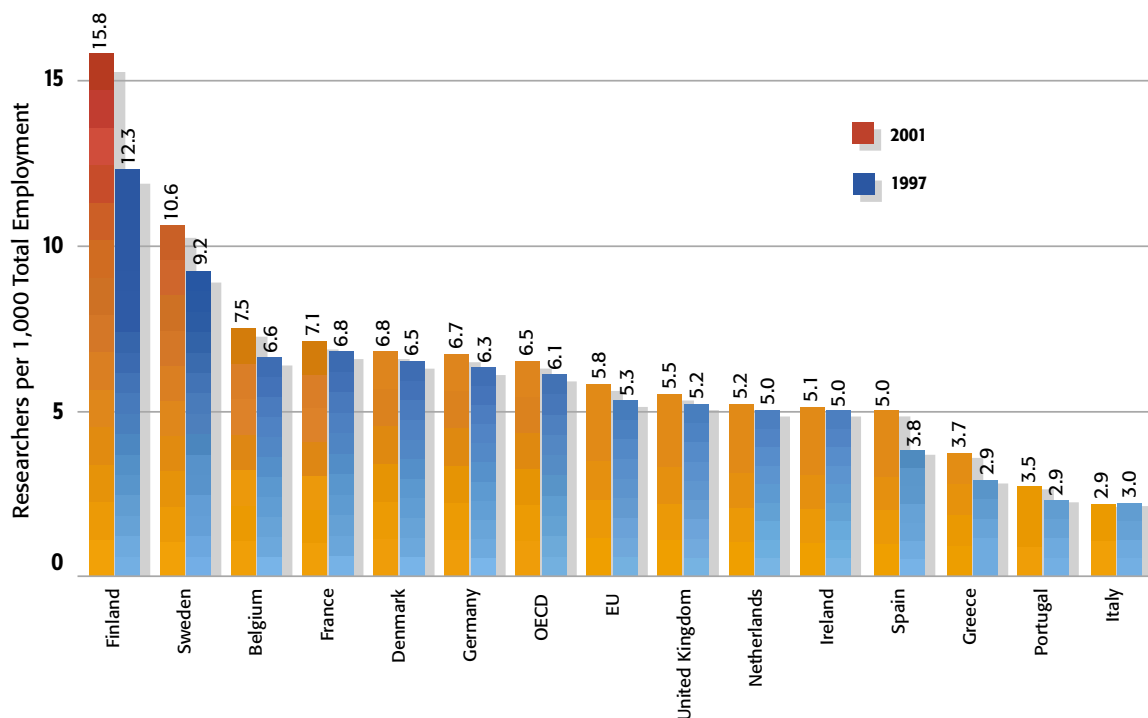


# Human Resources in R&D

The level of human resources in R&D as a proportion of total employment within various countries is illustrated in Figure 10. This figure shows that Ireland, at 5.1 Researchers per 1,000 total employment in 2001, lies below the EU and OECD averages, and makes a comparison with 1997.

**Figure 10:**

**Researchers per 1,000 Total Employment, 1997 and 2001: Ireland and Selected Countries**



Source: Forfás; OECD

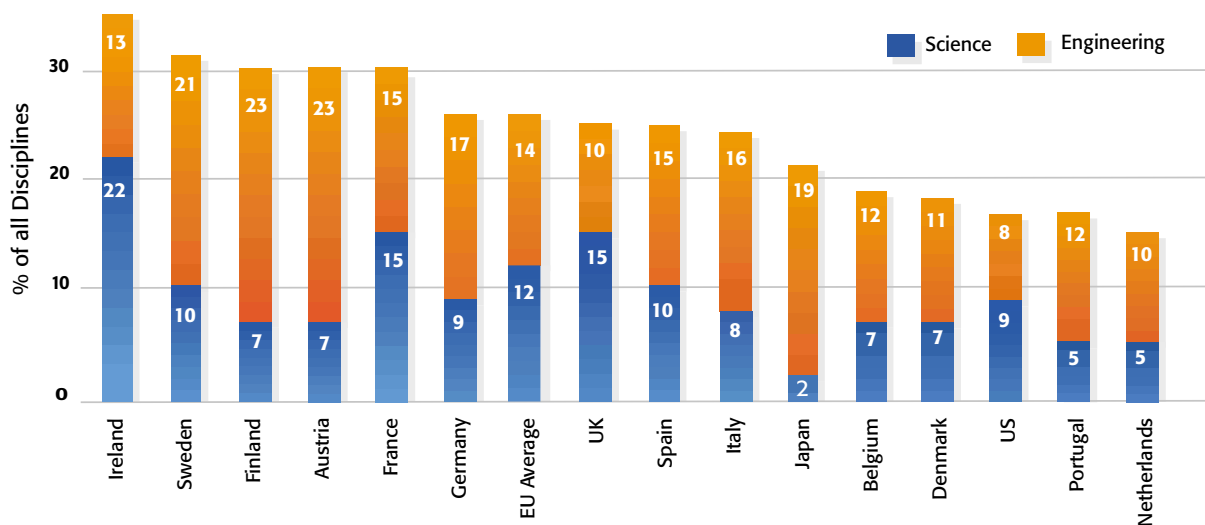
# Science and Engineering (S&E) Graduates

Figure 11 shows that Ireland has the highest percentage of Science and Engineering graduates as a percentage of all graduates (35%) amongst 16 OECD countries. Of these, 22% are in the Science disciplines. In Japan, Engineering is clearly dominant, with a share of 19% – especially compared to the low (2%) level in Science. The US data present a more balanced picture, with 9% of the graduates in Science and 8% in Engineering. This equilibrium can also be seen in France with a level of 15% for each discipline.

The data in Figure 11 include all graduates from third level education. If restricted to undergraduate and post-graduate degrees only (ISCED Levels 5A and 6), Ireland is in joint third position with Sweden, Austria and France (about 30%), behind Germany and Finland on 35%.

**Figure 11:**

**Science & Engineering Third Level Graduates (including PhDs & Masters) as a Percentage of All Disciplines, 2000**



Source: European Commission, OECD



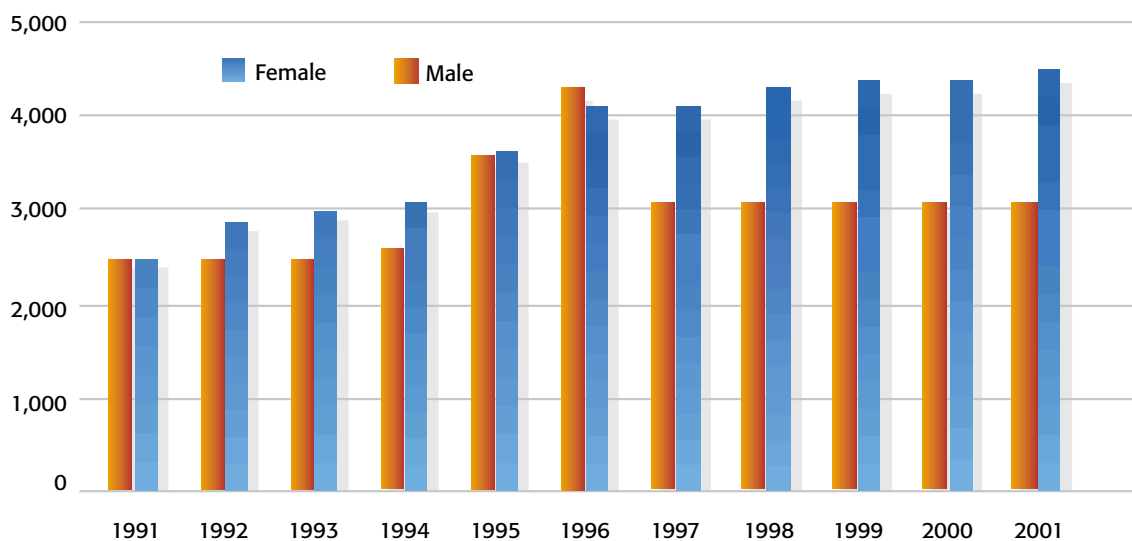
# Women in Science and Technology

## Female Representation in Third Level Education

Overall, Ireland compares favourably with its European counterparts in terms of the 'potential pool' of women in science, engineering and technology (SET). Female representation in the sciences, both at degree and post-graduate level, is strong, with over 50% of science graduates being female in 2002, compared to a European average of 41%. In the same year, the uptake of Science, Mathematics and Computing PhD programmes was 50% female - amongst the highest in Europe (along with Portugal and Italy). Female participation in Engineering was less strong, with 17% of Engineering graduates, in Ireland, in 2000, being female - below the European average of 20%.

Figure 11:

**Women in Science: Gender Breakdown of Under-Graduate Science Students in Higher Education Institutions, 1991-2001**



Source: Higher Education Authority

## Representation of Women in Industrial Research

Ireland compares favourably with its European counterparts in terms of representation of women in industrial research. 23.4% of R&D personnel in industry are female, compared to a European average of 13% according to the 2001 Forfás Survey of Research and Development in the Business Sector.

**Figure 14:**

### Distribution of R&D Personnel, 2001

	PhD Researchers	Non-PhD Researchers	Technical	Support Personnel	Total
Full Time Equivalents	597	5,374	1,748	1,407	9,126
% of Total R&D Personnel	6.5%	58.9%	19.2%	15.4%	100%
<i>of which:</i>					
% Male	82.9%	79.1%	76.5%	64.7%	76.6%
% Female	17.1%	20.9%	23.5%	35.3%	23.4%
<b>Total</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>

Source: Forfás

In Ireland, 21% of senior positions on scientific boards, academies and universities are held by women, ranking it seventh out of twelve EU countries.

## Irish Initiatives to Increase Representation of Women in the Science, Engineering and Technology (SET) Work Force

A range of initiatives are currently underway in Ireland to increase the representation of women in the SET work force and at senior positions in academia and industry. For example, **WITS (Women in Technology and Science)** was inaugurated in November 1990 to actively promote the participation of women in all areas of SET, particularly through its Talent Bank and Role Model project. WITS produces a Talent Bank of over 200 qualified, senior female scientists and technologists from all areas of SET willing to serve on State and other decision-making boards. The aim of this project is to increase women's opportunities to contribute to policy making, redress the imbalance on boards and high-level committees, and improve the public profile of women scientists.

The **WITS Role Model Project** aims at increasing the uptake of science and technology subjects by girls in schools as well as increasing their interest in science and technology careers.

**Mentorlink** is a project funded by the 'Equality for Women' Measure of the National Development Plan through the Department of Justice, Equality and Law Reform, which provides mentoring support for young women entering the Engineering field.

Project partners include the Institute of Technology in Tallaght, Dublin City University, the Institution of Engineers of Ireland, the Construction Industry Federation, and industrial partners Intel, IBM and Hewlett Packard.

# Science Awareness

The 'Discover Science and Engineering' Programme was established in October 2003. This Programme aims to raise public awareness of science, technology and engineering, increase the student uptake of science at second and third level and promote a positive attitude to careers in those areas.

'Discover Science and Engineering' brings together the many science, engineering, technology and innovation awareness activities previously managed by different bodies, both public and private, nationwide. The target audience of this programme is young people, school students, their parents and teachers, as well as the wider public.

The Programme is managed by Forfás.

A dedicated website can be accessed at [www.science.ie](http://www.science.ie).



**L to R:** Prof. Jim Slevin, Science Secretary, Royal Irish Academy, An Tánaiste & Minister for Enterprise, Trade and Employment, Ms. Mary Harney, T.D. and Prof. Michael Ryan, President, Royal Irish Academy on the occasion of the Tánaiste's address to the Academy

# International Co-operation

While much of Ireland's international co-operation in science and technology has focused on inter-linkages at EU level through the EU Framework Programmes of RTD&D, Irish companies and researchers have also benefited from Ireland's membership of the following institutional arrangements at international level:

- **European Space Agency (ESA)**, which has provided access to substantial research contracts for Irish firms and universities (amongst others);
- **COST**, a network for European Co-Operation in the field of Scientific and Technical Research, which encourages research collaboration through access to international networks in basic research;
- **EUREKA**, which has allowed participants (including those in Ireland) to launch pan-European, near-to-market training projects;
- **EMBC (incl. EMBO)**, the European Molecular Biology Conference (and Organisation), from which Irish researchers have benefited from the international mobility researcher training programmes which it administers;
- In January 2004, Ireland became a member of **EMBL**, the European Molecular Biology Laboratory.

Ireland also has a number of bilateral agreements to promote collaboration in science and technology, including a **Science and Technology Collaboration Research Fund Agreement with China** and a bi-lateral agreement with France for a **Research Visits Scheme**. It also has a specific national programme of **International Collaboration** which provides travel and assistance support to Irish academic researchers in establishing new and extending existing research collaborations abroad.



Dr. Sha Hallin, Chinese Ambassador to Ireland and Dr. William C. Haris, Director General, Science Foundation Ireland, with An Tánaiste and colleagues on the occasion of signing the SFI Collaboration Research Fund Agreement with China



# Ireland and the EU

The European Union has played a crucial role in shaping and priming the development of national science and technology structures in Ireland. Since the end of the 1980's, access to EU Structural Funds provided a large, albeit now declining, proportion of resources for new science and technology endeavours. EU Framework Programmes for Research, Technological Development and Demonstration (RTD&D) have provided opportunities for Irish researchers to collaborate with European partners in leading edge research. EU support has also led to the significant up-grading of national science and technology infrastructures and to encouraging more innovation in companies.

Through successive EU Framework Programmes for RTD&D (currently FP6), Irish researchers have joined with organisations in Europe, and beyond, to compete for, and win, funding for specific research which the European Community considers important for its industrial competitiveness and quality of life. The benefits for successful participants include access to funds, the sharing of risks and costs, access to project results and working with leading researchers, thereby gaining new scientific knowledge and research skills. A further benefit is the substantial contribution the Framework Programmes make towards the building of trans-national research linkages. These linkages can, and do, form the basis for future collaborative partnerships between researchers across all sectors.

In Lisbon, in 2000, the EU Heads of State agreed a target for Europe to "...become the most competitive, knowledge-based economy in the World by 2010", and as a key component of this, to the creation of the European Research Area.

In Barcelona, in 2002, the Heads of State agreed that overall spending on R&D in the EU should increase from its current (2003) level of 1.9% of European gross domestic product (GDP) towards the levels in the US and Japan of 3% by 2010.

Accordingly, the Heads of State set two specific targets:

- *A target for Europe of achieving Gross Expenditure on R&D (GERD) as a percentage of GDP of 3% by 2010: with*

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- *Two-thirds (i.e. 2%) to come from the Private Sector.*

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Further to the publication of the Commission's Communication "More Research for Europe", in April 2003, in response to these targets, the Tánaiste (Deputy Prime Minister) and Minister for Enterprise, Trade and Employment, Ms. Mary Harney, T.D., established a high level, national steering group to assess the implications of the key emerging ERA policy initiatives and to prepare an action plan for progressing priority areas. This group deals with the substantive issues in the Commission ERA communications and will recommend an appropriate target for Ireland for the future.

# Government Departments, Research Funders and Research Performers

## **COFORD**

([www.coford.ie](http://www.coford.ie))

is the National Council for Forest Research and Development.

## **Department of Agriculture and Food**

([www.irlgov.ie](http://www.irlgov.ie))

promotes the development of the agricultural, food and horticultural industries.

## **Department of Communications, Marine & Natural Resources**

([www.irlgov.ie](http://www.irlgov.ie))

has responsibility for marine research, amongst others. Its responsibility in this area covers the:

### **Marine Institute**

([www.marine.ie](http://www.marine.ie)),

### **Sustainable Energy Ireland**

([www.irish-energy.ie](http://www.irish-energy.ie)), and

### **MediaLab Europe**

([www.medialabeurope.org](http://www.medialabeurope.org))

## **Department of Education and Science**

([www.info@education.gov.ie](http://www.info@education.gov.ie))

is the Government Department with overall responsibility for the administration of higher education. The Institutes of Technology are funded directly from this Department, whereas the Universities are funded directly from the Higher Education Authority (HEA).

## **Department of Enterprise, Trade & Employment**

([www.entemp.ie](http://www.entemp.ie))

promotes the sustainable development of a modern competitive enterprise economy based on quality employment, social inclusion and enhanced working and living standards. The Office of Science and Technology ([www.entemp.ie/epst/ost.htm](http://www.entemp.ie/epst/ost.htm)) within DETE is responsible for the development, promotion and national co-ordination of STI policy (see earlier reference under 'Overarching Framework for Research Policy in Ireland').

## **Department of Environment and Local Government**

([www.environ.ie](http://www.environ.ie))

promotes sustainable development and improves the quality of life through protection of the environment and heritage, infrastructure provision, balanced regional development and good local government.

## **Department of Finance**

([www.irlgov.ie](http://www.irlgov.ie))

is responsible for the administration and business generally of the public finance of Ireland and all powers, duties and functions connected with this.

## **Department of Transport**

([www.irlgov.ie](http://www.irlgov.ie))

ensures the provision, development and regulation of competitive, safe and secure integrated transport services and transport infrastructure for the road, rail and air transport modes in Ireland.

## **Dublin Institute for Advanced Studies**

([www.dias.ie](http://www.dias.ie))

is a statutory corporation established under the Institute for Advanced Studies Act. It is a publicly-funded, independent centre for research in basic disciplines. The Institute has three constituent schools: the School of Celtic Studies, the School of Theoretical Physics and the School of Cosmic Physics.

## **Economic & Social Research Institute**

([www.esri.ie](http://www.esri.ie))

ESRI is Ireland's national independent think tank. Its mission is to produce high quality research relevant to Ireland's social and economic development, with the aim of informing policy formation and societal understanding.

## **Enterprise Ireland**

([www.enterprise-ireland.com](http://www.enterprise-ireland.com))

is the government organisation charged with assisting the development of Irish enterprise.

### **The Health Research Board**

*(www.hrb.ie)*

promotes, funds, commissions and conducts medical, epidemiological and health services research in Ireland.

### **The Higher Education Authority**

*(www.hea.ie)*

is the planning and development body for higher education in Ireland.

### **The Industrial Development Authority**

*(www.idaireland.ie)*

has national responsibility for securing new investment from overseas in manufacturing and international services sectors and for encouraging existing foreign enterprises in Ireland to expand their businesses.

### **The Environmental Protection Agency**

*(www.epa.ie)*

is mandated under the EPA Act, 1992 to prepare programmes for environmental research.

### **The Marine Institute's**

*(www.marine.ie)*

functions are to undertake, co-ordinate, promote and assist in marine research and development and to provide such services related to marine R&D that in the opinion of the Institute will promote economic development, create employment and protect the marine environment. This includes the research vessels.

### **MediaLab Europe**

*(www.medialabeurope.org)*

is a not-for profit research institute which aims to expand human potential through invention.

### **The National Microelectronics Research Institute (NMRC)**

*(www.nmrc.ie)*

is the premier ICT research Institute in Ireland with a fundamental mission to perform strategic research in specific ICT fields that will fuel development of core technology platforms and enable Irish industry to create innovative next generation ICT products and applications.

### **Royal College of Surgeons in Ireland**

*(www.rcsi.ie)*

Under its Charter, the College is empowered to control the practice of surgery and to make provision for surgical education.

### **Science Foundation Ireland (SFI)**

*(www.sfi.ie)*

is the national foundation for excellence in scientific research. It was established to support outstanding researchers and their teams, drawn from Ireland and around the world, to carry out basic research in strategic fields relevant to Ireland's industrial development.

### **Sustainable Energy Ireland (SEI)**

*(www.irish-energy.ie)*

is Ireland's national energy authority. The Authority promotes and assists environmentally and economically sustainable production, supply and use of energy, in support of Government policy, across all sectors of the economy.

### **Teagasc**

*(www.teagasc.ie)*

is the Irish agriculture and food development authority. It is the national body providing research, training and advice for the agri-food industry in Ireland.

## **Research Councils:**

### **IRCHSS (Research Council for the Humanities and Social Sciences)**

*(www.irchss.ie)*

was established to promote research in the humanities, social sciences, business and law faculties of third-level institutions in Ireland.

### **IRCSET (Research Council for Science, Engineering and Technology)**

*(www.ircset.ie)*

IRCSET's mission is to train researchers and to promote excellence across a broad range of research in science, engineering and technology.

