

State Expenditure on Science and Technology 2004 and 2005

Appendix 4: Departments' and Agencies' Programmes

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Department of Agriculture and Food

The Department of Agriculture and Food (DAF) is concerned with the development of the agriculture and food industries, through administration of public services in connection with the promotion of farm improvement, participation in international agricultural activities (including administration of EU schemes) and UN agency activities.

The Department is responsible for the operation of land policy. The Department operates a number of testing centres and laboratories, in the areas of veterinary diagnostics and research, meat control, seed testing, plant variety testing, cattle performance testing, pesticide control and dairy products control. State-sponsored bodies which come under the statutory responsibility of the Minister for Agriculture and Food include Teagasc (The Agriculture and Food Development Authority) and An Bord Bia.

The main national aims are to improve quality and productivity and to encourage better market orientation in farming, through training, research and advice. These aims are reflected in the following areas:

Rural development

Although some rural development functions were transferred to the new Department of Community, Rural and Gaeltacht Affairs in 2002, DAF retains an interest in the wider view of rural development, which embraces both farm and other enterprises in rural areas, and which is focused on addressing the issue of rural poverty and the promotion of a vibrant economy in rural areas. This commitment includes support for research on rural development issues.

Environment

The need to develop a more fully integrated policy on agriculture and the environment is one of the key challenges for the Department. The Control of Farm Pollution measure, the Rural Environment Protection Scheme and the Organic Farming Development Scheme are the principal means by which the Department is trying to encourage more environmentally friendly farming. Education and training courses run by Teagasc also promote greater consideration for the environment.

Food safety

The Department is committed to implementing a safety and quality assurance regime by controlling veterinary medicines and plant protection products. In addition, the Department operates appropriate food safety monitoring, surveillance and inspection programmes under a service contract with the Food Safety Authority of Ireland. To achieve this goal, the Department's meat and dairy inspection services have a presence in processing and storage plants throughout the country. As a back-up to these services the Department operates three dairy laboratories, a meat laboratory and a pesticides laboratory, where samples of product are analysed for quality and safety. The State Laboratory is also used where necessary.

International framework

The Department is committed to contributing to Ireland's international development aid effort through appropriate policy stances at, and financial contributions to, international agricultural organisations (FAO, WFP, IFAD) and through advice and assistance to Irish Aid and Irish NGOs. It also participates in the work of international standard setting bodies concerned with plant protection (IPPC), animal health and welfare (OIE) and food safety and trade (Codex Alimentarius).

Forestry

In Spring 2004 the Forestry Service was transferred from the Department of Communications, the Marine and Natural Resources to DAF. Its staff and activities are currently being assimilated into DAF systems framework.

Breakdown of the department's 2005 vote

The Vote for the Department of Agriculture and Food in 2005 is estimated at €994 million i.e. a gross total of €1,443 million less appropriations-in-aid of €449 million. General departmental administration costs are estimated at €292m. The grant-in-aid to Teagasc for general expenses (incl. capital) relating to research, training and advisory services is set at €111m approx. two-thirds of which is likely to be devoted to STI type activities. Teagasc will also receive significant additional exchequer funds in 2005 for research and training under the National Development Plan 2000-2006.

The following is a description of DAF S&T type expenditure (current plus capital) which does not include the Department's own general overheads but does include an estimate for related staff and travel/subsistence costs. Also, any income received for S&T type services rendered has also not been offset against the expenditure shown. Finally, a programme breakdown is given in relation to expenditure on activities deemed to be of a research & development nature.

	€'000	
	2004	2005
Research and Development		
Improvement of crops	1,782	1,850
Improving the quality of crops and crop products through the use of the highest quality varieties and seeds. The main activities leading to achievement of this objective include the operation of two stations/farms at Fermoy in Co. Cork and Backweston in Co. Dublin (where plant varieties are evaluated) the operation of a potato laboratory at Raphoe in Co. Donegal and the carrying out of trials in farmers' fields throughout the country.		
R&D related veterinary and meat laboratory services	4,786	5,030
Operation of a Central Veterinary Research Laboratory at Abbotstown, Co. Dublin, Regional Veterinary Research Laboratories at Cork, Limerick, Sligo, Athlone and a testing laboratory in Waterford.		
Institutional food research	6,841	11,000
In its implementation of the Food Institutional Research Measure of the RTDI component of the Productive Sector OP under the National Development Plan 2000 – 2006, the Department is involved in the management of competitive tendering by food research institutions for grant aid to support food research in priority areas. It monitors the progress of successful projects, payment of grant aid and evaluation of the programme. Expenditure on this programme is expected to rise in 2005 as additional projects funded under the 2004 "call" come on stream.		
Dairy research	0	100
A Dairy Research Trust, representative of producer and processor interests, has been established to undertake research in the dairy sector. It will be funded primarily by a levy of 0.2 cent/litre on milk sales to co-ops (a doubling of the existing levy). The new fund will be for competitive research. The Department agreed to make a contribution to the Trust, recognising the importance of putting dairy research on a formal structure and the contribution being made by industry. It is now expected to commence in 2005.		

	€'000	
	2004	2005
Agriculture production research	676	1,500
This is the "Research Stimulus Fund" Measure of the Productive Sector OP of the NDP 2000-2006 which encourages co-operative research in agricultural production. This involves management of competitive tendering by research institutions for grant aid to support agricultural research projects in priority areas, monitoring of progress of successful projects, payments of grant aid and evaluation of the programme. The increase for 2005 stems from on-going financing of existing funded projects and an anticipated new "call" dedicated to agri-environment related research.		
Improvement of livestock	824	870
Improving the quality of livestock and livestock products through adoption of better breeding and selection practices. The main activities leading to achievement of these objectives are, operation of on-farm and central testing stations, recording schemes, collaboration with and support for research in animal breeding at research institutions and at the Irish Equine Centre, Co. Kildare which undertakes R&D activities relating to equines.		
Genetic resources in plants and animals	96	99
Operation of an advisory committee on genetic resources for use in agriculture including making recommendations regarding the selection of research projects for the award of grant aid.		
International co-operation: US-Ireland exchange programme	53	70
This component of the Department's expenditure, relates to Irish grant aid to researchers – mainly from Teagasc and UCD – who are participating in the US-Ireland Programme of Co-operation in Agricultural Research. This bi-lateral programme provides opportunities for agricultural researchers from the US and Ireland, working in the same research area, to achieve greater progress through sharing their knowledge by spending a period of time working in each other's institutions.		
Forestry	72	80
In 2004 R&D type work relating to forestry was funded at the Wood Technology Centre, University of Limerick. Other R&D work on forestry is undertaken by COFORD who will make a separate return.		
Training, Education & Information	2,223	1,250
Publicity and library services		
Providing access to information for the staff of the Department and disseminating science and technology information to farmers, agribusiness and consumers.		
Genetic resources in plants and animals		
Promotion of awareness of the need for conserving genetic resources and participation in the FAO Global Programme and EU Programme under Council Regulation (EC) No. 1467/94 related to genetic resources.		
Equines		
Expenditure relating to training for the equine sector involving, in the main, farrier training and capital expenditure in 2004 of approx. €1.3m relating to the construction of a racing academy and centre of education.		

€'000

Technical Services

2004	2005
43,493	45,550

Improvement of crops

Improving the quality of crops and crop products through the use of the highest quality varieties and seeds. The main activities leading to achievement of this objective include the publishing of recommended lists of varieties: operation of a seed testing station at Abbotstown, Co. Dublin; operation of seed certification schemes; operation of a laboratory and farm for producing disease free potato foundation breeding stock at Raphoe, Co. Donegal and administration of the international systems of plant breeders' rights and catalogues of varieties in Ireland.

Improvement of livestock

Improving the quality of livestock and livestock products through adoption of better breeding and selection practices. The main activities are data analysis and calculation of breeding value estimates for animals and publication of results; approval of animals for breeding purposes and participation in various international fora related to animal breeding.

National beef assurance scheme

EU regulations require all member states to establish a bovine animal traceability system to assure the quality and safety of beef. Under the development phase of this exercise the Department is funding the development of information and communication facilities with all elements of the trade, including the installation of IT systems at livestock marts, meat factories and live animal export points throughout the State.

Classification of meat carcasses

Under EU Regulations the classification of beef carcasses in slaughterhouses is compulsory in all member states. In 2004 the classification process used in Ireland changed from one performed directly by Department personnel to one undertaken by trained factory personnel supervised and monitored by Department staff.

EU Council Regulation 2137/92 provides for the implementation of an EU wide lamb carcass classification scheme, which defines lamb carcasses in terms of conformation and fat cover. The classification will be carried out by trained factory personnel and will be monitored by Department staff. Expenditure to date has been on training courses for factory personnel and publicity of the scheme.

Veterinary and meat laboratory services

The Department's central veterinary and regional laboratories and its Central Meat Control Laboratory at Abbotstown, Co. Dublin, provides laboratory support for Department officers at meat plants. It is primarily engaged in testing for residues of illegal substances, and microbiological testing of samples from meat plants.

€'000

2004	2005
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Analysis of feedingstuffs/fertilisers:

Feedingstuff regulations provide that officers of the Department take samples of feedingstuffs/fertilisers at various locations – farms, distribution centres, manufacturing plant – and these are analysed at the State Laboratory and/or Department laboratories for various characteristics, to check on compliance with various standards laid down and declared makeup/ingredients as the case may require.

Dairy science and testing service

Health protection and quality control measures for milk and dairy products, (i.e., bacteriological and chemical analyses of samples), aimed at the maintenance of quality standards and hygiene in the production of milk and dairy products, as required under Council Directive 92/46/EEC and the implementing legislation are the main functions of the Dairy Science Laboratories. In addition to operating the three dairy science laboratories (Dublin, Cork and Limerick), the Department operates a dairy inspection service whereby farms, processing facilities and products are inspected and certified as meeting various standards laid down.

Pesticide control service

The pesticide control service acts as the regulatory authority for pesticides (plant protection products and biocides) in Ireland. The PCS is responsible for the authorisation or clearance of pesticides for marketing/use and for the control of the levels of pesticide residues remaining in food and feed. All of the work of the PCS derives from legislation which, in the main, serves to implement EU Directives.

Genetic resources in plants and animals

Development and conservation in the area of genetic resources for use in agriculture. Applied developmental research designed to identify non-compliance with specified criteria relating to relevant plant species/varieties and animal breeds.

Organic farming

The Department supports the development of organic farming through grant-aid support to the organic farming organisations such as IOFGA (Irish Organic Farmers and Growers Association) and technical support on the part of its own staff with a primary aim of ensuring the provision of an inspection service for the granting of approved organic farming status. Under the agricultural development component of the Productive Sector OP of the NDP 2000 – 2006, development of organic farming is supported by the allocation of grant aid for the provision of grading, packing, storage and distribution facilities for organic produce and for marketing and support of organic farming practices.

€'000

2004	2005
1,747	1,835

Other S&T Activities

International co-operation

Co-operation in international technical programmes is the main purpose of this activity. This extramural type expenditure covers membership contributions to international organisations including: the Food and Agriculture Organisation of the United Nations (FAO); the European and Mediterranean Plant Protection Organisation (EPPO); the Union for the Protection of New Varieties of Plants (UPOV); the International Veterinary Bureau (OIE); the European Association for Animal Production (EAAP) and the FAO/European Co-operative Programme for Plant Genetic Resources (ECP/PGR). Participation in the FAO Associate Professional Officer Scheme is also funded.

Land parcel identification system (LPIS)

The Department, in association with an outside firm of consultants, has been developing a computer based mapping system whereby each land parcel (field) in the country is uniquely identified and has its size, annual usage and ownership/user recorded. The system is being updated and digitised and further developed for cross-compliance checks across EU area based payment schemes. This LPIS system is required as part of the EU Integrated Administrative Control System (IACS) but will have multiple uses across many activities of the Department.

Rural development

A rural development fund was established under the NDP 2000-2006. The fund will finance research, evaluations and pilot actions, where appropriate, to provide information and advice to policy makers.

Transfers to Other Government Agencies

In general, non grant-in-aid funds transferred by the Department to other government agencies fall into two categories:

a) Grant payments to Teagasc and third level institutions for R&D activities under

- ▶ the Institutional Food Research Programme (NDP)
- ▶ the Research Stimulus Fund (NDP) and
- ▶ the Irish side of the U.S./Ireland Co-operation Programme in Agricultural Science and Technology and
- ▶ forestry R&D at the Wood Technology Centre, University of Limerick

b) Funds managed on behalf of the DAF by an outside body falling under its aegis e.g. the Irish Cattle Breeding Federation, the Irish Horse Board Co-op.

Teagasc

Teagasc (the Agriculture and Food Development Authority) is the national body providing advisory, research, education and training services to the agriculture and food industry. It was established under the Agriculture (Research, Training and Advice) Act, 1988. The organisation's mission is: *"To provide an independent and authoritative research knowledge base, technology transfer and training services for the sustainable development of agriculture and the food processing industry to enable it to respond profitably to consumer demands and requirements and contribute to a vibrant rural economy and society".*

In pursuing this mission, Teagasc focuses on:

- ▶ Developing the information and new technology required to underpin competitiveness and innovation in sustainable agricultural production and the food processing sector.
- ▶ Analysing and projecting the impact of policies for the agri-food sector.
- ▶ Developing and maintaining a strong human resource capacity across the agri-food sector.
- ▶ Providing a sound scientific basis for decision-makers in protecting the integrity of the food chain, protecting the rural environment and addressing the concerns of the consumer.
- ▶ Developing a capacity in molecular biology and gaining an increased understanding of living organisms with a view to increasing its application in the agri-food industry.

The 2005 research and development budget on a total cost basis is €49,913m of which €35,360m relates to research in sustainable agriculture and rural development and €14,553m to food research. The R&D programmes in 2005 are funded as follows:

State Grant	€37,293m
Industry	€5,575m
EU Framework contract income	€1,509m
Other income	€5,536m
Total Teagasc R&D budget	€49,913m

Teagasc also undertakes an extensive farm advisory service, with a total current budget of €43,136m in 2005.

Policy context

EU agricultural, environmental and food policies will largely determine Teagasc's role in 2005 and succeeding years. EU agricultural policy has to meet two conflicting objectives, which are themselves determined by the need to conclude new trade agreements under the WTO and to provide what EU consumers and taxpayers (who pay for the policy in various ways) say they want.

Trade liberalisation and competitiveness

In relation to trade liberalisation, the EU wishes to play its part in contributing to a world in which barriers to trade are reduced. This includes barriers to agricultural trade. The need for the EU agricultural sector, including that in Ireland, to be able to take advantage of the opportunities and survive the threats posed by increased international trade means that it must become internationally competitive, or at least more competitive than it is currently. This provides a very clear rationale for Teagasc to continue to devote resources to researching the nature of international competitiveness (which includes production efficiency) and the technological developments that may help to increase it, as well as transmitting the resulting information to the industry through advisory and training services. This applies to a wide variety of farm products. There is a similar rationale for providing research and technology transfer services which are relevant to enhancing the competitiveness of the food industry.

Other goals of policy

Alongside the goal of achieving competitive agriculture and food industries are those of providing a safe, clean and visually attractive environment; producing safe and nutritious food; and maintaining the health and welfare of farm animals. There is also a clear role for publicly funded research, advisory and training services to ensure that our industry has the necessary scientific information and technology to enable it to address these goals. The declining role of agriculture in the Irish economy does not negate the need for Teagasc to continue to conduct research that will enhance the competitiveness of the agriculture and food sectors, on one hand, and on the other, aid in providing the non-market goods that citizens expect from the industry. If anything, it could be argued that the large changes in both the agricultural and non-agricultural sectors of the economy enhance the case for continued but relevant research in agriculture, food and rural development.

National S&T agenda

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 in the country over recent years. The current National Development Plan 2000-2006 provides for a total investment of some €2.5 billion in science, technology and innovation as a means of enhancing innovation and competitiveness. In view of the importance of the agri-food industry in the national and regional economies, it is vital to continue to invest substantially in meeting the RTDI needs of the sector, in particular to ensure that the benefits of strategic new technologies are applied to the benefit of the sector. The report of the agri-vision 2015 committee (December 2004) also stresses the importance of science and technology in maintaining Ireland's competitiveness and states that the 'competitive potential of the agri-food industries depends on their ability to develop as knowledge-based industries.'

The changing role of Teagasc

In response, Teagasc's current activities have been comprehensively reviewed on a number of occasions over the past five years and many activities have been changed substantially to ensure their continued relevance. The outcome of these reviews has been reflected in the organisation's statements of strategy and in five-year rolling business plans. The new focus for Teagasc research, advisory and training services reflects the central role which the organisation must play in supporting the agri-food industry to become an innovative, high-productivity, high-quality and high-skilled sector which can successfully compete in the more global market. Moreover, increased emphasis is placed on achieving closer integration of the three services in the delivery of programmes.

	€'000	
	2004	2005
Research and Development		
Sustainable agriculture and rural development	34,984	35,360
<p>The European Union, in <i>Agenda 2000</i>, stressed the importance of improving the competitiveness of the broader European agriculture and agri-food sectors in the context of trade liberalisation and an expected growth in world food demand. The Commission's proposals for the mid-term review of the CAP argued that <i>"agricultural production must be more orientated to the products and services that the public wants and not to artificially created price incentives or product-specific aids. Direct income payments should not steer the production decisions of farmers."</i> The current Doha round of agricultural trade negotiations under the auspices of the WTO also have as their long-term objective, referred to in the agreement on agriculture, to establish a fair and market-oriented trading system through a programme of fundamental reform.</p> <p>The continual updating of farming methods is essential if Irish agriculture is to remain competitive and be in a position to respond to the changing demands of a more informed and affluent public. New knowledge from scientific research, translated into technologies capable of application within the sector, provides the tools to make an effective response.</p> <p>Objectives</p> <p>The objective of the programme is to generate the knowledge and technologies necessary to underpin an internationally competitive, innovative and sustainable Irish agriculture and to inform policy. Sustainability includes environment, animal welfare, occupational safety and the work environment.</p> <p>2005 programme priorities</p> <p>The focus of the programme will be mainly in the following areas:</p> <ul style="list-style-type: none"> ▶ The efficiency and relative competitiveness of Irish production systems. Efficient production systems are essential to ensure the continued supply of competitively priced raw material for the agri-food processing sector. ▶ The development of production systems that will deliver raw materials in a specific way or with specific composition for the production of functional food- type products for a more wealthy and discerning consumer population. 		
Food processing	12,986	14,553
<p>The food programme is directed towards developing the base of expertise and information in generic technologies to assist the Irish food industry to achieve consistent quality and guaranteed safety, allied to product and process innovations. The programme covers the full spectrum of the innovatory process, ranging from market studies through strategic research to technology development services and training programmes.</p>		

	€'000	
	2004	2005
<p>Objectives</p> <p>The objectives of the food research and associated technology development services and training programmes are to support the attainment of the highest standards of safety, quality and innovation in food products and ingredients.</p> <p>2005 programme priorities</p> <p>The focus of the 2005 Food Programme will mainly be on the following areas:</p> <ul style="list-style-type: none"> ▶ To develop new and improved food products through innovation in flavour, texture and functionality. ▶ To further develop technology for food ingredients – which enables Irish companies to compete at the forefront of innovation, in the supply of customised ingredients to consumer food and beverage manufacturers. ▶ To improve the efficiency of processing the main food commodities and to overcome problems of product consistency. ▶ To provide the scientific support and product opportunities necessary for innovative developments in functional foods by Irish food companies. ▶ To ensure the safety and integrity of the Irish food chain. ▶ To raise the knowledge and skills of managers and employees of food industry personnel. <p>Technical services in sustainable agriculture and food processing</p> <p>The objective of this programme is to provide a range of services that facilitate, promote and service the requirements of the agri-food industries. The specific objective of providing technical service to the food industry is to raise the innovative capacity of the industry and support the development of small and medium scale food enterprises. The provision of services is based on the premise that these are areas where Teagasc research is in a unique position to provide information necessary for the development of the agri-food industries.</p> <p>In agriculture, services are provided in the following areas:</p> <ul style="list-style-type: none"> ▶ Analytical/diagnostic services such as the nematology service to the Department of Agriculture & Food; analysis of silage, meals, water, compost, soils and plants; diagnosis of animal and other diseases; ▶ Consultancy services to Irish and EU agencies in areas such as land resource management, equipment development and policy analysis; ▶ The national farm survey. 		
	6,762	7,074

	€'000	
	2004	2005
<p>Based on the strategic research capability outlined already, and associated expertise in product and process innovation, Teagasc provides technology development services for food companies, and especially small and medium scale enterprises, in the following areas;</p> <ul style="list-style-type: none"> ▶ Consultancy and contract research in product development and product/process improvement; ▶ Pilot plant facilities for R&D and small-scale manufacturing; ▶ Assistance with registration for ISO and installation of quality management schemes; ▶ Assistance with market investigations, market trends and analysis of market opportunities for food. 		
<p>Advice and development services</p> <p>Teagasc provides professional advice to farmer clients at enterprise level dealing with dairying, cattle, tillage crops, horticulture, financial management, agri-tourism, farm modernization, environmental conservation/control of farm pollution, winter feed quality and overall farm management.</p> <p>Programme support includes the provision of specialist training to advisers to enable them to keep abreast of S&T developments. Through its nationwide network of over 100 offices and 230 advisers, Teagasc maintains contact with 90,000 Irish farmers. It provides advisory services under contract to 34,450 of the more progressive of these farmers.</p>	42,340	43,136

Department of Enterprise, Trade and Employment

The Department of Enterprise, Trade and Employment was established in 1997. The Office of Science and Technology was created, within the then Department of Industry and Commerce in 1987, when the first Minister of State for Science and Technology was appointed. The Minister for Enterprise, Trade and Employment holds extensive functions, powers and responsibilities for the management and promotion of scientific research and development in Ireland.

The Mission Statement of the Department is ***“We will work for government and the people to equitably grow Ireland’s competitiveness and quality employment”***. The main goals of the Department include: ***“We will prioritise investment in science, technology and innovation and the development of the knowledge society”***.

The Department has responsibility for a number of State-sponsored bodies entrusted with either the implementation or formulation of policy programmes, i.e. Enterprise Ireland (EI), Science Foundation Ireland (SFI), IDA Ireland, Forfás, Shannon Development and the Patents Office. It also provides an annual subvention to the Tyndall National Institute (formerly the National Microelectronics Research Centre). The Department’s activities are financed through a general vote of the Oireachtas and through other income. The Department directly employs 16 staff in S&T activities, located in the Office of Science and Technology (OST), which is part of the Science, Technology and Intellectual Property Division.

OST is responsible for advising the Minister on general S&T activities and the programmes of the agencies funded by the Department. These programmes are set out in the Industry Measure of the RTDI Priority component of the Productive Sector OP following the budgeting process. An amount of €85.6m was allocated for sub-measures within this Industry Measure in 2004. In addition, an amount of approximately €1.9m was allocated for certain other activities (science awareness, evaluation of science measures, the Irish Council for Bioethics & the Irish Innovation Lecture) which are outside the National Development Plan (NDP).

OST also has responsibility for Science Foundation Ireland. Arising from Ireland’s first ever Technology Foresight study, Science Foundation Ireland (SFI) was established in 2000 with the long-term objective to create a highly visible critical mass of world-class research excellence in the strategic areas relevant to economic development, particularly Biotechnology (BioT) and Information and Communications Technologies (ICTs). The Foundation was initially set up as a sub committee of Forfás and on 25th July 2003 SFI was established on a statutory basis under the Industrial Development (Science Foundation Ireland) Act, 2003.

The overall vision and strategic direction for Science Foundation Ireland is to build and strengthen scientific and engineering research and its infrastructure in the areas of greatest strategic value to Ireland’s long-term competitiveness. By the end of 2004 SFI had committed in excess of €450 million to support more than 850 individuals, research teams, centres and visiting researchers in creating the knowledge and driving the discoveries to underpin future competitiveness in key industries.

In addition, OST is responsible for the funding of, and is represented on, the policy formulation committees of five inter-governmental S&T organisations (ESA, EMBC, COST, Eureka and with effect from 1st January EMBL) and €11.4m was provided in 2004 in respect of Ireland’s membership of those organisations.

The breakdown of spending among programmes is shown in the following tables:

	€'000	
	2004	2005
Total S&T Programs	194,808	228,577
RTI for Industry		
▶ Capability	14,000	18,002
▶ Competitive	20,000	24,000
▶ Innovation Management (incl. Techstart and Techman)	750	1,025
RTI for Collaboration		
▶ National	32,410	37,777
▶ International	1,250	1,231
RTI for Infrastructure		
▶ Incubation Centres	6,500	10,296
▶ Basic Research Grants Scheme	4,300	2,500
Science Foundation Ireland		
▶ Other	113,730	131,251
Subscriptions to International Organisations	10,743	11,522
National contributions to, and participation in, European Space Agency (ESA), European Molecular Biology Conference (EMBC), Co-operation in Science and Technology Programmes (COST) and EUREKA. The main objective of joining the <u>ESA</u> is to stimulate high technology industry in Ireland. The greater part of Ireland's contribution is returned as industrial contracts involving collaboration between enterprises in the member states.		
The objective of the <u>EMBC</u> involvement is to secure fellowships that enable biologists to work abroad thus widening their experience and links. Ireland receives fellowships, the value of which exceed the membership costs.	108	115
The <u>COST</u> programmes are co-operative R&D projects by 19 participating countries in areas that, for financial and technical reasons, would be beyond the scope of any individual country.	3	3
*Biennial contribution		
<u>EUREKA</u> is a European research initiative designed to ensure that the technological gap with other countries is narrowed. It promotes joint research between firms in different countries.	26	33
<u>EMBL</u> is an Inter-Governmental Research Organisation whose mission is the development of molecular biology throughout Europe. Membership of EMBL will complement Ireland's significant investment in the biotechnology area by presenting opportunities for research training, networking and enhanced international collaborations.	530	605

Forfás

Mission statement

To lead the development of public policy for the promotion of enterprise and technological development in Ireland for the benefit of all by:

- ▶ Advising on policy to sustain competitiveness and growth and
- ▶ Supporting and maintaining cohesion among the development agencies of the Department of Enterprise, Trade and Employment.

Functions of Forfás

Forfás 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 these sectors is vested by the State, through the Department of Enterprise, Trade and Employment, in Forfás. The board fulfils its mandate either directly or by delegating responsibility to associated agencies with which it has a close working relationship.

Among the functions of Forfás are:

- ▶ Industrial policy development and co-ordination for State bodies such as IDA Ireland and Enterprise Ireland.
- ▶ The promotion of scientific research and innovation in close association with Science Foundation Ireland and the Irish Council for Science, Technology and Innovation.
- ▶ Research, analysis and policy advice on competitiveness and economic development, through the National Competitiveness Council and the Expert Group on Future Skills Needs.

Science & Technology Division

The mission of Forfás in science and technology is to enhance Ireland's performance in science, technology and innovation and thereby contribute to economic and social development.

The general objectives of the S&T Division are:

- ▶ To formulate policy advice on the key national and international issues relating to science, technology and innovation (STI) and to convey this advice to government and in particular the Department of Enterprise, Trade and Employment.
- ▶ To monitor and assess STI performance in Ireland and relevant international trends. This is done by surveying business sector investment in research and innovation; surveying the research performance and capability in the third level sector; monitoring the level of Irish participation in the EU Framework Programmes; evaluating national STI programmes and by carrying out an annual review of State investment in S&T (the science and technology budget).

€'000

2004	2005
1,848	2,020

	€'000	
	2004	2005
<ul style="list-style-type: none"> ▶ To make recommendations for improved co-ordination between the various actors in relation to their STI activities. ▶ To stimulate greater appreciation and understanding of the role of STI in economic, industrial and social development. 		
The activities undertaken by the S&T Division cover five main areas:		
<ul style="list-style-type: none"> ▶ Delivering timely and well-founded policy analysis and advice on science, technology and innovation issues to national policy-makers. ▶ Undertaking evaluations of existing S&T policies and programmes, in order to improve their performance and relevance to economic development. ▶ Providing data, indicators and a flow of other information on science, technology and innovation to policy-makers, decision-takers and interested groups in the public and private sectors. ▶ Providing secretariat and research support for the Advisory Council for Science, Technology and Innovation (ACSTI). ▶ Advising and providing support to the Office of Science and Technology on international science and technology programmes and issues. 		
The Irish National Accreditation Board	719	898
<p>The Irish National Accreditation Board (INAB) is the national body within a European network of accreditation bodies with responsibility for accreditation in accordance with the harmonised EN 45000 series of European standards and the relevant International Organisation for Standardisation (ISO) standards and guides.</p> <p>INAB, as the national body for the accreditation of certification bodies, laboratories and inspection bodies, is a signatory to the multilateral agreements (MLAs) for Europe through the European co-operation for Accreditation (EA) and worldwide through the International Laboratory Accreditation Co-operation (ILAC) and the International Accreditation Forum (IAF). Thus INAB plays a key role in guaranteeing the access of Irish products to both the EU and worldwide markets. Their activities make certain that accredited certificates and test results produced in Ireland are acceptable worldwide and thus greatly reduces technical barriers to international trade.</p> <p>INAB is also the national statutory monitoring authority for the OECD Good Laboratory Practice (GLP) Scheme under S.I. No. 4 of 1991 as amended by S.I. 294 of 1999.</p>		

Enterprise Ireland

Enterprise Ireland is the national organisation responsible for bringing together innovation, business development and internationalisation for Irish industry. These activities form a vital part of the national innovation system. Enterprise Ireland delivers on this mission by commercialising research and enhancing the technological capability of industry in Ireland.

Some elements of Enterprise Ireland's science and technology programmes were supported by the European Regional Development Fund and the European Social Fund under the various sub-programmes in the National Development Plan 2000-2006. Enterprise Ireland manages many elements of the science and technology sub-programme on behalf of the Office of Science and Technology in the Department of Enterprise, Trade and Employment.

	€'000	
	2004	2005
Research and Development		
RTI competitive grant scheme	20,643	24,000
Enterprise Ireland (EI) manages the RTI Scheme on behalf of the Office of Science & Technology. It funds in-company R&D projects on product and process development. The Scheme is available to client companies of EI, IDA Ireland, Shannon Development and Údarás na Gaeltachta.		
R&D initiatives (formerly R&D capability)	14,045	18,002
EI provides assistance for significant investment in R&D facilities which arise as part of a company's strategic development.		
Innovation partnerships (under RTDI collaboration)	1,891	3,075
These are aimed at harnessing the strengths of the third level sector to work in partnership with companies on specific R&D projects.		
RTDI-collaboration: commercialisation fund	5,085	7,175
<i>Proof of concept:</i> supports academic researchers to establish whether their scientific findings are sufficiently robust, unencumbered by intellectual property considerations and potentially attractive to the commercial market.		
<i>Technology development:</i> assists academic researchers in conducting substantive applied research projects where the underlying technologies are sound and where there is a reasonable prospect of commercial success in the marketplace.	10,000	9,921
Basic research grants (RTDI capital expenditure)	4,178	2,500
Funding represents EI's expiring commitments (now managed by SFI and IRCSET).		
International collaboration (by colleges)	534	410
Supports academic researchers to engage in international collaborations and to access international best practice (in terms of research and facilities).		
Incubators (RTDI infrastructure – R&D element)	6,000	7,000
Through its incubation construction programme, EI invests in on-campus space for start-up companies, including specialised biotech facilities (wet labs).		

	€'000	
	2004	2005
Technology Transfer		
Programmes in advanced technologies	12,600	12,665
The PATs have been rationalised into three teams – EI Bio, Informatics and Industrial Technologies. They work with academics interested in transitioning research to the marketplace and support companies in Ireland to access the work and expertise of the Irish research community.		
Technology transfer	693	821
Complements EI's domestic work to maximise technology transfer between researchers and companies in Ireland. Specialist EI personnel trawl the international scene for opportunities and work with companies in Ireland to broker agreements (either inward or outward).		
Incubator (RTDI infrastructure)	3,000	3,296
Through its incubation construction programme, EI invests in on-campus space for start-up companies, including specialised biotech facilities (Wet Labs).		
IPR fund	626	1,410
Training, Education and Information		
Innovation management	913	1,025
EI facilitates training for companies on R&D techniques, with courses across Ireland that range from introductory through to more advanced targeted tuition.		
Networking initiatives	435	513

IDA Ireland

IDA Ireland has national responsibility for securing new investment from overseas in manufacturing and international services and for encouraging existing foreign enterprises to expand their businesses. (The attraction of overseas investment to the Shannon Free Zone and the Gaeltacht areas are the responsibility of Shannon Development and Údarás na Gaeltachta respectively). With a staff of c.280 people and headquarters in Dublin, IDA Ireland has 13 overseas offices as well as a director and staff in each region in Ireland.

Its activities include the international and national promotion of Ireland as a location for overseas investment and the provision of financial incentives (including grant-aid) for the attraction of new overseas investment into Ireland as well as the expansion of its existing client base of over 1,000 companies. As part of its brief to develop overseas companies already in Ireland, IDA Ireland focuses on encouraging these companies to locate additional or higher order functions in Ireland, e.g. a research and development unit.

IDA Ireland's current policy emphasises the need to assist existing clients to move up the value chain. The objective is to ensure that its client companies are focused on activities for which Ireland is a cost-effective location and thus help to secure their competitiveness and strategic importance within the overall company. To achieve this, IDA Ireland introduced new incentive schemes in 2000, including a R&D capability grant scheme. There are no administrative costs associated with science and technology activities as no separate staff are assigned to administer research and development grants.

	€'000	
	2004	2005
Research and Development		
R&D schemes are directed at existing overseas companies in Ireland. Any grant assistance is subject to a maximum of 35% of eligible costs in the Objective 1 Area and 30% of eligible costs in the Objective 1 in Transition Area.		
R&D capability grant assistance is provided to support the establishment of a new R&D function or the substantial up-grading of an existing R&D unit. Assistance is available towards capital expenditure and personnel costs. All eligible costs must comply with criteria laid down by Irish legislation and EU State Aid Guidelines.	11,827	16,500
Research Technological Development & Innovation (RTDI) grant assistance is particularly directed at established companies which are planning to undertake their first R&D projects and those which are significantly developing their existing R&D activity. The maximum amount of grant for any application cannot exceed €444,400. The RTDI scheme is competition based.	2,966	3,500
In total, 36 companies undertook to invest in R&D activities in their Irish operations during 2004 and IDA committed over €48 million in grant assistance to these projects.		

Shannon Development Company Limited

Shannon Free Airport Development Company was incorporated under the Companies Acts in 1959. The Shannon Free Airport Development Company Act 1959 and several amendment Acts govern the activities of Shannon Development and provide for State equity (from the Minister for Finance), and grants, for specific functions from the Ministers for Enterprise, Trade and Employment; Arts, Sport and Tourism; Public Enterprise; and Agriculture and Food in relation to Limerick, Clare, Tipperary (North Riding), South-West Offaly and North Kerry.

Shannon Development acts under the aegis of the Ministers for Enterprise, Trade and Employment and Arts, Sport and Tourism. Its business is regional economic development and the company mission is:

“Pioneering regional development for the knowledge age”

This is achieved through the application of a number of key principles:

- ▶ Strategic leadership
- ▶ Innovative action
- ▶ Knowledge age activity
- ▶ Spatial development
- ▶ Economic inclusion

The company is financed by grant-in-aid, EU income, and own resources. The grant-in-aid for 2004 for Shannon Development’s administration and general expenses related to industrial development was nil as all revenue expenditure was funded from own resources. The grant-in-aid grants to industry received in the Shannon Free Zone was €1.143m.

Specifically in relation to its industrial role, Shannon Development’s responsibilities include:

- ▶ Developing and strengthening the indigenous industry sector in the Shannon region, which includes building up a venture capital culture and creating awareness of the benefits accruing from the information society.
- ▶ Developing the Shannon Free Zone as a location for international investment in manufacturing and internationally-traded services.
- ▶ Managing and developing the National Technology Park, Limerick and a new network of technology locations in the Shannon region, collectively known as the ‘Shannon development knowledge network’. Each location within this network has an ‘innovation works’ facility – ‘smart’ buildings focused on the development of high-potential, technology-driven start-ups – thereby bringing business to life.
- ▶ Providing and managing industrial buildings and estates.
- ▶ Providing grants and other financial facilities for new and existing manufacturing and internationally traded services companies.

The average number employed by Shannon Development during 2004 was 187.

	€'000	
	2004	2005
Research and Development		
Product and process R&D	2,991	3,377
Grants of up to 25% of eligible expenditure are available to firms in the Mid-West region carrying out product and process development projects. All R&D grants paid by Shannon Development are funded via Enterprise Ireland and from funds made available under the Research Technology and Innovation Initiatives. In 2004 €1,854,000 (for specific measures) and €303,000 (for general grants) was received from Enterprise Ireland and €834,000 from the Department of Enterprise Trade & Employment for this programme. It is estimated that €3,377,000 will be received in 2005.		
Feasibility grants	494	520
Grants of up to 50% of eligible expenditure are provided for feasibility studies to enable individuals, groups and firms to seek out and evaluate prospective new product ventures and market opportunities. Grants paid to industries located in the Shannon Free Zone are funded from Shannon Development's grant-in-aid grants to industry allocation. For indigenous companies in the Shannon region, outside of the SFZ, Shannon Development receives an allocation from Enterprise Ireland's grant-in-aid vote.		
Education and Training	271	775
Specialised training is given to assist in the starting-up of new high technology firms.		
Other S&T	100	150
Technology Transfer	150	300

An Foras Áiseanna Saothar (FÁS)

The functions of FÁS, the National Training and Employment Authority, as defined in the Labour Services Act (1987) are:

The provision of training and re-training programmes for employment (whether directly provided by FÁS, or contracted out to external agencies); the provision of employment schemes; providing community groups with training and developmental supports in their enterprise and employment creation activities; providing employment and placement services, both to employers and the unemployed; assisting Irish people to obtain employment in other EU states (primarily through its SEDOC service) and providing advice and counselling for those of our citizens who wish to emigrate. FÁS also provides advice, guidance and training opportunities for immigrants, whether asylum seekers or economic migrants.

In 2004 FÁS had actual expenditure, including capital of €830m. Its budget for 2005 is €925m also including capital. FÁS is the largest non commercial State agency, employing a total of 2,305 (figure at the end of December 2004) staff nationwide.

	€'000	
	2004	2005
Research and Development	3,168	2,994
Planning and research		
The planning and research department assists in the development of FÁS through providing planning and research inputs at corporate level. Its main areas of work include strategic and annual planning; labour market research and publication; identifying examples of best practice in industry, community enterprise and other areas related to FÁS's overall activities; the provision of a central library and technical information service for FÁS; the carrying out of specific research projects and other work associated with the compilation of information and data on behalf of FÁS but funded by the EU. In 2001 a new unit was established within the planning & research department. This new unit is responsible for the work associated with the National Expert Skills Group and provides reports regularly for this body. Unit staff also attend meetings of the group.		
Education and Training	66,700	76,800
During 2001 FÁS catered for 60,052 people on its training programmes (including apprentices) and on schemes catered for 42,888.		
Other Science & Technology	79	210
Overseas sponsorship programmes		
This programme provides graduates, primarily from science and technology disciplines, with the opportunity for training and development work and experience overseas for a period of up to two years. Preparatory training is provided before these graduates take up their placements.		

National Standards Authority of Ireland

The National Standards Authority of Ireland was established in April 1997, under the National Standards Authority of Ireland Act, 1996. The functions of the Authority are:

Standards

- ▶ Facilitation of involvement of Irish experts in the development of Irish, European and international standards.
- ▶ Publication, promotion, provision of information and sales of Irish standards.
- ▶ Advisory services on the application of standards.
- ▶ National member of European and international standards organisation (ISO – International Organisation for Standardisation).
- ▶ Representation of the Irish government in European Commission and Council groups relating to standardisation.

NSAI standards published about 2000 Irish standards in 2004, nearly all of them Irish adoptions of European Norms (I.S. / EN's) that are agreed by consensus in Europe with input from Irish experts representing NSAI. NSAI was elected onto the 18 strong ISO Council for the 2003-2004 term at the Stockholm General Assembly, September 2002. In 2004 NSAI took an active part in ISO Council deliberations, particularly in the agreement and implementation of the strategy "ISO Horizon 2005-2010".

NSAI hosted several international standards meetings in Ireland in 2004, notably meetings in Dublin in November of CEN (European Committee for Standardization) and ISO committees on Solar Energy. NSAI was involved in the Irish Presidency of the EU in the first six months of 2004, in particular Council working group meetings, dealing with the integration of environmental aspects into standardisation and revisions of certain directives (e.g. EMC).

Agrément

Agrément is a function that operates in the theatre of research and development of building products. Given the importance placed by the government on R&D for the future of Ireland's enterprise, and also on the capacity of the construction sector for the purposes of the National Development Plan, the function is critical in the overall economic context. NSAI is fully committed to continual improvement in the area.

The Board of NSAI completed the action plan for Agrément, which involved investment in staff and progressing the recommendations of the Action Plan of 2002. The Action Plan of 2002 was necessary due to the change in the dynamics of the applications/certification balance. Increases in registration and assessment/certification fees were put in place by the NSAI/IAB in 2004 in order to support the service improvements. From the customer perspective, the effective time for applications to reach certification is reducing and is reflected in the increase in the number of certificates being issued by Agrément.

In the year 2004 the Irish Agrément Board published 30 certificates.

NSAI is the Irish national member of EOTA, the European Organisation for Technical Approvals under the EU 'Construction Products Directive' (89/106/EEC).

€'000

2004	2005
3,715	3,981

Other Science and Technology Activities

Standards

Standards produced are the technical specifications, which represent scientific best practice. The standards published by the authority represent an agreed consensus on technical requirements, which becomes the internationally recognised benchmark for products and services. Participation in standards development is through a consultative process that interacts with industry, consumer representatives, trade unions, academics, scientists and researchers. This process is vital for the dissemination of information and influencing the developments in standards. The standards environment provides researchers and developers with a platform for networking through the infrastructure provided by NSAI.

Agrément

Provides national technical approvals and publishes Agrément certificates for innovative construction and civil engineering products under Irish building regulations and in accordance with the rules of the international union of Agrément bodies, UEATC. Agrément works with industry in certifying that test and R&D results meet specific purpose requirements for marketable products.

International activities

The authority is a member of a number of international organisations engaged in standardisation and legal metrology. These include:

- ▶ European Committee for Standardisation (CEN)
- ▶ European Telecommunications Standards Institute (ETSI)
- ▶ International Organisation for Standardisation (ISO)
- ▶ European Co-operation in Legal Metrology (WELMEC)
- ▶ International Organisation of Legal Metrology (OIML)
- ▶ International Bureau of Weights and Measures (BIPM)
- ▶ NSAI also sponsors the work of the Electro-Technical Council of Ireland (ETCI) as the Irish member of the European Committee for Electrotechnical Standardisation (CENELEC).

Science Foundation Ireland

Science Foundation Ireland (SFI) was set up by the Irish government in 2000 to support globally competitive scientific and engineering research in strategic areas that advance the country's technological and economic success and reputation. SFI is included as a sub-measure under the National Development Plan 2000-2006 (NDP) and its programmes and priorities remain consistent with the objectives for investing in research, technological development and innovation (RTDI) as set out in the NDP.

Science Foundation Ireland, the national foundation for excellence in scientific research, was established under the Industrial Development (Science Foundation Ireland) Act 2003 to establish Ireland as a centre of research excellence in strategic areas relevant to economic development, particularly the areas of biotechnology (BioT) and information and communications technologies (ICT). To accomplish its mission, SFI makes grants based upon the merit review of proposals from distinguished researchers.

In addition, SFI supports, through the research frontiers programme (RFP), the very best research by academic researchers and research teams who are most likely to generate new knowledge, leading edge technologies and competitive enterprises in a broad range of disciplines in science, mathematics and engineering. Competition for this funding is driven by the scientific merit of the proposals.

SFI also advances co-operative efforts among education, government and industry that support its fields of emphasis and promotes Ireland's ensuing achievements around the world.

SFI activity in 2004

In 2004, SFI held several major competitions, including the President of Ireland young researcher award (PIYRA) and the centre for telecommunications value-chain-driven research (CTVR), as well as receiving a number of high quality proposals from individual scientists. All proposals were subjected to rigorous merit review. From these, 437 awards were made in all supported areas of research.

In 2004, funding of over €108.5 million went to 14 institutions throughout the country, including NUI Galway, University of Limerick, NUI Maynooth and University College Cork, as well as to Trinity College Dublin, University College Dublin, Dublin City University, and the Royal College of Surgeons in Ireland.

	€'000	
	2004	2005
Research and Development	107,289	120,550
Training and Education	285	650
Other Science and Technology	710	

SFI award programmes:

SFI fellow awards

Five-year awards to support senior, distinguished researchers in the fields underpinning BioT and ICT, who come to or are based in Ireland. Grants normally range up to €1 million or more per year.

SFI fellows – research professorships

In addition to funding the most promising talent within Ireland in the research areas underpinning ICT and BIO, SFI will, through this programme, assist the research bodies in attracting outstanding scientists (SFI fellows) to their institutions from outside the State.

SFI investigator programme grants

Four-year awards to leading researchers in the science and engineering sectors that underpin BioT and ICT. Grants can be as large as fellowships but are usually between €100,000 – €250,000 per year.

SFI centres for science, engineering, and technology: campus-industry partnerships (CSET)

Established to fund researchers who will build collaborative efforts that develop internationally competitive research programmes with researchers from industry. Grants can be valued at up to €5 million per year initially, for up to five years. These grants support research partnerships linking scientists, engineers, and industry.

National centre for high end computing

SFI will provide a grant for the creation of a shared national facility to enhance the high end computational capabilities of the Irish research community.

E.T.S. Walton visitor awards

These have been instituted with the aim of bringing international researchers to Ireland for periods of up to one year. Grants usually total €200,000 per year, including salary, laboratory and moving expenses.

Research frontiers programme 2005

In order to reflect the significant new investments made by Science Foundation Ireland (SFI), the basic research grants programme will be renamed the research frontiers programme (RFP). The main aim of this programme is to support the very best research in a broad range of disciplines in science, mathematics and engineering. The competition will be driven by the scientific merit of the proposals and every eligible person with competitive research ideas is encouraged to apply.

President of Ireland young researcher award (PIYRA)

Through this award, SFI identifies the most promising of a new generation of top-tier cutting edge researchers in fields that are critical to Ireland's economic and social prosperity.

SFI workshops and conferences grants

Set up to support events either sponsored by or involving Irish scientists and research bodies that reach an international scientific audience.

SFI annual overhead investment plan

The overhead funds provided by Science Foundation Ireland are for investments in the institutional research infrastructure associated with SFI-funded researchers. Overhead funds are allocated on the basis of the quality of the individual grants as measured by external review. The SFI annual overheads investment plan (AOIP) process is intended to help Irish research bodies build their capacity to develop truly internationally-competitive research support systems.

SFI Awards Summary 2001-2004

Programme	Number	Commitments €
Investigators	115	164,079,562
Centres (CSETs)	10	106,365,372
Principal investigators	11	76,912,066
Research professorship	10	30,081,770
Basic research	107	19,162,087
Annual overhead investment plan (AOIP)	12	13,508,546
SFI fellow	2	12,491,017
Equipment supplement	38	9,369,700
E-Journals	1	9,000,000
PIYRA	4	4,561,079
Walton	31	3,702,692
CSET planning	4	2,182,600
Industrial supplement	10	2,023,912
High end computing	1	2,000,000
General supplement	4	1,278,523
Conferences and workshops	51	1,223,694
STAR supplement	29	325,355
UREKA supplement	46	296,256
China/Ireland collaboration	2	500,000
Total	488	459,064,231

National Microelectronics Applications Centre

MAC, The National Microelectronics Applications Centre Ltd, in Limerick, was established in 1981 to provide complete electronic, software and e-business/e-government technological solutions. Over the years MAC has developed a strong reputation and track record for working with customers and partners in the profitable application and innovative productisation of advanced electronics and information society technology.

MAC web-enables products and services and delivers complete contract and joint venture development, including total project management, technical consultancy and development of EU project consortia and proposals plus advice, development and hosting of public and private sector e-commerce and other transactional Internet-based applications and web services.

MAC works closely with companies, entrepreneurs and public organisations on its technological solutions for them and to date has delivered over 250 product developments, 60 online services, 175 process applications, 525 consultancy projects, 30 pan-European e-business technology development consortia and has investigated over 3,000 preliminary ideas for high technology products. MAC employs a total of 9 permanent staff, together with a varying number of short-term contract personnel.

	€'000	
	2004	2005
Technological Development		
Electronic, software and ICT products, services and business process developments including distributed systems and web-enabling existing products, technical consultancy and project management and Internet/Web e-business/e-government services are carried out on a contract basis for firms. 19 projects were completed in 2004.		
Research and development	330	400
Technical services	40	70
Training and education	25	35
Technology transfer	20	25
Other Science and Technology	10	20

Department of the Environment, Heritage and Local Government

The Department is responsible for policy and programme formulation in relation to the environment, heritage, planning and housing; the development and financing of public infrastructure; the local government system; and for a number of regulatory functions. Most of the Department's spending is channelled through local authorities and as such local authorities are the main providers of public infrastructure and the provision of services locally. The Department's mission is *"to promote sustainable development and improve the quality of life through protection of the environment and heritage, infrastructure provision, balanced regional development and good local government"*.

The annual estimate for the Department in 2004 is in excess of €2.3 billion.

The Department employs over 1,200 staff. The Department also funds the Radiological Protection Institute of Ireland and the Environmental Protection Agency, which are considered separately in this document. Funding for Met Éireann reached €17.5 million in 2005.

	€'000	
	2004	2005
Technical services		
National parks and wildlife services	3,325	4,520
The research branch provides the necessary scientific expertise and advice for the implementation of Ireland's nature conservation policies including those arising under the Wildlife Act, 1976 and various directives and regulations relating to nature conservation.		
Administration	50	37
Monitoring and evaluating the implementation of planning legislation at local authority level by providing: annual statistics on planning control and administration; quarterly statistics of planning applications and decisions; annual inventories of environment impact statements and regular sample surveys of the operation of the development process. Information searches in relation to guidance notes and development plan preparation are carried out. Some work is ongoing in relation to the use of GIS.		
Other Science and Technology activities		
International collaboration	3,940	4,168
Contributions to international organisations:		
▶ International Atomic Energy Agency		
▶ International Atomic Energy Agency (Nuclear Terrorism Safeguards)		
▶ Nuclear Energy Agency		
▶ International Meteorological Organisations		
e-Procurement	238	244
e-procurement is the process of sourcing, buying and paying for goods and services using information and communications technology as the communications mechanism.		

Environmental Protection Agency

The Environment Protection Agency (EPA) is an independent public body established in July 1993 under the Environment Protection Agency Act, 1992. Its sponsor in Government is the Department of the Environment, Heritage and Local Government. The EPA has a wide range of statutory duties and powers under the Act.

The main responsibilities of the EPA include the following:

- ▶ Licensing large/complex industrial and other processes with significant polluting potential;
- ▶ Monitoring environmental quality, including the establishment of databases to which the public have access;
- ▶ Publishing periodic reports on the state of the environment;
- ▶ Promoting environmentally sound practices;
- ▶ Promoting and co-ordinating environmental research;
- ▶ Licensing all significant waste recovery and disposal activities (including landfills) and the preparation and periodic updating of a national hazardous waste plan;
- ▶ Implementing a system of permitting for the control of VOC emissions resulting from the storage of significant quantities of petrol at terminals;
- ▶ Implementing and enforcing the GMO Regulations for the contained use and deliberate release of GMOs into the environment;
- ▶ Preparing and implementing a national hydrometric programme;
- ▶ Drafting a national allocation plan for greenhouse gas emissions allowance trading: the establishment of a national competent authority for the issuing of trading permits and allowances to those covered by the scheme; the monitoring, overseeing and verification of emissions from participating companies; and the establishment of a national emissions trading registry.

The main responsibilities under the office of environmental enforcement, established in 2003 and dedicated to the implementation and enforcement of environmental legislation in Ireland:

- ▶ Improving overall compliance with environmental protection legislation in Ireland;
- ▶ Raising awareness about the importance of enforcement of environmental protection legislation in Ireland;
- ▶ Enforcing IPPC licences and waste licences issued by the EPA;
- ▶ Auditing and reporting on the performance of local authorities in the discharge of their environmental protection functions, including:
 - ▶ Enforcement in respect of breaches of waste permits,
 - ▶ Taking action in relation to illegal dumping,
 - ▶ Implementation of waste collection permits, and
 - ▶ Enforcement of producer responsibility initiatives (for example, in the area of packaging waste);
- ▶ Taking action against local authorities that are not discharging their environmental protection functions in an adequate manner;

- ▶ Prosecuting, or assisting local authorities to prosecute, significant breaches of environmental protection legislation, in a timely manner; and
- ▶ Assisting local authorities to improve their environmental protection performance on a case by case basis, through the establishment of an enforcement network to promote information exchange and best practice, and by the provision of appropriate guidance.

The environmental research technology development and innovation (ERTDI) programme (2000-2006)

The EPA continued to fund new research projects ranging from desk studies to large-scale multi-annual projects in 2004. Research funding of €5.94 million was committed to the areas of air quality, biodiversity, cleaner production, climate change, transport, socio-economics, water quality and waste and resource management. A major series of projects on sustainable development was also initiated. Of the €5.94 million, the EPA committed €1.8 million under the second phase of the Cleaner Greener Production Programme, which assists companies to develop innovative solutions to environmental problems.

	€'000	
	2004	2005
Research and Development	7,317	7,000
The environmental research technological development and innovation (RTDI) programme (2000-2006)		
Through its research programme, the EPA is generating knowledge and expertise needed to help protect and manage Ireland's environment. Funding for this programme, which will amount to over €32m over the period 2000-2006, is provided by the Department of the Environment, Heritage and Local Government through the National Development Plan.		
Technical Services	9,500	10,275
IPC licensing and enforcement:		
Implementation of the agency's IPC licensing and enforcement functions is the main technical service provided by this area.		
Environmental monitoring and laboratory services		
The main services provided are in national biological and physio-chemical monitoring programmes for river water quality; measurements of riverine inputs of pollutants to marine waters; collation and processing of hydrometric data; the operation of air quality monitoring stations for NO ₂ and ozone; collation of data on SO ₂ in smoke from local authority air quality measuring networks; estimates of national atmospheric emissions and back-up analytical services to local authorities, including the operation of a laboratory intercalibration programme; investigations of pollution incidents.		
Environmental management and planning		
Waste licensing and enforcement		
Training and Education	2,350	2,750
IPC licensing and enforcement		
Environmental monitoring and laboratory services		
Environmental management and planning		
Waste licensing and enforcement		

Radiological Protection Institute of Ireland

The Radiological Protection Institute of Ireland was established on 1st April 1992 in accordance with the provisions of the Radiological Protection Act, 1991. Its main functions are:

- ▶ to advise the Government and to provide information to the public on matters relating to radiological safety;
- ▶ to regulate the use, transportation and disposal of radioactive materials;
- ▶ to prepare safety codes and regulations for the safe use of ionising radiation;
- ▶ to measure levels of radioactivity in the environment and assess their significance;
- ▶ to assist in the development of a national plan from an emergency arising from a nuclear accident;
- ▶ to provide a dosimetry service and to promote knowledge, proficiency and research in nuclear science and technology.

The RPII is financed by grant in aid (€3,310,000 in 2004) and income from contracts and charges for services. The Board's earned income in 2004 was €1,317,000 of which €297,000 came from Irish industry (for export certification services); €471,000 from the Personnel Dosimetry Service and €360,000 from Radon work; €130,000 from licence fees and €59,000 from miscellaneous sources. The total permanent staff complement of the Radiological Protection Institute of Ireland is 45 which includes, specialists in physics, chemistry, engineering, health physics, biology and other disciplines. 41 staff are involved in science and technology activities. Expenditure data includes general overheads of 21% of the figures provided.

	€'000	
	2004	2005
Technical services		
Radiation protection in medicine and industry	1,360	1,473
The programme controls, by licence, the use of ionising radiation in medicine, industry, research and education: prepares regulations and codes for the safe use of ionising radiation and provides personnel dosimetry and instrument calibration services.		
Monitoring of environmental radiation	868	915
This programme monitors contamination of the aquatic and terrestrial environment by radioactivity from man-made sources, and related research is carried out. It also provides an export certification service to Irish industry.		
Radon studies and information service	878	949
The monitoring of indoor radon levels in homes, schools and workplaces and related research to determine the extent of elevated radon levels in buildings is the main element of the programme. Information and advice to government and other agencies on all matters relating to ionising radiation are provided by the Information Service.		
Emergency planning	315	275
The RPII has a key role to play in the national emergency plan for response to any threat of radiation exposure in Ireland as a result of an accidental release of radioactivity into the environment from a nuclear accident.		

Met Éireann

Met Éireann, the Irish Meteorological Service, established in 1936, is a division of the Department of the Environment, Heritage & Local Government. The service is engaged in the following activities:

- ▶ Collection, analysis and publication of meteorological, geophysical and geochemical data;
- ▶ supply of weather forecasts, statistical information and scientific advice to agricultural, industrial and public utility undertakings, the press, radio and television, maritime interests and members of the public;
- ▶ supply of similar information to government departments, semi-State bodies, and the defence forces;
- ▶ provision of meteorological facilities for civil airlines operating to and from airports in Ireland and/or flying over Irish territory, and the supply of advice on meteorological aspects of civil aviation problems generally;
- ▶ development work in fundamental and applied meteorology;
- ▶ co-operation with the meteorological services of other countries and the representation of Ireland at meetings concerned with international co-operation in meteorology.

Met Éireann is funded directly by the Department of the Environment, Heritage & Local Government but a significant portion of the expenditure is recovered by the Department in the form of route charges (€7.26m in 2004) payable by the airlines for meteorological services to civil aviation and by means of fees (€1.50m in 2004) for information and advice supplied to commercial and other interests on a repayment basis.

234 staff are employed in the Service on a full-time basis.

Research and Development

Research is carried out in various fields of meteorology and climatology. The primary thrust of the research effort is towards the development of computer models for weather analysis and prediction and participation in an international research collaboration called HiRLAM (High Resolution Limited Area Modelling), together with Norway, Sweden, Finland, Denmark, Spain, the Netherlands and Iceland. The HiRLAM forecasting model is now in routine use.

A community climate change consortium for Ireland (C4I) has been established with a regional climate analysis, modelling and prediction centre (RCAMPC) based in Met Éireann HQ. While still at a relatively early stage, the objective is to consolidate and intensify the national effort in climate change research by building a capability for carrying out regional climate modelling in Ireland. The regional climate model (RCM) to be implemented will be based on the HiRLAM model.

€'000

2004	2005
1,851	1,925

	€'000	
	2004	2005
<p>Technical Services</p> <p>Meteorological information is provided on a routine basis to the media and the general public. A successful premium rate weather service is operated and its scope extended to allow for provision of data and/or forecasts via fax. A separate premium rate service dedicated to aviation sector users was introduced in 1998.</p>	14,776	15,006
<p>Education and Training</p> <p>Training is provided within the Service in several areas. More specialised training is obtained by sending staff to outside agencies. In 2004, Met Éireann and UCD agreed to co-fund the creation of a Chair of Meteorology in UCD. The first course, leading to an MSc. in Meteorology, commenced in September. Met Éireann expects to utilise this course to satisfy some of its training requirements for the future.</p>	782	841
<p>Other S&T Activities</p> <p>Ireland, through Met Éireann, is a member of a number of international organisations which either concern themselves with the co-ordination and standardisation of meteorological activities on a global basis, or comprise co-operative ventures on the part of a number of countries, to make available facilities which would be difficult or impossible for an individual country to provide on its own. These include the WMO, EUMETSTAT and ECMWF.</p>	2,978	2,998

Department of Social and Family Affairs

The main functions of the Department are to formulate appropriate social protection policies and to administer and manage the delivery of statutory and non-statutory social and family schemes/services.

The mission of the Department is *“to promote a caring society through ensuring access to income support and related services, enabling active participation, promoting social inclusion and supporting families”*.

	€'000	
	2004	2005
Research and Development	4,648	5,995
Planning (policy) unit – monitoring and evaluation		
The main objectives here are: the systematic review and evaluation of social welfare policies, programmes and schemes; the monitoring of economic and demographic developments and their impact on social welfare; the formulation of new social policy developments and their budgeting; liaison with government departments and other agencies on social policy matters; the effective implementation of NAPS & NAPS/inclusion by the Office for Social Inclusion; the compilation/development of statistical bases for internal management and for publication. 54 staff are employed on these activities.		
Economic and social research institute (ESRI)		
In addition to projects commissioned by the department, it also has an ongoing research programme with the ESRI. Aspects of this programme include: the detailed analysis of household surveys providing a vital source of information on, for example, the nature and causes of poverty, the position of vulnerable groups etc.; the ESRI tax-benefit model (SWITCH), which enables the potential effects of tax and social welfare changes to be modelled and specific items of research e.g. relative poverty levels in a comparative perspective.		
Combat poverty agency		
The agency's main functions are policy advice, project support and innovation, research, public education and to support the effective implementation of the National Anti-Poverty Strategy (NAPS & NAPS/inclusion) at national, local and European levels. The Agency undertakes, commissions and publishes research, evaluations, policy reports and other information on aspects of poverty. It produces practical resource materials and supports training and education programmes for the community and voluntary sector as well as providing direct funding through grant schemes. It supports innovative approaches to tackling poverty through resourcing pilot programmes.		
Technical Services	15,726	21,421
Consultancy etc.		
This expenditure is mainly in respect of fees and expenses for consultancy assignments, research and studies. The services covered are mainly the eGovernment projects (REACH, GRO, OASIS); the design and development of new computer systems to support the administration of social welfare services; technical software support and the National (Longitudinal) Study of Children.		

	€'000	
	2004	2005
Training and Education	130	130
Library/Publications		
International Collaboration		
International social security association	21	21
The department is a member of the International Social Security Association, the aims of which are the protection, promotion and development of social security throughout the world.		
EU Community action programme to combat social exclusion 2002-2006 (exchequer contribution)	22	123
The EU has established a five-year programme of community action to encourage co-operation between member states in order to combat social exclusion. Ireland is participating in 13 projects that are being supported under the second phase of the trans-national exchange programme (TEP) from a total of 31 projects approved by the EU Commission.		
Other Science & Technology activities	1,845	1,971
Other activities		

Department of Transport

National Roads Authority

The National Roads Authority was established by Ministerial Order on 23 December 1993. The order was made by the Minister for the Environment under the provisions of the Roads Act, 1993.

The authority's primary function, under section 17 of the Roads Act, 1993, is to secure the provision of a safe and efficient network of national roads. For this purpose it has overall responsibility for the planning and supervision of construction and maintenance works on these roads. In addition to its general mandate, the Authority has been assigned a number of specific functions under the Roads Act, including:

- ▶ preparing medium term plans for the development of the national road network;
- ▶ preparing or arranging for the preparation of road designs, maintenance programmes and schemes for the provision of traffic signs and delineation/road markings on national roads;
- ▶ securing the carrying out of construction, improvement and maintenance works on national roads, allocating and paying grants to local authorities for these purposes;
- ▶ carrying out or assisting with training, research or testing activities in relation to any of its functions;
- ▶ promoting the case for Exchequer funding and EU assistance for national roads;
- ▶ entering into agreements with the private sector for the financing, operation and management of national road projects, and
- ▶ making toll schemes for national roads.

The research activities of the NRA are undertaken by:

- ▶ The road traffic, safety and transportation division
- ▶ The road maintenance and pavement assessment division.

The divisions comprise the national centre for road research in Ireland and they perform two broad functions:

- ▶ to undertake research and development on road construction, maintenance, safety and transport matters, of particular importance in Ireland; and
- ▶ to serve as a centre which can disseminate the findings of research in Ireland and other countries.

Both divisions provide the National Roads Authority, the Department of Transport, the local authorities and their consultants and contractors with information, technical assistance and guidance related to all aspects of road construction, traffic, safety and transportation which enable them to formulate policy and plan, design, construct, maintain and operate the road system in the most cost effective manner. The technical and information services of the divisions cater for these functions.

	€'000	
	2004	2005
Research and Development		
Road traffic, safety and transportation	231	216
Research is carried out on traffic growth, road accidents and counter measures, speed and seat belt wearing surveys, travel times, vehicle volume forecasts, social attitudes to travel risk and the maintenance and updating of the national road database.		
Road maintenance and pavement assessment	47	51
Research is undertaken on the development of procedures for the acquisition of road pavement performance data on construction and maintenance methods.		
Technical Services	498	493
The services include: surveys of condition of road pavements, including skid resistance, strength and riding quality; technical support in preparing national specifications for road works; road traffic counting and accident recording; preparation of a road signs manual and cost benefit analysis for transport investment.		
Information and specialist advisory services		
Activities include maintenance of detailed databases on traffic counts, road accidents, skid resistance of roads, strength and condition of road pavements, provision of library and technical information services.		
Education and Training	498	493
Technology Transfer	125	123
Other Science & Technology Activities	172	174

Department of Community, Rural and Gaeltacht Affairs

The Department of Community, Rural, & Gaeltacht Affairs was established in 2002. It is responsible for the promotion and support of sustainable and inclusive development of communities, both urban and rural, including Gaeltacht and island communities, thereby fostering better regional balance, alleviating disadvantage and advancing the use of the Irish language.

	€'000	
	2004	2005
Other Science & Technology Activities	221	940
The Islands Division		
The islands division provided grant aid in 2004 to Galway County Council and to Údarás na Gaeltachta to carry out preliminary studies and/or design airstrips on Tory Island and Inishbofin and the dredging of Inishboffin harbour, Co. Galway. In 2005, the islands division will grant-aid certain local authorities for the cost of carrying out preliminary studies and/or design for improved pier and air access to a number of islands.		

Údarás na Gaeltachta

Údarás na Gaeltachta was established under the Údarás na Gaeltachta Act, 1979 and came into operation on 1st January 1980 to replace Gaeltarra Éireann which was dissolved by the same Act.

The objectives of An t-Údarás are as follows: to encourage the preservation and extension of the Irish language in the Gaeltacht; to attract suitable native and foreign manufacturing projects to the Gaeltacht; to establish, develop and manage productive employment enterprises in the Gaeltacht; to participate in industries as an equity partner and to provide services to assist new industries become established. Údarás na Gaeltachta is financed by grant-in-aid, rents, repayable advances and other income. Údarás na Gaeltachta employs 115 people.

	€'000	
	2004	2005
Research and Development		
Research and Development Grants	2,114	1,940
Grants of up to 60%, subject to a maximum of €126,973, for any one project are available to assist R&D in industry in the Gaeltacht regions. Since 1995 this programme is part funded from RTI on a reimbursement basis from Enterprise Ireland. €819,000 was reimbursed in 2004 and €850,000 is estimated to be reimbursed in 2005. 78 grants were awarded in 2004, of which 68 went to manufacturing industry and 10 went to the marine sector.		
Feasibility Study Grants	52	50
These grants enable individuals, groups and firms to seek out and evaluate prospective new product ventures. 42 grants were given in 2004.		

Department of Education and Science

The Department of Education and Science was established under the Ministers and Secretaries Act 1924 and is responsible for the administration of public education i.e. first level, second level, and third level.

The Department's total net allocation for 2005 is €6,933m. The allocation for S&T activities is €613m. This is mainly to fund scientific and technical activities in the institute of technology. The Department also funds grants and scholarships to enable students to pursue S&T courses in third level colleges and a range of R&D activities. Expenditure and programmes for the Higher Education Authority and the Dublin Institute for Advanced Studies are listed separately.

Under the 2000-2006 National Development Plan/Community Support Framework, the Department will receive exchequer and EU aid in respect of a number of the S&T related programmes operated in the universities and institutes of technology under the employment and human resource development operational programme and the productive sector operational programme.

The employment and human resources development operational programme includes a number of measures, which contain elements of S&T funding. These measures include the middle level technician (MLT) and higher technical and business skills (HTBS) programme, the undergraduate skills (ESF aided), postgraduate conversion programmes, third level quality assurance, the national qualifications framework (ESF aided) and education infrastructure.

The productive sector operational programme includes the research technological development and innovation (RTDI) programmes. The measures operating under the RTDI include basic support for research and communications, project-based and individual research, technological sector research and the strategic research (ERDF aided) measure which includes the programme for research in third level institutions (PRTL) and north/south co-operation. The department has approximately 1,196 staff.

	€'000	
	2004	2005
Research and Development		
Third level research and development activities	53,796	69,250
An allocation of €69,250m has been provided in 2005 for current spending on research and development. This provision is available to all universities and institutes of technology to support the development of their research capabilities, to support outstandingly talented individual researchers and to encourage co-operation within institutions and between institutions. This funding will be allocated for research in humanities, social sciences and science and technology.		
PRTL and RTDI (capital)	32,500	33,000
The provision in 2005 for the capital component of the programme for research in third level institutions (PRTL) and the capital element of the research technological development and innovation (RTDI) is €33 million.		
Direct research & department committee support	303	391
The department will directly support a number of educational research projects through its research and development committee.		

	€'000	
	2004	2005
EU projects supporting R&D	1,513	1,558
(i) LEONARDO – the vocational preparation and training of young people in the context of the EU action programme in education		
(ii) SOCRATES action programme – this is the education programme for schools and adult learners		
European university	131	180
Contributions to the budget of the Institute (Italy) and support of Irish students to pursue research projects.		
St. Patrick's College	1,310	1,310
Support for research activities in the field of education in St. Patrick's College, Drumcondra.		
Education and Training		
Institutes of technology	315,053	370,169
Funding of the scientific and technical activities in the institutes of technology. Support for third level S&T education accounts for approximately 67% of the total exchequer grant for institutes of technology (vote for third-level and further education).		
Third level grants	71,531	73,121
Provision of maintenance grants for students under the higher education grant's scheme, the VEC scholarship scheme and the third level maintenance grants scheme for trainees to enable them pursue S&T related courses in third level colleges, institutions and institutes of technology.		
Provision of third level scholarships enables students to pursue S&T courses in third level colleges and institutions.	478	486
Scholarships are also paid to Irish students to attend the College of Europe, Bruges.	30	35
ICTs programme for schools	7,964	10,169
The schools IT 2000 programme aims to ensure that pupils in first and second level schools have the opportunity to achieve computer literacy and to equip themselves for participation in the information society. It includes a comprehensive teacher-training programme in ICTs.		
The provision in 2005 for the capital component of this programme is €6.143m. Extra money was made available in 2004 to assist with the development of computer networks in first and second level schools.	19,720	6,143

	€'000	
	2004	2005
Science and technology education (investment) fund	61,300	46,766
<p>The passing of the Scientific and Technological Education (Investment) Fund Bill 1997 by both Houses of the Oireachtas resulted in the establishment of the fund which is used to develop technology education at all levels ranging from primary schools to advanced research. The three main objectives of the fund are:</p> <p>(i) To review, extend and modernise the infrastructure of third level institutions, particularly in the technological sector.</p> <p>(ii) To develop new areas of activities where emerging skill needs have been identified.</p> <p>(iii) To invest in promoting innovation to maintain and further our economic growth.</p> <p>Over €61m was spent from the fund in 2004 and approximately €47m will be spent in 2005 mainly on projects in the institutes of technology and the universities.</p>		
International Science & Technology Activities	494	545
<p>Irish contribution to UNESCO, the International Institute for Education Planning, and the International Centre for Registration of Serials.</p>		

Higher Education Authority

The Higher Education Authority (HEA), which is under the aegis of the Minister for Education and Science, is a body corporate with perpetual succession, established in May 1972 under the provisions of the Higher Education Authority Act, 1971. The HEA has the following general functions:

- a) furthering the development of higher education
- b) assisting in the co-ordination of State investment in higher education and preparing proposals for such investment
- c) promoting the attainment of equality of opportunity in higher education
- d) promoting the democratisation of the structure of higher education.

In addition, it has the following specific functions:

- a) advising the Minister on the need for the establishment of new institutions of higher education, on their nature and form, and on legislative measures in relation to their establishment (or in relation to existing institutions)
- b) maintaining a continuous review of the demand and need for higher education
- c) making recommendations to the Minister on the provision of student places and the balance between institutions
- d) making recommendations to the Minister on the provision for higher education and research, either in relation to current or future periods
- e) instituting and conducting studies on problems of higher education and research, and publications or reports of such studies
- f) payment to institutions of higher education out of monies provided by the Oireachtas, such amounts as may be approved by the Minister (with the consent of the Minister of Finance).

The HEA is financed by a grant-in-aid from the Department of Education and Science out of a total vote of €1,489,552,000 for third level and further education (2005 estimated figure of vote 26E). The HEA general (non-capital) grants account for an estimated €670,536,000 including €215,000,000 for fees. Besides the exchequer grant (via the HEA), colleges and other institutions receive non-exchequer monies i.e. non-exchequer fees, research grants and other income.

The HEA does not directly fund research in universities. The block-grant is not specifically earmarked for any purpose by the HEA but it is divided between departments at college level. As academic salaries are funded by the block grant it is assumed that a percentage of the grant goes to fund research.

Approximately 56.5% of current exchequer expenditure, provided by the HEA and 68.8% of non-exchequer expenditure is for the area of science and technology. The analysis to derive that part of the HEA block grant attributable to R&D in the 2005 budget is similar to that used in the 1999-2004 budgets. A distinction is made between the HEA block grant allocated to academic departments and administration and support services.

	€'000	
	2004	2005
Research and Development		
General promotion of knowledge	228,641	206,312
General support for R&D activities in the relevant faculties in universities and other designated higher education institutions i.e. implicit support for R&D contained in the HEA allocations to individual colleges and institutions together with external sources and research funds. In addition to funds for R&D which are implicit in the HEA's grant to colleges because of the integral part which research plays in the working time of academic staff, third level colleges are awarded grants for research from a variety of sources. These funds are included here for completeness but are not part of the HEA budget to colleges. These figures include funds from the various Operational Programmes that pass research grants to university researchers.		
Programme for research in the third level institutions (PRTLl)	32,450	29,068
The programme for research in third level institutions (PRTLl) is a government initiative, to strengthen the basic research capabilities of third level institutions in Ireland. The programme is funded under the National Development Plan (NDP) 2000-2006, with assistance from the European Regional Development Fund and through a partnership with private sources. A total of €605 million has been allocated to date. The management of the programme and the allocation of funds are co-ordinated by the Higher Education Authority (HEA) on behalf of the Department of Education and Science.		
Operational programmes with departments	23,724	26,645
These programmes include programmes with the Marine Institute, the EPA, Teagasc, the Department of Agriculture and Enterprise Ireland. Provisional equipment to support R&D activities in the HE sector.		
Education and Training		
Science & technology education and training	276,740	296,986
General support for undergraduate education and training in the following faculties in universities and other designated higher education institutions: education and related sciences; architecture, medical and related sciences; natural sciences. Also provision of equipment to support science and technology education and training.		
Other science and technology activities		
Administration and support	111,036	113,990
Funds for central administration and services in support of S & T activities.		
Buildings	51,152	47,563
This funding is mainly allocated to projects aimed at producing graduates in the health sciences, such as pharmacy, radiography and physiotherapy.		

Dublin Institute for Advanced Studies (DIAS)

The Dublin Institute for Advanced Studies is a statutory corporation established in 1940 under the Institute of Advanced Studies Act, 1940. The Institute has three constituent schools – the School of Celtic Studies (not included in the Science Budget), the School of Theoretical Physics and the School of Cosmic Physics. Each school has an independent governing board. The Institute, through the constituent schools, pursues fundamental research and trains advanced students in methods of original research.

The Institute is financed by an annual grant-in-aid from the Department of Education and Science with small additional income from sales of publications and from other agencies. There are eighty full time staff and twenty-three research scholars working in the Institute. There are fifty-seven people engaged in scientific research, ten within the School of Theoretical Physics and forty-seven within the School of Cosmic Physics. Expenditure data include general overheads equivalent to an average of 20% of the figures shown.

	€'000	
	2004	2005
Research and Development		
The school of theoretical physics	562	560
The school pursues research in theoretical particle physics, quantum gravity, field theory, noncommutative geometry, classical and quantum statistical mechanics and disordered quantum systems. Currently, there is also a collaborative project with researchers in UCD concerning the conductivity of carbon nanotubes.		
The school of cosmic physics	1,988	2,529
The school of cosmic physics conducts original research in the areas of astronomy, astrophysics and geophysics and provides professional advice in these areas on an occasional basis. The geophysics section runs the national seismic monitoring service and acts as a contractor for, among other projects, the seabed survey. The astronomy and astrophysics section is a major promoter of high-performance computing in Ireland, most notably through the CosmoGrid Project.		
Technical Services and Education and Training		
The school of theoretical physics:	404	367
Provides information and advisory services in the following areas: theoretical particle physics, quantum and classical field theory and applications, quantum gravity, classical and quantum statistical mechanics and applications, in particular, quantum electronics, Monte-Carlo simulation, data analysis, coding theory and telecommunications.		
The school of cosmic physics:	2,072	2,650
Information on astronomical and geophysical phenomena is provided on request to government departments, to educational authorities, to the Garda Síochána and to the legal, engineering and medical professions etc. The CosmoGrid project organises specialist training courses in Grid computing and other aspects of high performance computing.		
The geophysics section hosts the Mtnet website, a major resource for the exchange of information about the magneto-telluric method.		

Irish Research Council for the Humanities and Social Sciences

The Research Council for the Humanities and Social Sciences (IRCHSS) was established in 2000 by the Minister for Education and Science in response to the need to develop Ireland's research capacity and skills base in a rapidly-changing global environment where knowledge is key to economic and social growth.

With the support of the National Development Plan, the IRCHSS promotes cutting-edge research in the humanities, social sciences, business and law with the objective of creating new knowledge and expertise beneficial to Ireland's economic, social and cultural development. The research council is engaged in the strategic exchange of operational expertise and best practice through its membership of EU ERA-NET consortia for European research councils in the humanities and social sciences. As national contact point for priority 7 ('Citizens and Governance in a Knowledge-based Society') of EU Framework Programme Six and through its representation on the COST Technical Committee for the Humanities and Social Sciences and membership of the European Science Foundation, the research council works strategically to integrate Irish research within the European research area.

Research and Development

The research council operates six interlinked research schemes. The IRCHSS *Government of Ireland Postgraduate Scholarships* and *Government of Ireland Postdoctoral Fellowships* fund research at pre and postdoctoral levels. The research council operates three schemes which offer research opportunities for members of the academic staff of recognised third-level institutions to undertake stated projects (*Government of Ireland Senior Research Scholarships; Government of Ireland Research Fellowships; Government of Ireland Senior Research Fellowships*). A sixth scheme operated by the research council known as *Government of Ireland Research Projects Grants* funds world class innovative research undertaken on an extended or group project basis.

€'000

2004	2005
7,418	7,400

Irish Research Council for Science, Engineering and Technology

The Embark Initiative is managed by IRCSET – the Irish Research Council for Science, Engineering and Technology which was established in June 2001 by the Minister for Education and Science, in order to promote excellence in research across science, engineering and technology. The Council's operations are funded by the State through the National Development Plan. IRCSET is an independent and autonomous body established under the aegis of the Minister for Education and Science.

The council is comprised of 25 members with backgrounds in academia and industry. Following the retirement in 2004 of the Chairman, Professor Thomas N Mitchell, the Minister for Education and Science, Ms. Mary Hanafin, T.D. announced the appointment of Professor Jane Grimson as the new chair of the council in December 2004. Mr Martin Hynes is Executive Director of the Council.

The Embark Initiative seeks to position Ireland decisively as an international centre of excellence and achievement in research by encouraging students and researchers to pursue a full-time career in their chosen research area. Providing funding to full-time researchers at the early stages of their careers will ensure that research is a viable and beneficial career option and that ideas, potential and creativity, crucial to Ireland's future success, are not lost. Not only will it increase research capacity, but it will also enhance teaching with relevant and current research experience.

The Embark Initiative launched its first programme, the basic research grant scheme, jointly with Enterprise Ireland in December 2001. This was followed by new programmes of assistance, the postgraduate research scholarship awards and the postdoctoral fellowship scheme. The council continues to develop its portfolio of support schemes. In 2004 IRCSET entered an ongoing collaboration with other EU countries on two initiatives, organised under the ESF's EUROCORES research scheme; smart structural systems technologies and biodiversity. The alliance with the French national centre for scientific research (CNRS) will continue to be developed in 2005 to ensure support for co-operation between French and Irish researchers.

	€'000	
	2004	2005
Research and Development	13,400	16,350
The postgraduate research scholarship scheme		
The Embark Initiative's postgraduate research scholarship scheme is designed for either masters or doctorate level researchers in the sciences, engineering or technology. Under the postgraduate research scholarship scheme, funding of €19,050 is provided for each of three years for doctorate level research (total funding of €57,150) and one year (€19,050) for masters level research.		
Students graduating with higher honours in science, engineering and technology will be entitled to apply for funding. A decision to grant funding will be based on the student's academic record, research preparation and a personal statement.		
In addition to the Embark Scholarships, in 2004 co-operative awards were offered in conjunction with a number of research partners. This aspect of the scheme will be expanded in 2005 to encompass a larger number of research areas and ensure a greater number of talented researchers receive support.		

€'000

2004	2005
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The postdoctoral fellowship scheme

The Embark Initiative's postdoctoral fellowship scheme is designed to stimulate and support postdoctoral research in the sciences, engineering and technology.

The unique initiative is designed to empower researchers at an early stage of their research career to build upon their PhD. work and to benefit from the experience of established research teams.

Under this scheme awards of two year duration are available with €33,000 (+PRSI) available in the first year and second year, plus appropriate expenses of €5,000 each year. Applications are subject to equal assessment, strictly on merit, by an international assessment committee.

Department of Communications, Marine and Natural Resources

The Department was formed in June 2002. The Mission statement of the department is “to promote the sustainable development, management and regulation of the communications, energy, marine and natural resources sectors in support of national economic and social policy objectives”.

	€'000	
	2004	2005
Research and Development		
Loughs agency	12	12
The loughs agency is one of the six cross border bodies established under the Good Friday agreement 1998.		
Exploration mining division	41	150
The purpose of the division is to stimulate the discovery of economic mineral deposits and to maximise the contribution of the mining sector to the national economy, with due regard to its environmental and social impact.		
Technical services		
Petroleum affairs division	537	648
The purpose of the division is to maximise the benefits to the national economy from exploration for, and production of, indigenous oil and gas resources, while ensuring that activities are conducted safely and with due regard to their impact on the environment and other land/sea users. The technical section of this division provides the technical expertise necessary for the promotion, monitoring and controlling of petroleum exploration and development activities by private enterprise under licence to the department, specifically the creation, processing (where necessary), analysis and interpretation of geological, geophysical and engineering data supplied by licensees and the formulation of technical recommendations and advice.		
At the end of 2004, three petroleum leases, nine offshore petroleum exploration licences, sixteen licensing options and nine petroleum prospecting licences were in place.		
Geological survey Ireland	5,000	5,756
The geological survey of Ireland was established in 1845 and is currently a division of the Department of Communications, Marine and Natural Resources. The GSI is the national geoscience agency. Its role is the provision of information and advice on all aspects of geology, especially as they relate to mineral resources and the environment in Ireland.		

	€'000	
	2004	2005
Exploration mining division (as above)	415	450
<p>The technical part of the Division (EMD Technical) is involved in promoting inward investment in exploration and regulatory and monitoring work for all holders of State facilities under the Minerals Development Acts, 1940 to 1999. At the end of 2004 there were 266 current prospecting licences, largely in the central Midlands. 14 companies were monitored during the year for exploration activity, 31 licences were assessed for continuation, and progress reports on 102 licences were assessed.</p> <p>Environmental monitoring and assessment continued on the current metal mining permit areas (Galmoy, Co. Kilkenny; Lisheen, Co. Tipperary and Navan, Co. Meath), and also on old mine sites at Avoca, Co. Wicklow and Kingscourt, Co. Cavan; Silvermines, Co. Tipperary and Drumgoosat, Co. Monaghan, as well as exploration activity.</p> <p>In 2004 consultants were engaged to advise the Division concerning various proposals submitted by the industry and to monitor the development of new mines.</p>		
Loughs agency (as above)	15	15
Training and Education	29	29
Technology Transfer	4	4
Other Science and Technology Activities	137	153
Capital expenditure (broadband and others)	42,763	43,141
<p>The broadband infrastructure project aims to establish broadband service availability to many urban areas within Ireland, through the construction of carrier-neutral, open access Metropolitan Area Networks (MANs). The MANs currently being constructed consist of fibre optic cable and ducts with co-location space available to telecommunications service providers on an open access basis. The objective is to foster real competition among service providers on the basis of price and service.</p> <p>The total cost of the MANs will be in the region of €105m, of which 90% will be contributed by DCMNR and 10% by the various local authorities.</p>		

Marine Institute

The Marine Institute has the general functions *“to undertake, to co-ordinate, to promote and to assist in marine research and development and to provide such services related to marine research and development that in the opinion of the Institute will promote economic development and create employment and protect the marine environment”*.

The Marine Institute is also responsible for advising the Minister on policy relating to marine research and to advise the Minister on proposals relating to such research and development requiring funding from the exchequer or from any State owned or controlled organisation.

The Institute receives funding in the form of a grant from the Department of the Marine and Natural Resources – €19.497m in 2003 and €18.956 m in 2004.

	€'000	
	2004	2005
Research and Development		
Strategic planning and development	1,746	1,666
The Marine Institute initiated a process to prepare a new Marine Research and Innovation Strategy spanning the period 2006-2012. This included a review of the 1998 Strategy, the compilation of a maritime industries database, an assessment of the contribution of the marine sector to Ireland’s economy and other strategic position papers.		
Ocean services division	4,831	5,008
Ocean science services underpins marine research programmes by providing efficient and cost effective services, which facilitate and add value to marine research activities. 2004 was the second year of existence for ocean science services and was a year of continued growth in activity with considerable effort in planning and recruitment as well as delivering on a wide range of services.		
Fisheries science services	4,497	4,824
The fisheries science services team assesses, researches and advises on the sustainable development of our living marine resources. FSS informs both Department of Communications, Marine and Natural Resources (DCMNR) and EU policy objectives, management and development strategies for marine fisheries through the pages of the annual stock book.		
Marine environment and food safety	2,537	2,275
The MEFS team comprises 50 scientists, based in Dublin and Galway, who carry out a wide range of research and monitoring tasks in the areas of marine environment and seafood safety. The MI’s food safety programmes provide a solid basis for the Irish seafood sector to meet EU regulations and to ensure full consumer safety for the Irish and export markets.		
Aquaculture and catchment management	1,185	1,170
The main functions of ACMS are to research, monitor, analyse and advise in the areas of fin fish aquaculture, salmonid rearing, wild salmon & eel stock dynamics and freshwater catchment studies.		

	€'000	
	2004	2005
Irish maritime development office	684	984
The Irish maritime development office has a statutory mandate to promote growth in the Irish shipping sector and to attract to Ireland additional marine related operations, along with key players in international shipping and ancillary services.		
Technical Services		
The corporate services division provides a range of services to all divisions of the Marine Institute. The role of corporate services is to provide a quality support service that promotes, advises, communicates and assists work across the organisation in a friendly and efficient manner. Corporate services is responsible for finance, human resources, communications, administration and legal services and facilities.	9,744	10,455
Training and Education	300	300
Capital Expenditure	456	1,294

Bord Iascaigh Mhara/Irish Sea Fisheries Board

BIM's mission is *"to promote the sustainable development of the Irish seafood industry at sea and ashore and support its diversification in the coastal regions so as to enhance its contribution to employment, income and welfare both regionally and nationally."*

The policies and programme to pursue this mission are determined by the Board of BIM and are set within the framework of the National Development Plan 2000 – 2006, EU policies and available resources. There are three complementary, integrated programmes which form the core of BIM's support to the sea fisheries sector. The Measures underlying these programmes are mainly provided for in the National Development Plan 2000-2006. The financial elements of the programmes are complemented by technical support provided by specialists in fisheries science, technology, naval architecture, fishery economics and related socio-economic matters.

	€'000	
	2004	2005
Research and Development		
Fisheries development division	355	455
The objectives of the fisheries development section are the progressive development of Ireland's fisheries resources including the introduction of new initiatives on resource management and improved environmental awareness, to generate the optimal financial return from Ireland's fisheries resources and to continue BIM's participation with national and international fisheries organisations to the benefit of Ireland's sea fisheries sector.		
The fisheries development section comprises two distinct groups, the quality and environment group and the inshore fisheries development group. The primary focus of the 2004 <i>Quality and Environment</i> work programme was to carry out trials aimed at developing mechanisms by which the industry can compete in the marketplace through increased quality. The wild salmon quality initiative secured EN45011 accreditation for the quality assurance scheme, the first for any wild fishery. These foundations will position Irish fishermen to compete at the highest levels of quality and traceability now demanded by the consumer.		
The primary focus of the inshore fisheries group in 2004 was the monitoring of stocks in support of management and the further development of applied research programs funded through the NDP. Additional development projects were undertaken with the catching and wholesale/distribution sector of industry particularly focused on enhancing value and the return to coastal communities through the application of technologies such as live holding and shipment.		
Planning and development	0	30

	€'000	
	2004	2005
Microbiological analytical laboratory service	51	204
<p>The laboratory works on development projects in co-operation with educational institutions including the country's universities. It liaises with other government agencies, including the Department of the Marine and Natural Resources, other departments, and with semi-state organisations such as the National Food Centre, on a regular basis. Among its core activities, BIM's laboratory carries out training workshops and company visits in response to specific client enquiries. It will also respond to their requests for analytical services and hygiene auditing and quality system installation. The laboratory's analytical service could be summarised as providing microbiological, nutritional and sensory analysis.</p> <p>The seafood development centre (SDC) deals with quality and technological issues relevant to seafood processors. The centre aims to help raise the level of quality expertise and skills within the processing industry and to provide commercially relevant services.</p>		
Fishing fleet development measure	478	700
<p>This measure aims to enhance the operational efficiency, competitiveness and safety of the whitefish fleet and to equip it to face future challenges brought about by an increasingly global industry. The measure will also help to ensure the onboard safety of skippers and crews. In addition, the measure provides financial assistance for fishermen under the age of 35 to help them obtain their first vessel.</p>		
Technical services		
The marine technical service	328	620
<ul style="list-style-type: none"> ▶ Technical appraisal and approval for grant investments for renewing and modernising fishing, angling and aquaculture support vessels ▶ Technical advice on vessel design, construction and modifications, building specifications, tonnage measurement and safety related aspects ▶ Evaluation of marine equipment for use on fishing vessels ▶ Technical assistance to fishermen on new fishing methods and/or adopting proven conservation technology into existing fisheries ▶ Assistance to the fleet to target under-utilised quota and non-quota species on the offshore shelf-edge grounds to relieve pressure on inshore grounds and thereby benefit smaller vessels ▶ The promotion of technical conservation measures to ensure sustainable development through gear modifications and conservation trials on commercial fishing vessels. 		
Education and Training	177	107
Technology Transfer	178	108
Other Science and Technology Activities	1,433	2,100
Capital Expenditure	518	1,015

Central and Regional Fisheries Board

The Central and Regional Fisheries Boards were established in October 1980 under the Fisheries Act, 1980. The Boards act under the aegis of the Minister for the Marine and Natural Resources. Their main functions are the protection, conservation, management and development of Ireland's inland fisheries and sea angling resources, and to this end they operate a general policy for the protection and improvement of inland fisheries, the surveying of sea angling resources and the protection of molluscs. Their activities include surveys, development, management protection and conservation of fisheries; research and experimental work, and management of fish farms and hatcheries.

Seven regional fisheries boards, which were established simultaneously with the central fisheries board, are responsible for fisheries conservation and development in their particular regions. The fisheries boards are financed by a grant-in-aid under the fisheries vote, supplemented in the case of the regional boards by fishery rates, licenses, and anglers' registration fees. For 2005 the grant-in-aid to the Boards is €18.665m for pay, €3.007m for non-pay and €2.069m for prioritised capital programmes. Non-exchequer funding (i.e. current "own resources" generated by the Central and Regional Fisheries Boards) is estimated at €4.353m.

	€'000	
	2004	2005
Research and Development		
Programme monitoring	1,000	1,000
This ongoing activity includes assessing the biological potential of freshwater lakes and rivers for fishery development; many of these databases are used to design riverine rehabilitation programmes. Surveys of estuaries and inshore marine areas to locate habitats of popular marine sport fish and surveys of stocks of such fish; evaluating the progress of current development programmes in terms of fish numbers, etc. checking on conditions of fishing waters i.e. measuring trophic/nutrient status and pollution hazards which might threaten the State's investments in fisheries; water sampling and analysis for pollution control and prosecutions. Scientific staff participate increasingly in various interagency steering/management committees and working groups.		
RTDI	60	18
During 2004 the CFB together with a group of university partners (U.U., U.C.D., U.C.C., N.U.I.G.), completed the 3rd year of a project funded by the EPA RTDI programme. The aim of the research project is to develop a model which will relate water quality (based on the EPA Q Ratings system) to fish stocks. The overall objective is to develop an effective methodology, which will establish ecosystem quality and which will assist with the monitoring requirements of the Water Framework Directive. It is expected that €18,000 will be received in 2005 on completion of the final report.		
Technical services	1,736	1,674
Training and education	95	95

National Council for Forest Research and Development (COFORD)

COFORD is the National Council for Forest Research and Development. COFORD manages the forestry RTDI programme of the Productive Sector Operational Programme. Its activities are funded by the Irish government under the National Development Plan, 2000-2006. COFORD's objectives are:

- ▶ to identify research needs and establish priorities in research and development for the forest industry;
- ▶ to co-ordinate forest research activities and channel research towards identifiable economic, environmental and social needs;
- ▶ to foster specialisation and scientific achievement among research institutes, universities and regional technical colleges.

	€'000	
	2004	2005
Research and Development		
COFORD is a member of the European tropical forest research network (ETFRN). The network promotes exchange of information on research and development in tropical forestry. COFORD is also a member of the timber research and development association (TRADA). International collaboration is further enhanced through membership of the European forest institute and IUFRO, the international union of forest research organisations.	1,395	1,522
Funds transferred to Teagasc, Coillte and the universities to carry out research are accounted for in their respective returns.		
Education and Training	10	15
Technology Transfer	303	350
Close liaison with industry is essential in the furtherance of COFORD's objectives. Such contact is facilitated through membership of the Irish forestry industry chain. The chain brings together the different sectors of the forest industry for which it acts as a unified voice. Total expenditure allocation for COFORD for 2005 is €2.5m.		

Sustainable Energy Ireland

Sustainable Energy Ireland is Ireland's national energy authority. The authority, which was established on May 1st 2002 under the Sustainable Energy Act 2002, has a mission to promote and assist the development of sustainable energy. This encompasses environmentally and economically sustainable production, supply and use of energy, in support of government policy, across all sectors of the economy. Its remit relates mainly to improving energy efficiency, advancing the development and competitive deployment of renewable sources of energy and combined heat and power, and reducing the environmental impact of energy production and use, particularly in respect of greenhouse gas emissions.

The authority is charged with implementing significant aspects of the green paper on sustainable energy and the national climate change strategy as provided for in the National Development Plan.

Sustainable energy Ireland manages programmes aimed at:

- ▶ assisting deployment of superior energy technologies in each sector as required;
- ▶ raising awareness and providing information, advice and publicity on best practice;
- ▶ stimulating research, development and demonstration (RD&D);
- ▶ stimulating preparation of necessary standards and codes;
- ▶ publishing statistics and projections on sustainable energy and achievement of targets.

Research and Development

Sustainable Energy Ireland's research, development and demonstration (RD&D) programme is designed to assist the development of a least-cost path to CO₂ reduction and sustainable energy in Ireland. It has programmes active in the areas of built environment, industry and renewables and has three elements:

- ▶ Public good activity
- ▶ Shared cost activity
- ▶ International collaboration on public good activities.

The R&D results will provide guidance to policy makers and private entities on the practical, regulatory, technological and market opportunities to achieve sustainable energy goals.

Alternative energy

This measure aims to encourage the development and deployment of alternative energy sources by addressing a number of infrastructural constraints. Key activities of the organisation are to:

- ▶ Commission studies and reports of a public good nature that will lead to an informed development and wider deployment of renewable energy in Ireland;
- ▶ Co-fund renewable energy R&D projects which demonstrate emerging technologies, new applications or innovative market solutions.

With regard to the further development of CHP and district heating schemes, these will play an important role in improving Ireland's energy efficiency and abating CO₂ emissions.

€'000

2004	2005
4,527	5,600

	€'000	
	2004	2005
Sustainable Energy Ireland's key actions will be as follows:		
<ul style="list-style-type: none"> ▶ Identify and remove barriers to development ▶ Assist the development of project financing and other market stimulation measures; ▶ Conduct feasibility studies and implement and monitor demonstrations. 		
Technical Services	800	850
Renewable energy information office		
Sustainable Energy Ireland's renewable energy information office in Bandon Co. Cork is a national service, established to accelerate the development of renewable energy in line with government targets. The office provides independent expert advice on financial, social, environmental and technical issues relating to all renewable energy resources including wind, solar, hydro, geothermal and biomass.		
Sustainable Energy Ireland's programme implementation responsibilities are underpinned by a number of key development, management and operational support functions, summarised below:		
<ul style="list-style-type: none"> ▶ Policy advice and support; ▶ Statistics collection and analysis; ▶ Standards and certification; ▶ Research, development & demonstration co-ordination; ▶ External relations; ▶ Marketing communications and information dissemination. 		
The <i>House of Tomorrow Programme</i> offers a range of supports to developers towards the construction or refurbishment of a broad portfolio of residential units which demonstrate superior approaches to the design and implementation of energy services and technologies in homes.		
Finally the <i>Low Income Housing Programme</i> addresses the less well off who are living in fuel poverty and whose comfort, cost of living and general well being can be improved through the implementation of energy efficiency measures in their otherwise inefficient homes.		
Technology Transfer	2,798	3,500
Institutional Infrastructure		
Sustainable Energy Ireland will continue to work with industry, the public sector and the consumer areas to promote sustainable energy awareness and behaviour.		
Further developments in industry will include:		
<ul style="list-style-type: none"> ▶ Develop the Large Industry Energy Network (LIEN) with large enterprises ▶ Expand the support networks to include small and medium industry ▶ Prepare for voluntary agreements with industry ▶ Develop energy management competence. 		
Other Science and Technology Activities	6,083	6,151

Geological Survey of Ireland (GSI)

The Geological Survey of Ireland was established in 1845 and is currently a division of the Department of Communications, Marine and Natural Resources. The GSI is the national geoscience agency. Its role is the provision of information and advice on all aspects of geology, especially as they relate to mineral resources and the environment in Ireland.

This is done by providing basic knowledge of the fundamental geology of the country by field and compilation mapping and the production of maps and reports depicting and describing its geology, geochemistry, geophysics, geotechnical and underground water resources; by offering technical advice to the farming community, prospectors, engineers, industrialists and the general public; by providing geological advice to government and local authorities; by assisting Irish geologists and other experts to participate in EU supported programmes.

The GSI has a staff of 100 (including temporary staff) comprising a mix of professional, cartographic, technical and administrative grades. During 2002 responsibility for the GSI transferred from the Department of Public Enterprise to the Department of Communications, Marine and Natural Resources.

The survey's activities and outputs are organised within five priority programme areas: bedrock mapping, quaternary and geotechnical, groundwater, mineral and marine geology.

	€'000	
	2004	2005
Technical Services		5,000
Bedrock mapping	889	
This programme is concerned with the completion of national coverage of bedrock geology at 1:100,000 scale by the end of 2003 and of a new national geology map at 1:5,000,000 in 2003.		
Quaternary – geotechnical	1,302	
The main work in this programme is the provision of quaternary mapping on a county basis for use in groundwater protection reports and mineral potential reports. A national geotechnical database open-file service is also provided.		
Groundwater	962	
The main element of this programme is the provision of groundwater protection assessments to county councils. The maintenance of national databases on groundwater resources and provision of expert advice on all aspects of groundwater are also key functions.		
Minerals	633	
The main activities of this programme are the provision of mineral potential assessment reports for local authorities and maintenance of a national minerals database and information service.		
Marine geology	1,970	
This programme has undergone a major expansion from 1999 onwards with the initiation of a major survey of the Irish seabed by multi-beam sonar systems over seven years at a total cost of €25.4m.		

Department of Health and Children

The Department of Health was established under the Ministers and Secretaries Act (Amendment), 1946. The mission of the Department of Health and Children is *"in partnership with the providers of health care, and in co-operation with other government departments, statutory and non-statutory bodies, to protect, promote and restore the health and well-being of people by ensuring that health and personal social services are planned, managed and delivered to achieve measurable health and social gain and provide the optimum return on resources invested"*.

The role of the Department of Health and Children is to support the Minister and the democratic process by:

- ▶ Formulating policy underpinned by an evidence-based approach and providing direction on national health priorities ensuring that quality and value for money are enhanced through the implementation of an evidence-based approach underpinned by monitoring and evaluation.
- ▶ Protecting the interests of patients and consumers and supporting practitioners and professionals to practice to the highest standards by providing a prudent and appropriate regulatory framework.
- ▶ Providing effective stewardship over health resources by demanding accountability for achieving outcomes including financial, managerial and clinical accountability, and by providing the frameworks, including enhanced service planning at national level, to improve the overall governance of the health system.
- ▶ Fulfilling our obligations in relation to EU, WHO, Council of Europe and other international bodies and the continued implementation of the co-operation agenda decided by the North-South ministerial council.

On 1 January 2005 the Health Service Executive (HSE) took over full responsibility for running the country's health and personal social services. This means that from 1 January 2005 **all health boards in Ireland were abolished**. Up until January 2005, health and personal social services were delivered by ten health boards, located around the country. At present, health and personal social services in Ireland continue to be delivered by what are known as Health Service Executive Areas (i.e. former health boards).

	€'000	
	2004	2005
Research and Development		
Health research board	2,980	2,980
The Health Research Board was established in 1986, under the Health (Corporate Bodies) Act, 1961. The Board is the statutory body with responsibility for health research in Ireland and its primary function is to promote, assist, commission or conduct medical, health and health services research. In addition, the Board assists and supports other health agencies including health boards and co-operates with other research bodies in promoting or conducting such research in Ireland.		
Health boards	1,000	1,000
National cancer registry board	1,789	1,870
The National Cancer Registry Board was established in June 1991, under the Health (Corporate Bodies) Act, 1961. Its functions are inter alia, to research and analyse information relating to the incidence and prevalence of cancer and related tumours in Ireland and to promote and facilitate the use of data collected in approved research projects and in the planning and management of services.		
Health Promotion Unit	523	961
The Department's Health Promotion Unit has a dual remit:		
<ul style="list-style-type: none"> ▶ a policy-formulation function within the Department of Health and Children concerned with strategic planning, priority setting, research and evaluation and the development of a multi-sectoral approach to health issues at national and local level. ▶ an executive function concerned with the development and implementation of national health promotion campaigns independently or in conjunction with statutory or non statutory agencies. 		
In developing policy for programmes, the unit has built up an effective and important liaison with the health boards and with national and local voluntary agencies. The unit sponsors a chair in health promotion in University College Galway. The function of this academic department is to engage in multi-disciplinary research and teaching programmes in health promotion.		
Other Science and Technology Activities	9,117	10,118
Advisory and information services and general support.		

Health Research Board

The HRB is a statutory body established by the Minister for Health and Children under the Health (Corporate Bodies) Act 1961 by statutory Instrument 279 of 1986, as amended by subsequent ministerial orders.

The statutory functions of the Board are:

- ▶ to promote, assist, commission or conduct medical research, epidemiological research (at national level), health research, health services research;
- ▶ to liaise and co-operate with other research bodies in Ireland or elsewhere in the promotion, commissioning or conduct of relevant research;
- ▶ to undertake such other cognate functions as the Minister may from time to time determine.

The objectives of the HRB in the period 2002-2006 are:

- ▶ to encourage the creation and application of knowledge for health and social gain, the growth of intellectual property and evidence relevant to health and social gain and the emergence of a knowledge based health system, economy and society;
- ▶ to be the lead national organisation in relation to support for and co-ordination of, scientific research for health and social gain, including basic and translational research, health services research, population health and practice based research and to promote the highest ethical standards in research and good research practice;
- ▶ to promote the growth of a value added research and development capability in the health system, in partnership with other relevant health organisations;
- ▶ to impact on health and social policy and services through high quality research and information;
- ▶ to be the main advocate for the development of research for health and social gain;
- ▶ to make the HRB an employer of choice in its field.

Research and Development

Research funding and policy:

The research funding and policy division contributes to enhanced health and social gain by focusing on the 'science for health' function detailed in *Making Knowledge Work for Health*. The work of the division supports the first two objectives of the HRB described in the corporate strategy for 2002-2006:

1. to encourage the creation and application of knowledge for health and social gain, the growth of intellectual property and evidence relevant to health and social gain and the emergence of a knowledge based health system, economy and society
2. to be the lead national organisation in relation to support for and co-ordination of scientific research for health and social gain, including basic and translational research, health services research, population health and practice based research and to promote the highest ethical standards in research and good research practice.

€'000

	2004	2005
	25,465	33,927

Support is provided for projects, programmes and fellowships in health research through a process of open competition and peer review. The division has an evaluation function, focussing on the outputs and outcomes of HRB funded research, and maintains a large database of research funded by the Board. The division also contributes to the strategic development of health research in Ireland by liaising with national and international funding agencies on areas of common interest and representing the Board on relevant working groups and task forces.

Drug misuse research

617 1,011

The drug misuse research division (DMRD) is involved in national and international research, and information gathering and dissemination activities in relation to drugs and their misuse. At a national level the DMRD oversees the maintenance and development of a national epidemiological database on treated drug misuse in Ireland – the national drug treatment reporting system (NDTRS). The DMRD has also been designated in national drug strategy 2001-2008 as the central point to which all research data and information should be channelled. In order to deliver on this role, the DMRD has established a national documentation centre on drug use which policy-makers, researchers, the media, and the general public can use to access all relevant and up-to-date information and research in the field of drug use in Ireland.

At a European level the DMRD is the designated Irish focal point for the European information network on drugs and drug addiction (REITOX) network of the European monitoring centre for drugs and drug addiction (EMCDDA).

Child health epidemiology

161 162

The Child health epidemiology division of the health research board is involved in epidemiological research, mainly in the field of pregnancy and child health. The main focus of the current research programme of the division is on the aetiology and primary prevention of neural tube defects and other congenital malformations.

Technical services

Disability databases

2,058 2,974

The Disability Databases Division in the Health Research Board manages two national service-planning databases for people with disabilities. Established in 1995, the national intellectual disability database (NIDD) provides a comprehensive and accurate information base for decision-making in relation to the planning, funding, and management of services for people with intellectual disability. The national physical and sensory disability database (NPSDD) is currently being implemented nationwide. The role of the disability databases division is to ensure that relevant and accurate information is available to enable the Department of Health and Children, the health boards and the voluntary sector to provide appropriate services designed to meet the changing needs of people with intellectual, physical or sensory disabilities.

Postgraduate Medical and Dental Board

The Postgraduate Medical and Dental Board was established in 1980 under the terms of the Medical Practitioners Act, 1978. It replaced the former non-statutory Council for Postgraduate Medical and Dental Education and Training (established in 1973).

The board has the following functions:

- ▶ To promote the development of postgraduate medical and dental education and training and to co-ordinate such developments;
- ▶ to advise the Minister for Health, after consultation with other bodies, on all matters, including financial matters, relating to the development and co-ordination of postgraduate medical and dental education and training;
- ▶ to provide career guidance for registered medical practitioners and registered dentists.

The Minister for Health, out of monies provided by the Oireachtas, makes annual grants towards the expenses of the Board; the grant for 2004 is estimated as €7.34m. The staff numbers 5 whole-time officers who are supplemented by 63 part-time professional staff. Expenditure data includes general overheads of 5.06% of the figures given for 2003 and 5.58% for 2004.

	€'000	
	2004	2005
Education and Training		
Grants to training bodies	151	179
Co-ordination of pilot education	37	44
Pilot studies	123	146
Career guidance	4	

Food Safety Authority Ireland (FSAI)

	€'000	
	2004	2005
Research and Development	318	490
GM food tests		
FSAI carried out a general sampling and analysis of foods containing soy and maize ingredients that carried labels indicating that no GM ingredients are present. Labels such as "GM free", "contains no GM ingredients" etc. are legitimate on such foods only when no GM ingredients are present. GM testing of food on the Irish market in 2005 will revert to a general examination of maize and soya containing foods to determine what GM ingredients are on sale in Ireland and at what level.		
Research into the intake of key food additives by the Irish population		
In addition to the total diet study described below, FSAI carried out in 2004, a study into levels of nitrates, nitrites and sulphites in key foodstuffs in which these additives are permitted (notably meat and meat products). The results will be used to (a) monitor usage of these additives by Irish industry and industry supplying to the Irish market, (b) determine the intake of the additives by the Irish population via these foodstuffs.		
Total diet study		
Over 100 foodstuffs most commonly consumed by the Irish public have been analysed for a range of contaminants and food additives, including pesticides, heavy metals, mycotoxins, polycyclic aromatic hydrocarbons, acrylamide, nitrite, nitrate and sulphite, and certain elements including sodium and iodine. The purpose of this study is to assess the exposure and intake of the Irish population to these chemicals from food and to compare intakes with the Tolerable Daily Intakes (or Acceptable Daily Intakes in the case of food additives such as sulphites).		
Study of verocytotoxigenic E. coli (VTEC) in raw milk supplies to raw milk cheese manufacturers		
FSAI funded a study in 2004 carried out by Cork County Council veterinary service under Jim Buckley. The researchers identified dairy herds in Cork supplying unpasteurised milk to cheese manufacturers who were making raw milk cheese. The study targeted VTEC in the milk by isolating the bacterium on in-line milk filters used in the milking parlour. Isolates of the pathogen were subjected to molecular biological techniques to examine their virulence and potential pathogenicity.		
In 2005 the previous study on VTEC has been extended to cover all known pathogenic bacteria in raw milk supplied to raw milk cheese manufacturers. This will build on previous work and complete a robust dataset on the hazards associated with raw milk that should prove invaluable for the raw milk cheese manufacturers and the enforcement authorities alike.		

€'000

Education and Training

2004	2005
136	763

Irradiated herbal supplements tests

The FSAI is completing a follow up survey on herbal dietary supplements to determine the levels of irradiated products on the Irish market without appropriate labelling. This will inform the FSAI as to the efficacy of the efforts of the health food industry in addressing this problem with their suppliers.

Surveillance of dioxins and PCBs in foodstuffs

In 2004, FSAI completed a surveillance study of levels of PCDDs/PCDFs, dioxin-like PCBs and certain non-dioxin-like PCBs in Irish beef, pork, lamb and poultry, liver, oils and fats including yoghurt, butter and cheese, and in some samples of fruit and vegetables.

Surveillance of infant food and formula for the presence of pesticide residues

The study of pesticides in baby food on the Irish market initiated in 2003 was completed and reported in 2004. The results of the study show good compliance with the existing legislation on pesticide residues in baby food or legislation that will come into force in March 2005. This study will be repeated in 2005.

Surveillance of fish on the Irish market for the presence of methylmercury and arsenic species

In 2005, FSAI will undertake a study to determine levels of methylmercury in fish on the Irish market since no national data are available on this. The study will also determine levels of organic and inorganic arsenic in the same fish species, given concern about the hazards to health of inorganic arsenic in particular.

Department of Arts, Sports and Tourism

Natural History Museum

The Natural History Museum originated as one of the many activities initiated by the Royal Dublin Society in furtherance of its aims of fostering the useful arts and science in Ireland. The nucleus of the museum was formed by the purchase in 1792 of the Leskean collection of minerals and insects aided by a grant from Parliament. Under the Dublin Science and Art Museum Act, 1877, responsibility for the Museum was undertaken by the State and the National Museum founded with staff of the Natural History Museum transferred to the Natural History Division of the National Museum. In 1924, the Department of Education took responsibility for the National Museum and in 1982 it was transferred to the Department of the Taoiseach. In 1993 its functions were transferred to the new Department of Arts, Culture and the Gaeltacht. In 2002 it was transferred to the Department of Arts, Sport and Tourism. In May 2005 the National Museum of Ireland was established as a non-commercial semi-state body under the terms of the National Cultural Institutions Act, 1997.

The functions of the natural history division of the National Museum include: the provision of public exhibitions, the dissemination of information to the public on zoological, entomological and geological material, and the curation of the collections. There are 10,000 specimens on exhibition and approximately two million specimens in the research collection.

Programme funding for the Natural History Museum is a non-fixed proportion of the budget for the National Museum of Ireland, which is received from the Department of Arts, Sport and Tourism.

	€'000	
	2004	2005
Research and Development		
Curation of collection	199	200
Fieldwork and foreign travel	6	8
Research support fund	22	16
Training and Education		
Training of staff	1	1
Other Science and Technology Activities		
Purchase of specimen	21	20

Department of the Taoiseach

National Economic and Social Council (NESC)

The Council was established by government in November 1973. Its members, include representatives from employer associations, trade unions, agricultural groups and the community and voluntary organisations, plus a number of independent members nominated by government.

The function of the Council is to analyse and report to the Taoiseach on strategic issues relating to the efficient development of the economy and the achievement of social justice and the development of a strategic framework for the conduct of relations and the negotiation of agreements between the Government and the social partners. Council reports are submitted to the government, laid before each house of the Oireachtas and published.

The NESC is financed by grant-in-aid from the Department of the Taoiseach and by income from the sale of publications. It employs a total of 8 staff, consultants are frequently employed to assist in the preparation of specific research reports. The NESC conducts studies on a wide range of relevant topics in the areas of economic and social policy.

	€'000	
	2004	2005
Research and Development	749	790
Areas researched include: review of industrial policy; farm incomes; social planning; housing requirements and population change; health and energy policy; economic and social policy assessment; manpower policy.		
Since the mid-1980s, the council has published a series of strategy reports which have identified inter-related policy measures which are appropriate to our situation: <i>A Strategy for Development 1986-1990 (1986)</i> ; <i>A Strategy for the Nineties: Economic Stability and Structural Change (1990)</i> ; <i>A Strategy for Competitiveness, Growth and Employment (1993)</i> and <i>Strategy into the 21st Century (1996)</i> ; <i>Opportunities, Challenges and Capacities for Choice (1999)</i> ; and <i>An Investment in Quality: Services, Inclusion and Enterprise (2003)</i> .		
These reports provided the framework for negotiation of the national agreements between government and the social partners over the past decade.		
In late 2004, the council published a report on housing entitled <i>Housing in Ireland: Performance and Policy</i> .		

Department of Finance

Economic and Social Research Institute (ESRI)

The Irish Economic and Social Research Institute (ESRI) is a not-for-profit organisation which was founded in 1960 as the Economic Research Institute. In 1966 the Institute assumed responsibility for social research and extended its title to the Economic and Social Research Institute. The ESRI is a company limited by guarantee with no share capital. It is a not for profit organisation and holds charitable status.

ESRI research has been a vital constituent in the national debate on economic and social issues over the past 40 years. The ESRI's mission is to produce high quality research, relevant to Ireland's economic and social development, with the aim of informing policy-making and societal understanding.

Current research is in the areas of demography, education, health, housing, industrial development, labour market, macroeconomics, social capital, social disadvantage, regional studies, resource economics, social insurance & pensions and tax & welfare. Institute research staff undertake commissioned studies, surveys and data analysis on behalf of a wide range of Irish and international organisations.

The Institute is governed by a Council, currently twelve in number, elected from the general body of its membership.

The Institute is financed by a general grant-in-aid from the Department of Finance, fees from commissioned research, sales of publications, membership subscriptions, sponsorship from the corporate sector and through the Economic and Social Research Trust which funds specific research programmes. In 2004 the grant-in-aid amounted to €2,944,000 and covered 30% of expenditure in 2004.

The Institute employs 36 research staff. The Survey Unit and HIPE/NPRS Unit employ 15 and 18 technical, coding and data-entry staff respectively. There are 19 management and administrative staff providing information and support services.

Research and Development

During 2005 the Institute undertook research projects in demography, education, health, housing, industrial development, labour market, macroeconomics, social capital, social disadvantage, sport, regional studies, resource economics, social insurance & pensions and tax & welfare.

Income from commissioned research was €2,768,570 in 2004 and is estimated at €3,112,240 for 2005. Income from membership fees amounted to €127,646 in 2004 and is estimated at €135,000 for 2005.

€'000

2004	2005
5,179	5,582

	€'000	
	2004	2005
Technical Services	4,475	4,910
<p>The survey unit carries out surveys, including fieldwork, and processes data for research staff and outside bodies. Over twenty major surveys (ranging from 1,000 to 12,000 interviews per survey) are undertaken each year by ESRI's panel of interviewers.</p> <p>The institute manages the hospital in-patient enquiry scheme and the national perinatal recording system on behalf of the Department of Health and Children.</p> <p>The ESRI library, which is open to the public is a research library developed to support the research efforts of the institute. The library is particularly strong in the major national and international journals and periodicals covering the main research disciplines in the institute. The institute devotes considerable effort to publishing the results of its research in books, periodicals and journals.</p> <p>Fees from commissioned surveys, data collection and technical services amounted to €3,944,300 in 2004. The estimate for 2005 is €4,287,760. Sales of publications amounted to €51,207 in 2004 and are estimated at €55,000 for 2005.</p>		

Offices

Central Statistics Office

The Central Statistics Office is responsible for the collection, processing and dissemination of official statistics. The statutory basis for this role is provided by the Statistics Act, 1993. This act constituted the Central Statistics Office as a statutory civil service body under the authority of the Taoiseach. The act also strengthens the CSO's role in co-ordinating the statistics produced by other public bodies.

The National Statistics Board has the function of guiding the strategic direction of the CSO and of establishing priorities in responding to the demand for official statistics. The current plan, "Strategy for Statistics 1998-2002", was published in September 1998. The Board publishes an annual progress report reviewing the implementation of its strategic plans.

The CSO's activities are funded by a general vote of the Oireachtas. There are also contributions from the EU for particular surveys. Net current expenditure in 2004 amounted to €34.166m. The 2005 net allocation is €55.247m. The number of staff provided for in the CSO's 2005 vote is 814. This includes permanent household survey field staff who collect statistics in the Quarterly National Household Survey and the EU Survey of Income and Living Conditions.

	€'000	
	2004	2005
Technical Services	35,970	55,910
Central services/administration		
Expenditure on central services, which includes senior management, administration, research and development and information technology amounted to 29% of annual net expenditure in 2004 and is estimated at 26% of the annual net expenditure in 2005. This decrease in the percentage share of central services reflects higher total expenditure in 2005, due to advance preparations for the 2006 Census of Population.		
Business statistics		
Prices, labour market and social statistics		
Agricultural statistics		
National accounts		
Balance of payments		
External trade and environmental statistics		
Demographic statistics		

The Central Bank

The Central Bank of Ireland, which came into being in 1943, was re-structured and re-named as the Central Bank and Financial Services Authority of Ireland (CBFSAI) on 1 May 2003. This body carries out all of the activities formerly carried out by the Central Bank of Ireland and additional regulatory and consumer protection functions for the financial services sector. The CBFSAI has two component entities:

- ▶ the **Central Bank**, which has responsibility for monetary policy functions, financial stability, economic analysis, currency and payment systems, investment of foreign and domestic assets and the provision of central services; and
- ▶ the **Irish Financial Services Regulatory Authority (Financial Regulator)**, which is an autonomous entity within the CBFSAI and has responsibility for financial sector regulation and consumer protection.

The Central Bank became part of the Economic and Monetary Union (EMU) in Europe in 1999 along with ten (now eleven) other national central banks. These twelve national central banks together with the European Central Bank (ECB), form the Eurosystem. The primary objective of the Eurosystem is to maintain price stability in the euro area. This is the most effective means by which Eurosystem monetary policy can support economic growth in the national economies of the member states.

As a member of the Eurosystem, the Central Bank's main responsibilities include:

- ▶ Contributing to the maintenance of price stability (low inflation) and a stable financial system
- ▶ Ensuring safe and reliable payment and settlement systems, to enable firms and individuals to make payments to each other
- ▶ Producing and distributing euro banknotes and coins and ensuring the security and integrity of the euro currency
- ▶ Managing foreign exchange assets, on behalf of the European Central Bank.

Furthermore we are responsible for:

- ▶ Providing advice and guidance on Irish economic policies
- ▶ Serving the public interest

	€'000	
	2004	2005
Research and Development	549	519
The bank continued to monitor, analyse and project short-term developments in the Irish and euro-area economies during 2004. It also conducted research into longer-term structural issues. The bank co-operated with other Eurosystem National Central Banks and the ECB in these areas through its participation in ESCB Committees and Working Groups. This work assisted the governor of the bank and other members of the ECB governing council in formulating policy during 2004.		
The bank also assessed macroeconomic conditions and considered policy issues in a domestic context, with a view to supporting policies aimed at maintaining low inflation and sustaining long-term growth in the Irish economy.		
Main areas of economic research include:		
Economic intelligence and forecasting		
Inflation and competitiveness		
Monetary issues		
Econometric modelling		
Public finances		
Structural issues		
Training and Education	2	7
Statistics – monetary, financial, balance of payments and prudential data.		

Office of Public Works (OPW)

The Office of Public Works provides services to government departments and other agencies in the areas of property management, building construction, engineering construction, building maintenance and conservation and restoration of buildings.

OPW employs specialist staff in all aspects of architecture, engineering, valuation, quantity surveying and related disciplines. In-house resources are supplemented as required by contracting of services from private sector companies.

Over 90% of construction, maintenance and conservation work is contracted from the private sector. Total staff employed at the end of 2004 was 1,955. The Office manages voted expenditure of approx. €490m per annum.

In the course of their work, OPW's professional staff carry out research and development of new building methodologies (including environmentally friendly techniques), hydraulic and hydrological research and development and specialist conservation and restoration techniques.

	€'000	
	2004	2005
Research and Development (Capital Expenditure)		
Grange EU veterinary agency	34	0
Kilkenny veterinary laboratory	127	2,000
Coosan veterinary laboratory – phase 3	820	22
Tipperary agriculture offices	0	40
D/agriculture laboratory	42,684	16,000
State laboratory	17,052	9,153
Longtown farm	537	1,250
Marine institute	21,742	22,700

The State Laboratory

The State Laboratory is an independent office under the aegis of the Department of Finance. It was established in 1924 following the merger of the revenue laboratory and the chemical laboratory of the Department of Agriculture and Food.

Its main function is the provision of an analytical and advisory service to government departments and offices. The bulk of its work is statutory in nature and the main areas of analytical activity are in the revenue, agricultural and environmental arenas. Its analytical results and advice are used for the purposes of: litigation and advice; the implementation and formulation of legislation; and assessing the potential requirements for future national and/or EU legislation. The laboratory is represented by its staff on national, European (EU) and international committees. It participates at both EU and international levels in the collaborative testing of analytical methods.

The bulk of State Laboratory funding comes directly from the exchequer. A less significant source of income is EU travel refunds. The State Laboratory employs a total of 97 permanent staff, of whom 80 (including the State Chemist) are directly involved in science and technology activities; the remainder are in administration and support services. The State Laboratory moved this year to a new purpose built building at Backweston, County Kildare.

	€'000	
	2004	2005
Technical Services	7,157	14,317
Agriculture (inorganic):		
Fertilisers are analysed on behalf of the Department of Agriculture and Food to ascertain compliance with both EU and national legislation.		
Environment/special services:		
The environmental area embraces most government departments and samples are analysed for compliance with the Safety Health and Welfare at Work Act. Hydrocarbon oils are analysed for lead, sulphur and benzene levels. This area is also involved with the Department of Agriculture and Food and analyses samples seized in accordance with the Animal Remedies Act as well as cultural artefacts and building materials.		
Animal Feedstuffs:		
Animal feedingstuffs are analysed for nutrients, growth promoters, and antibiotics, also for minerals, trace elements and heavy metals. Veterinary medical products are assayed for compliance with various legislative prescripts.		
Microbiology/GMO:		
Microbiological techniques are employed to detect selected plant diseases. Seeds for planting and foodstuffs are assayed to detect the presence of genetically modified organisms.		
Technical administration		
This is a newly created area whose purpose is to compile a directory of government laboratory services and to advise the Laboratory on the introduction of novel analytical techniques.		

	€'000	
	2004	2005
<p>Residue/contaminants:</p> <p>The primary activity of this section is in the analysis of feed and food for the presence of residues and contaminants. Current emphasis is on the quantification of aflatoxin and other selected micotoxins. This section in addition, monitors vegetables for nitrate content.</p> <p>Revenue (alcohol and oils):</p> <p>The percentage of alcohol in wines and spirits. Techniques employed include distillation SCABA beer analyser and gas chromatography.</p> <p>Excise duties and rebates of duties are laid down in the various Finance Acts. In order to accurately determine the revenue accruing to the State and to prevent the illegal use of rebated products, it is necessary to analyse and characterise hydrocarbon oils. Techniques employed include UV, gas chromatography and HPLC.</p> <p>Customs/CAP:</p> <p>The Common Customs Tariff (CCT) determines the duty payable on imported goods and chemical analysis enables the Revenue Commissioners to classify goods for this purpose. Samples are diverse in nature ranging from pure chemicals to plastics to processed products like food. The analyst relies heavily on instrumental techniques such as chromatography and spectroscopy. Samples are also analysed in accordance with the prescripts of the Common Agricultural Policy of the EU.</p> <p>Toxicology – human:</p> <p>Analysis is carried out on post mortem biological tissues and fluids of human origin in order to ascertain the cause of sudden or unexplained deaths.</p> <p>Toxicology – veterinary:</p> <p>Biological tissues of veterinary origin are assayed for a variety of reasons. The analyses in question are normally present at residue levels and confirmation techniques add to the analysis time.</p> <p>Quality control and accreditation:</p> <p>In recognition of the importance of ensuring a high standard of quality control throughout the Laboratory, and of ensuring that the Laboratory is accredited by the Irish Laboratory Accreditation Board, a Senior Chemist has been appointed to oversee these activities throughout the Laboratory.</p> <p>Tobacco analysis:</p> <p>The State Laboratory has been requested by the Office of Tobacco Control to analyse samples and advise on analytical and toxicological issues related to tobacco analysis. Cigarettes are smoked on a smoking machine under conditions of temperature and humidity laid down in ISO standards with analysis carried out to ascertain tar, nicotine and carbon monoxide content.</p>		
Education and Training	190	234

Ordnance Survey Ireland (OSI)

Ordnance Survey Ireland (OSI) was set up as a statutory state agency under its own Act on 4th March 2002, under the responsibility of the Minister for Finance. OSI is headed by a Director who is responsible for the overall management of the organisation.

Ordnance Survey Ireland is the national mapping agency. Its main function is to provide the definitive topographic mapping databases of the country. It therefore creates and maintains a number of mapping datasets which underpin many of the administrative, legal, infrastructural, security and business functions of the State. OSI also provides topographic information for many organisations in the private sector. Development at OSI is geared towards the future needs of the information society.

Ordnance Survey Ireland employs 311 of whom 275 are directly involved in technical mapping activities, with the remainder in administration and support activities.

Actual overhead costs are included under science and technology activities.

	€'000	
	2004	2005
Technical Services	26,536	27,682
The programme includes revision of rural and urban databases, and creation from aerial photography of a new rural large-scale database. Data is provided in both digital and paper form. Currently urban data is updated on an annual cycle.		
€20,657,000 was received for the sale of products and services in 2004, while the figure for 2005 is expected to be €18,400,000.		
There are 275 staff involved in this activity.		