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# Forfás is the national policy and advisory board for enterprise, trade, science, technology and innovation.

To the Minister for Enterprise, Trade and Employment Pursuant to the Industrial Development Act, 1993, Forfás herewith presents its report and accounts for the year ended December 31 2003.

#### Do Aire Fiontar, Trádála agus Fostaíochta

De bhun an Achta um Fhorbairt Tionscail, 1993, tá a thurascáil agus a chuntais don bhlian dar chríoch 31 Nollaig, 2003, a dtíolacadh leis seo ag Forfás.

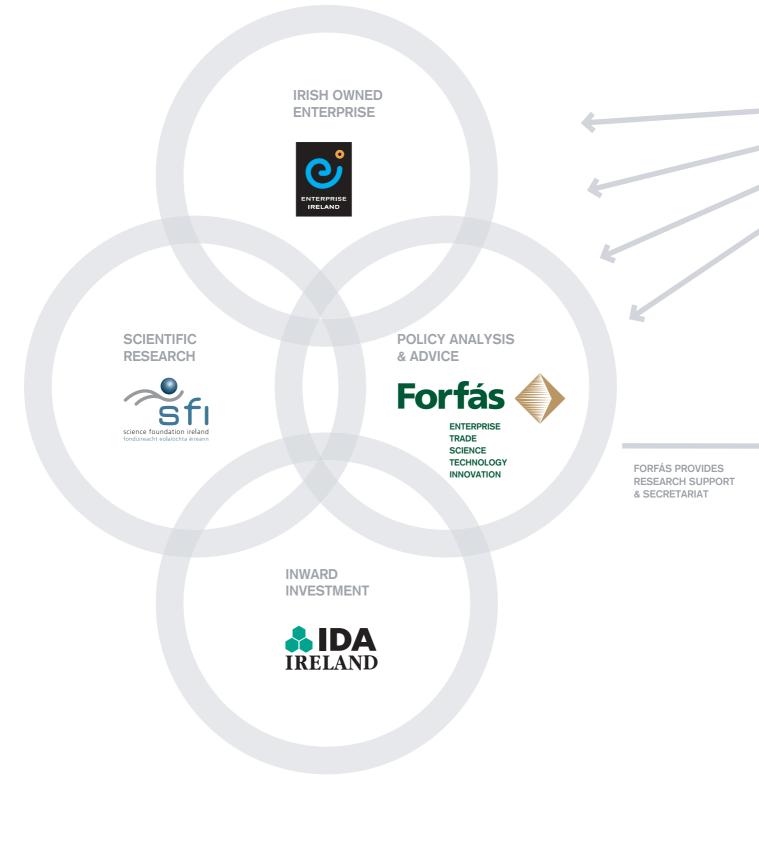
Peter assells

Peter Cassells Chairman

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Martin Cronin Chief Executive

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Minister for

### **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.



Note: Illustrative Chart Only

### **Functions**

Forfás is the national policy and advisory board for enterprise, trade, science, technology and innovation. It is the body in which the State's legal power for industrial promotion and technological development have been vested. It is also the body through which powers are delegated to Enterprise Ireland for the promotion of indigenous industry and to IDA Ireland for the promotion of inward investment. Science Foundation Ireland was established as a third agency of Forfás in July 2003.

The broad functions of Forfás are to:

- advise the Minister on matters relating to the development of industry in the State;
- advise on the development and co-ordination of policy for Enterprise Ireland, IDA Ireland, Science Foundation Ireland and such other bodies (established or under statute) as the Minister may by order designate;
- encourage the development of industry, technology, marketing and human resources in the State;
- encourage the establishment and development in the State of industrial undertakings from outside the State; and
- advise and co-ordinate Enterprise Ireland, IDA Ireland and Science Foundation Ireland in relation to their functions.

### Réamhrá

Is é Forfás an bord náisiúnta um polasaí agus comhairle le haghaidh fiontraíochta, trádála, eolaíochta, teicneolaíochta agus nuála. Is é an comhlacht é a bhfuil comhactaí dlíthiúla an stáit maidir le cur chun cinn tionscail agus forbairt teicneolaíochta dílsithe ann. Is é an comhlacht é freisin trína dtiomnaítear cumhachtaí ar Fhiontraíocht Éireann le tionscail dúchais a chur chun cinn agus ar ghníomhaireacht Forbartha Tionscail na hÉireann (GFT Éireann) le hinfheistíocht isteach sa tír a chur chun tosaigh.

Is iad feighmeanna Fhorfáis:

- comhairle a chur ar an Aire ó thaobh cúrsaí a bhaineann le forbairt tionscail sa Stát;
- comhairle maidir le forbairt agus comhordú polasaithe a chur ar fáil d'Fhiontraíocht Éireann, d'GFT Éireann, Fondúireacht Eolaíochta Éireann agus d'aon fhoras eile dá leithéid (a bunaíodh go reachtúil) a d'fhéadfadh an tAire a ainmniú trí ordú;
- forbairt na tionsclaíochta, na teicneolaíochta, na margaíochta agus acmhainní daonna a spreagadh sa Stát;
- bunú agus forbairt gnóthas tionsclaíoch ón iasacht a spreagadh sa Stát ; agus
- Fiontraíocht Éireann, GFT Éireann agus Fondúireacht Eolaíochta Éireann a chomhairliú agus a chomhordú ó thaobh a gcuid feidhmeanna.

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### Forfás Board Members



























- Peter Cassells 1 Chairman
- Martin Cronin 2 Chief Executive, Forfás
- З Sean Dorgan Chief Executive, IDA Ireland
- Paul Haran 4 Secretary General, Department of Enterprise, Trade and Employment
- Dr William Harris<sup>1</sup> 5 Director General, Science Foundation Ireland
- 6 **Prof. Michael Hillery** Emeritus Professor of Engineering, University of Limerick
- Rody Molloy Director General, FÁS 7

- William Murphy Partner, Tynan Dillon and Company 8
- Feargal O'Rourke Partner, Taxation, 9 Pricewaterhouse Coopers
- Frank Ryan<sup>2</sup> Chief Executive, Enterprise Ireland 10
- **Dr Don Thornhill**<sup>3</sup> 11 Chairman, Higher Education Authority
- Toni Wall 12 Managing Director, Wall 2 Wall Ltd
- Jane Williams 13 Managing Director, The Sia Group Ltd
- Michael O'Leary Secretary to the Board 14

### Forfás Audit Committee

- William Murphy 8 Chairman
- **Peter Cassells** 1
- **Prof. Michael Hillery** 6
- 13 Jane Williams
- 14 Michael O'Leary Secretary to the Committee

Dan Flinter resigned from the Board with effect from 21 October 2003

<sup>1</sup> Dr William Harris was appointed to the Board on 11 September 2003
 <sup>2</sup> Frank Ryan was appointed to the Board on 12 November 2003
 <sup>3</sup> Dr Don Thornhill was appointed to the Board on 18 June 2003

## > Chairman's Statement

Peter Cassells Chairman



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"The dislocation suffered by those who lose out to competition and technological change can be tackled with policies to equip people with new skills and training required for the next generation of enterprise."

### > Chairman's Statement

> 08 > Forfás Annual Report 2003

" As some industries mature and decline, the emergence and growth of others will be required to replace them. This is the nature of modern economies."

The Irish economy is going through a period of transition. Technological change and competition for investment and jobs from lower cost locations are intensifying. This presents great opportunities and challenges for Ireland's economy and society. The downside of these developments can be all too clear. Many industrial activities that prospered until recently in Ireland have succumbed to technological obsolescence or competition from lower cost locations. During the 1990s, less than seven per cent of jobs in companies supported by the enterprise development agencies were lost each year. Since 2000, the rate of job loss has increased to almost 11 per cent, placing strains on individuals, their families and wider communities.

We must also realise how change can enrich our society and raise our living standards. While many jobs have been lost over the past 10 years, even more higher-skilled and better-paid jobs have been created. Our successful integration in the global economy has banished the twin economic scourges of the 1980s – involuntary emigration and unemployment. International competition has encouraged our efforts to increase efficiency across the economy through organisational change and technological innovation, which enabled our growth in living standards. Greater economic dynamism has increased resources for investment in public services. The dislocation suffered by those who lose out can be tackled with policies to equip people with new skills and training required for the next generation of enterprise. In this sense, a competitive and dynamic economy and social progress are two sides of the same coin. Our strategy going forward must be informed by the certainty that overseas competition and technological change will continue to intensify. There is little reason to suspect that the pace of industrial restructuring and job turnover will ease. As some industries mature and decline, the emergence and growth of others will be required to replace them. This is the nature of modern economies.

But this process does not always happen automatically. Ireland's own experience in the 1980s, and the experience of other countries and regions more recently, shows that when key industries go into decline there is no guarantee that they will be replaced by others that offer equal opportunities for employment and wealth creation.

This is why the work of Forfás and the development agencies is more important today than ever before. In today's world, our only long term security is our ability to anticipate and adapt to change. Only when the State, industry and social partners work closely together to shape Ireland's response to competition and technological change across a range of public policies can we be confident that the globalisation process will work in our favour.

<sup>6</sup> It is also appropriate during Ireland's Presidency to comment on the important role that the EU co-operation can play in supporting jobs and prosperity in Ireland and the other Member States."

In 2003, the Forfás management team and staff continued to play a pivotal role in this regard, most notably by advising on and coordinating joint State-industry initiatives in a range of areas including:

- The introduction of a tax credit for industry investment in research and development;
- Measures to reduce inflation and halt the decline in our cost competitiveness;
- The development of long-term strategies for the provision of skills pivotal to our move towards a knowledge economy;
- Measures to support the commercialisation of publicly-funded research; and
- The identification of significant opportunities in the digital content industry for Irish-based companies.

On May 1 2004, under the watch of Ireland's Presidency of the European Council, the European Union (EU) will take on ten new members in the largest and most ambitious expansion in the Union's 50-year history. This enlargement marks a historic unification of Europe and its peoples.

It is also a great economic opportunity for Ireland. We must look past the short-term competitive pressure that enlargement will pose for a small number of sectors of Irish industry, and seek to take advantage of the longer-term opportunities from the creation of the world's largest single market in goods and services. Instead of seeing EU enlargement to the east as increasing Ireland's peripherality at the edge of Europe, we should see ourselves as occupying a strategic position at the centre of a large and growing transatlantic market in goods and services. It is also appropriate during Ireland's Presidency to comment on the important role that EU co-operation can play in supporting jobs and prosperity in Ireland and the other Member States. The EU Lisbon Agenda, agreed in 2000, set out a programme of actions for the European Community and its Member States in the fields of scientific research, infrastructure investment, innovation and entrepreneurship, all designed to make Europe the most competitive knowledge-based economy in the world by 2010. In 2003, Forfás worked intensively with the Department of Enterprise, Trade and Employment to shape and exploit EU initiatives in the areas of infrastructure, skills and scientific research, and trade to support the needs of Irish industry and workers.

### Acknowledgements

During 2003, Forfás received significant support from the Taoiseach, Mr Bertie Ahern, T.D., from the Tánaiste and Minister for Enterprise, Trade and Employment, Ms Mary Harney, T.D., and from other Government Ministers and Departments in carrying out its work. I wish to take this opportunity to acknowledge this substantial support and its expression in the range of Government policies and publications aimed at the further development of the enterprise sector in Ireland.

In 2003, the development agencies, namely, Enterprise Ireland, FÁS, IDA Ireland, Shannon Development, Science Foundation Ireland and Údarás na Gaeltachta, performed positively in the context of difficult and challenging global economic conditions and strongly supported the work of Forfás. I acknowledge and appreciate the support of the third-level education sector, employer bodies and business organisations, trade unions and the media. Their contributions were essential to the results of the development agencies and the pro-enterprise policies put in place across a range of Government Departments.

As Chairman, I would like to express my thanks and appreciation to my fellow Board Members, in particular Mr Dan Flinter who retired from the Board in October. Dan has been at the forefront of the promotion and development of Irish enterprise for over a decade and he has made an extraordinary and lasting contribution. I would also like to take this opportunity to welcome Dr William Harris, Dr Don Thornhill and Mr Frank Ryan, who were appointed to the Board of Forfás during the year.

In July 2003 the Industrial Development (Science Foundation Ireland) Act 2003 was passed, establishing Science Foundation Ireland on a statutory basis. Until then Science Foundation Ireland (SFI) had operated as a sub-committee of Forfás. I would like to thank Mr Brian Sweeney who guided SFI while it was a committee of Forfás. I would also like to take this opportunity to thank the Chairperson of the Board of SFI, Dr Patrick Fottrell, the Board and staff of SFI and wish them every success in their endeavours as they move forward with their agenda to build a globally competitive scientific and engineering research base in support of Ireland's long-term competitiveness.

I also want to thank many other organisations which contributed to the work of Forfás during the year, in particular the members of the following groups:

- The Irish National Accreditation Board (INAB), chaired by Dr Máire C.Walsh
- > Discover Science and Engineering, chaired by Mr Leo Enright
- The Expert Group on Future Skills Needs (EGFSN), chaired by Dr Daniel O'Hare
- The Irish Council for Science, Technology and Innovation (ICSTI), chaired by Dr Edward Walsh
- The National Competitiveness Council (NCC), chaired by Mr William Burgess

Dr O'Hare stepped down as Chairperson of the EGFSN in late 2003 and I would like to take this opportunity to recognise his substantial and valuable contribution to national skills planning and development during his four year Chairmanship. Ms Anne Heraty has been appointed as his successor for a period of three years.

Finally, I want to thank Mr Martin Cronin, the Chief Executive, his management team and staff for their continued dedication and hard work throughout the year. Independent customer feedback from a range of public and private sector stakeholders confirms the high esteem in which Forfás and its staff are held, in terms of their professionalism, responsiveness and intellectual rigour. During 2003 Forfás reiterated its commitment to the modernisation agenda over the term of the Sustaining Progress Agreement and set in place plans to ensure that it continues to successfully meet its clients' needs. I am confident that the Forfás team can make substantial contributions towards the goal of moving Ireland to the next stage of its economic and social development.

Peter assells

Peter Cassells Chairman April 2004

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### > Chief Executive's Report

Martin Cronin Chief Executive



"We must place a sharp focus on enterprise policy in 2004 and respond to radically changed domestic and global economic environments. The past 10 years brought an unprecedented rate of change in both the domestic cost base and the number of competitors for trade and investment."

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>

## > Chief Executive's Report

" Against the background of a fragile global economy, the Irish enterprise sector displayed an impressive degree of resilience and flexibility in 2003."

### **Economic Overview**

Against the background of a fragile global economy, the Irish enterprise sector displayed an impressive degree of resilience and flexibility in 2003. Gross National Product (GNP) grew by an estimated 3 per cent last year, over three times the average EU growth rate and up from near zero growth in 2002. Overall employment levels in the economy rose by over 44,000 to 1.82 million during the year and unemployment fell to 4.6 per cent in the final quarter. This was a particularly strong performance given that most developed countries experienced falls in employment during the same period.

Ireland's economic expansion in 2003 was led by growth in domestic consumption, infrastructure investment and house-building. This meant that the employment growth took place in the public sector, private services and the construction industry, rather than in the more export-oriented industrial sectors supported by the enterprise development agencies.

This is reflected in the employment levels in agency-supported companies, which stood at 297,500 in 2003, a decrease of almost 7,500 on 2002. 2003 was the third consecutive year where there has been a net decrease in employment in agency-supported companies. This resulted in 19,000 fewer jobs in manufacturing and internationally traded services compared to the peak of 316,500 in 2000. However, employment in agency-supported companies is still one third higher than it was a decade ago when it stood at 224,000.

The balance of employment between Dublin and the regions has remained fairly static over the past number of years, with Dublin accounting for just less than one third of total employment among agency-supported companies. The Border, Midlands and West (BMW) region has, however, increased its share of job gains in recent years. In 1999 the BMW region accounted for 18.1 per cent of gross job gains in agency-assisted companies. This share increased to 26 per cent in 2003, which is more in line with the region's share of population (26.5 per cent). As other jobs have been lost there has been a slight decrease (from 25 per cent in 1999 to 23.9 in 2003) in the share of overall employment in agency-supported companies in the BMW region.

The manufacturing sector accounted for all of the net decrease in agency-supported employment in 2003. Within the internationally traded services sector, job gains and losses were in balance, with 8,500 job gains and losses. In contrast, there were 14,000 jobs created in manufacturing, but they were more than outweighed by losses of 21,500. The computer and electronics sector accounted for almost half of the net decrease. The textile sector and the paper and printing sector also witnessed significant net decreases in employment with approximately 1,000 jobs being lost in each.

The decline in overall employment by Ireland's industrial sectors reflects three principal factors:

Weak demand for goods manufactured in Ireland from our major trading partners, particularly during the first half of the year.

A weak global trade recovery in 2002 was followed by a near stagnation of trade flows in the first six months of 2003, reflecting slow growth in OECD countries and in particular Western Europe. EU imports of telecoms and office equipment (including computers) – a key Irish export – declined by 9 per cent in 2002 and further in 2003. Uncertainty about global economic prospects further increased in the early months of 2003 due to the emergence of SARS and the tensions in the Middle East.

>

Increasing competition for investment projects from low-cost Asian and central and eastern European locations.

Foreign Direct Investment (FDI) inflows to central and eastern Europe last year reached an historic high of over \$30 billion. FDI flows to the Asia-Pacific region also increased marginally, from \$95 billion in 2002 to \$99 billion in 2003. Of this, \$57 billion went to China, marking another record for that country. In the 1990s, China's trade growth was three times faster than global trade and between 2000 and 2002 its exports and imports rose by 30 per cent, while world trade stagnated.

The emergence of China and other low cost locations has transformed international competition for global trade and investment flows, and not just for labour-intensive assembly operations. Many of these countries are offering special low rates of corporation tax and other direct incentives. They have an increasingly sophisticated skills supply to attract mobile FDI flows, thereby impacting the competitive advantage that Ireland has held for several decades on these dimensions. There is now a growing track record of medium to high-end manufacturing and services activities across the value chain – from research, design through manufacturing, marketing and sales – in countries that were previously regarded as being too under developed for these activities. > The high cost of doing business in Ireland.

As domestic costs rose during the 1997-2001 period, the cost competitiveness of our manufacturing and internationally trading services industries was protected only by a weak currency. The euro appreciation by 21 per cent against the U.S. dollar and eight per cent against UK sterling over 2003 means, however, that this artificial support for national competitiveness has now been removed.

According to the Central Bank, the price level in Ireland is now 12 per cent above the EU average. Ireland's cost competitiveness, taking into account both exchange rate developments and the higher rate of inflation in Ireland visà-vis our major trading partners, disimproved by 14 per cent between 1999 and 2003. Ireland's high costs arise from an over-shoot of prices and wages and the increasing cost of key business inputs, such as insurance, energy and waste.

"While there remain some risks, most economists are predicting a substantial pickup in world trade and investment in 2004. This is favourable to an export-oriented country like Ireland."

### Ireland's Future Competitive Challenge

There are now clear signs of an international economic recovery, with growth gathering pace in the United States, Asia and, more recently, Europe. While there remain some risks, most economists are predicting a substantial pickup in world trade and investment in 2004. This is favourable to an export-oriented country like Ireland. Exploiting this opportunity requires Irish policy-makers and industry leaders to tackle three challenges.

Firstly, sustaining and growing existing industries in Ireland will require Irish policy-makers and social partners to reverse the decline in cost competitiveness through a sustained commitment to policies that deliver a rate of inflation below that of our main trading partners.

This could be achieved through a combination of wage moderation, a vigorous competition policy, increased public sector efficiency, better land planning and a budgetary policy that eschews raising indirect taxes.

Recovering Ireland's cost competitiveness must be the first, but not the sole, priority of the broader economic strategy. The changed domestic and global economic context suggests that Ireland's decade-old enterprise policy formula, based around the advantages of a plentiful supply of skilled labour, a broadly attractive and moderate cost business environment, access to the single European market, macroeconomic stability and a favourable tax regime, may no longer suffice in sustaining the competitiveness and growth of the internationally trading sectors. In this regard, a second challenge facing Irish policy-makers is the need to continue Ireland's transition to a more dynamic, enterprising and productive economy by putting in place coherent and consistent policies in the areas of education, entrepreneurship, enterprise development, research and innovation. Our priority should be to reinforce the development of higher skill, innovation-driven activities in which our firms can be major players and can build truly distinctive competencies.

Ireland is already a major player in many areas of business with long-term potential including, for example, communications software, medical devices, food ingredients and financial services. Future enterprise policy should be organised around the need to support these and other sectors that can continue to prosper in the Irish business environment. We can achieve this through the provision of well designed and responsive regulatory and taxation systems, through adequate alignment of our investments in scientific research and technologies of importance to enterprise, and through a higher education system that provides the most excellent and relevant education and training.

As a small country, Ireland should aim to be a leader in achieving strong alignment and rapid execution across Government Departments and Agencies in the area of economic development.

Finally, moving Ireland to the next stage of economic development is not solely the job of Government, as many of the actions required are outside the remit of policy-makers.

There is also an agenda for, among others, industry associations, trade unions, universities and the managers of individual Irish firms. Irish managers need to consistently orient company strategies towards greater levels of innovation and the provision of higher value goods and services. This will require development of greater market understanding and selling skills, closer collaboration with universities and research institutes and increased investments in R&D, skills, modern production and logistics technology and IT. This approach is necessary to develop business advantages through innovation that are less vulnerable to competition from low cost countries.

### **Activities of Forfás**

In 2003, Forfás undertook policy research and initiatives to address many of these challenges. We provided research and logistical support to the Enterprise Strategy Group, established by the Tánaiste, Ms Mary Harney, T.D. and chaired by Mr Eoin O'Driscoll. The Group is reviewing Ireland's Enterprise Strategy in the context of the opportunities and challenges likely to arise over the next decade, to formulate a vision and strategy which will enable Ireland to consolidate and build on the successes of the past ten years. Forfás has devoted considerable resources during 2003 to assisting the Group in its work and it is anticipated that its report will be completed by mid 2004.

Other key initiatives in 2003 aimed at addressing these challenges in which Forfás played a significant role include:

- > The introduction of an R&D tax credit for enterprise;
- The development of broadband communications in Ireland, particularly in relation to the reduction of costs and increasing the availability of services in regional locations;
- The development of long-term strategies for the provision of skills pivotal to our move towards a knowledge economy;
- Identification of priorities for research and innovation; for example, our ability to translate research into commercial success and the creation of an environment which proactively supports knowledge and innovation driven activity;
- The establishment of Discover Science & Engineering, the new national integrated awareness programme and the 'SCOPE' television series on RTÉ Network 2.

These and previous policy initiatives are making the Irish business environment more attractive to increasingly complex and skilled activities – activities that in turn support better jobs throughout the country that are less vulnerable to overseas competition. 2003 has provided considerable evidence of this with Ireland being selected as the location of choice for knowledge driven businesses such as Google, Pfizer, ABB and eBay. Irish companies such as Cape Technologies, DigiSoft.tv, Vistamed and many others are also successfully engaging in high skill activities here.

Much has been achieved over the past decade. Incomes and living standards have improved; unemployment has been dramatically reduced; significant progress has been made in the provision of national infrastructure; public debt is now amongst the lowest in the EU and we have created a solid foundation of internationally-trading companies. This is an excellent position from which to tackle the challenges which have begun to emerge. If we act now to promote enhanced competitiveness the Irish economy will be well placed to take advantage of a global economic recovery. Only in this way will Ireland generate the wealth required to address wider economic and social development.

Forfás has been involved in a large number of projects addressing a wide variety of issues during 2003, with the objective of making a substantial contribution to the development of public policy for the promotion of enterprise and technological development in Ireland. I would like to thank all the staff of Forfás for their hard work, dedication and professionalism in working towards this goal.

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Martin Cronin Chief Executive April 2004

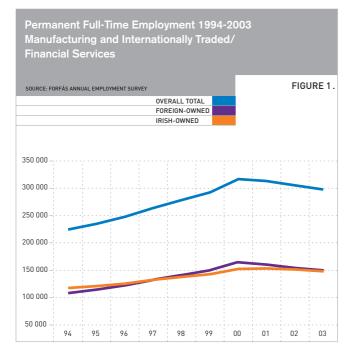


## Employment in Agency-Supported Companies

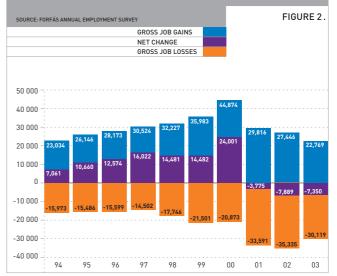
Total full-time employment in companies under the remit of IDA Ireland, Enterprise Ireland, Shannon Development and Údarás na Gaeltachta amounted to 297,500 in 2003, a decrease of almost 7,500 on the previous year. 2003 is the third year running in which there has been a net decrease in employment in agency-supported companies. This has resulted in 19,000 less jobs in manufacturing and internationally-traded services compared to the peak employment level of 316,500 recorded in 2000. It should be noted, however, that employment in these agency-supported companies is still one third higher than it was at the start of the ten year period shown in **Figure 1** when employment stood at 224,000.

The net decrease of 7,500 jobs in 2003 comprises a net job loss of 4,250 in foreign-owned companies and a net job loss of 3,250 in Irish-owned companies. Employment in foreign-owned companies in manufacturing and international services stood at just under 150,000 at the end of 2003. This is 15,000 less than its recent peak level reached in 2000 but is still 42,000 (40 per cent) higher than the number employed at the start of the ten year period. Employment among Irish-owned companies in manufacturing and international services amounted to 148,000 at the end of 2003. This is 5,000 less than its recent peak level reached in 2001 but is still more than 30,000 (26 per cent) higher than the number employed at the start of the ten year period examined in **Figure 1**. **Figure 2** highlights some of the dynamic underlying the net change in employment. Just over 22,500 jobs were created in manufacturing and internationally-traded services in 2003 but these job gains were offset by job losses of 30,000 during the same period. The manufacturing sector accounted for all of the net decrease in employment in 2003. Within internationally-traded services, job gains and losses balanced each other out with approximately 8,500 job gains and the same number of job losses. In contrast, there were approximately 14,000 jobs created in manufacturing but these were more than outweighed by job losses of 21,500. The computer/electronics sector accounted for almost half of this net decrease. The textile sector and the paper and printing sector also witnessed significant net decreases in employment with approximately one thousand jobs being lost in both sectors.

**Figure 2** shows that the net decrease in employment from 2001 onwards is in marked contrast to the situation that pertained in the latter half of the 1990s when gross job gains surpassed job losses by a significant margin. The difference between gains and losses reached its peak in 2000 when gross job gains of 45,000 far exceeded the job losses of 21,000 recorded in that year.



Job Gains, Losses and Net Change in Permanent Full-Time Employment 1994-2003, Manufacturing and Internationally Traded/Financial Services



### **Regional Distribution of Employment** Creation

Figure 3 shows the distribution of jobs created in agency-supported companies between the Southern and Eastern Region (Objective 1 in Transition) and the Border, Midlands and West region<sup>4</sup>. The Border, Midlands and West (BMW) region has tended in the past to perform less satisfactorily than the rest of the country in terms of increasing and sustaining its employment in manufacturing and internationally-traded services.

The chart shows that the BMW region accounts for 26.5 per cent of the population and 25.5 per cent of the labour force. In 1999, the region accounted for 18.1 per cent of gross job gains in agencyassisted companies. In 2003, this share had increased to 26.0 per cent which is more in line with the region's share of population.

Given that other jobs have been lost at the same time, there has been a slight decrease in the share of overall employment in agencysupported companies in the BMW region during the period examined. The BMW region accounted for 25.0 per cent of total employment in 1999 and this dropped to 23.9 per cent in 2003.

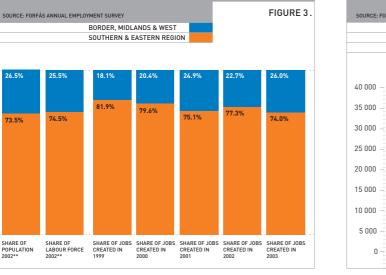
Share of Jobs Created in Agency-Supported Companies

by Region 1999-2003 Relative to Share of Population

### Part-Time, Temporary and Short-Term **Contract Employment**

In addition to the 297,500 persons employed full-time in manufacturing and internationally traded services, 33,500 persons were also employed in part-time, temporary and short-term contract positions in 2003. Employment in this category has grown over the last decade and now accounts for just over 10 per cent of all jobs in agency-supported companies. Taking the two categories of employment together (permanent full-time and temporary/part-time), there are now 331,000 persons employed in agency-supported companies, up from 248,000 in 1994.

Trends in Part-Time, Temporary and Short-Term Contract Traded/Financial Services

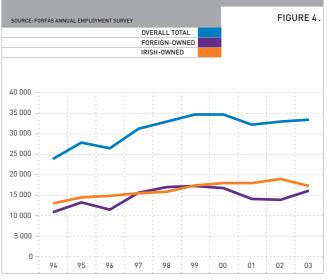


\*\* CSO Statistics

73.5%

and Labour Force

<sup>4</sup>The regional divide used is the classification used by the European Union for regional aid purposes. The counties in the Southern and Eastern region are Dublin, Kildare, Meath, Wicklow, Carlow, Kilkenny, Waterford, Wexford, Cork, Kerry, Clare, Limerick and Tipperary. The Border, Midlands and West region accounts for the other 13 counties



> > > > ENTERPRISE > TRADE > SCIENCE > TECHNOLOGY > INNOVATION >

\*Excludes companies under the remit of Shannon Development

## Expenditure by Agency-Supported Firms in the Irish Economy

Data relating to the direct expenditure of agency-supported companies in 2002 were compiled by Forfás and the agencies concerned (IDA Ireland, Enterprise Ireland, Shannon Development and Údarás na Gaeltachta) during 2003. These data highlight the contribution made by agency-supported companies to the economy by way of their direct expenditure on payroll costs, Irish raw materials and services purchased in Ireland.

In overall terms, agency-supported companies spent  $\in$ 34.2 billion in the Irish economy in 2002. This is made up of  $\in$ 10.8 billion on payroll costs,  $\in$ 14.4 billion spent on raw materials produced in Ireland and  $\in$ 9.0 billion on Irish-supplied services (energy, telecommunications etc.). **Table 1** shows that both the aggregate output and expenditure of agency-supported companies were relatively flat between 2001 and 2002. This mirrors other indicators of general economic activity and contrasts sharply with the situation in the late 1990s when the output and expenditure of these companies were increasing at double-digit rates.

Irish-owned firms accounted for €16.7 billion of the total expenditure of €34.2 billion in 2002 and foreign-owned firms accounted for the other €17.5 billion. Expenditure by Irish-owned firms within the Irish economy equated to 71 per cent of sales in 2002 whereas expenditure by foreign-owned firms equated to 23 per cent of its reported output. This is accounted for by the fact that Irishowned firms are more likely to source their raw materials within Ireland and is also a reflection of the very high reported sales figures of some foreign-owned companies in sectors such as chemicals and electronics.

Direct Expenditure of Agency-Supported Firms in the Irish Economy								
SOURCE: ANNUAL BUSINESS SURVEY OF ECONOMIC IMPACT, CO-ORDINATED BY FORFÁS AND ADMINISTERED BY THE SURVEY UNIT, ESRI								TABLE 1.
		IRISH-OWI	NED FIRMS	FOREIGN-0	WNED FIRMS		ALL FIRMS	
		2001	2002	2001	2002	2001	2002	NOMINAL CHANGE
SALES	€M	23,371	23,588	74,461	75,753	97,832	99,341	1.5%
PAYROLL COSTS	€M	4,495	4,616	6,311	6,224	10,806	10,840	0.3%
IRISH RAW MATERIALS	€M	8,790	8,878	5,708	5,497	14,498	14,375	- 0.9%
IRISH SERVICES	€M	3,173	3,183	5,774	5,772	8,947	8,955	0.1%
DIRECT EXPENDITURE IN THE ECONOMY	€M	16,458	16,677	17,793	17,493	34,251	34,170	-0.2%
DIRECT EXPENDITURE AS % SALES	%	70.4%	70.7%	23.9%	23.1%	35.0%	34.4%	-

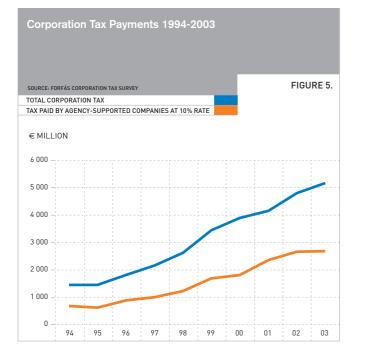
### **Corporation Tax Payments**

In addition to their expenditure in the economy, manufacturing and internationally-traded services companies provide a very significant direct return to the Exchequer by way of corporation tax payments.

The total corporation tax yield from all sources was  $\in$ 5.2 billion in 2003<sup>5</sup>, an increase of 7.5 per cent on the previous year. It is estimated that agency-supported companies paying tax at the 10 per cent rate (including companies in the International Financial Services Centre [IFSC]) accounted for  $\in$ 2.7 billion (52 per cent) of this total.

## Business Expenditure on Research and Development (BERD)

Table 2 and Figure 6 present details on the aggregate level ofBERD in Ireland from 1993 to 2001. From this it can be seen thata total of €916.8 million was spent on R&D activity in Ireland in2001 by the business sector. This represents a growth in nominalfigures of 167 per cent between 1993 and 2001. In constant 2001terms the 1993 base is €392 million. This means that there has beena real growth in BERD of 134 per cent over the period in question.It is clear that very high levels of growth were recorded in the earlyto mid 1990s – biennial rates of the order of 30 per cent.

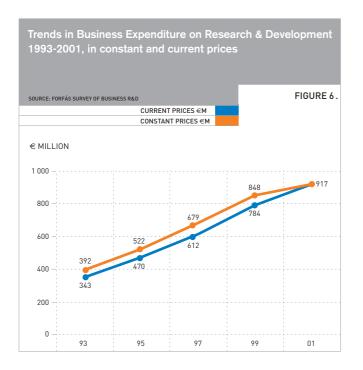


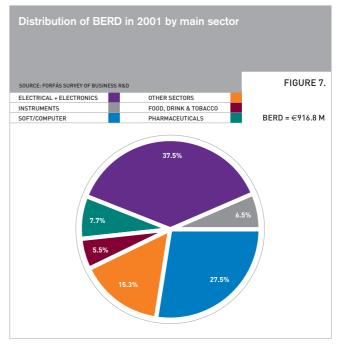
Trends in BERD in Ireland 1993–2001								
SOURCE: FORFÁS SURVEY OF BUSINESS R&D				TA	BLE 2.			
	1993	1995	1997	1999	2001			
€ MILLION (CURRENT)	343	470	612	784	916			
% CHANGE		37.0%	30.2%	28.1%	16.9%			
/ CHANGE		57.070	50.270	20.170	10.770			
€ MILLION (CONSTANT 2001)	392	522	679	848	916			
% CHANGE	-	33.2%	30.1%	24.9%	8.1%			

<sup>5</sup> Source: Exchequer Returns for 2003 - Department of Finance

This growth rate slowed somewhat between 1997 and 1999 (to 25 per cent) and stood at 8 per cent in real terms between 1999 to 2001 (representing a nominal growth of 17 per cent over that period). It is clearly difficult to sustain biennial growth rates comparable to the levels experienced in the early 1990s, coming off such a rapidly expanding base.

**Figure 7** presents information on R&D expenditure broken down by industrial sector. Five main sectors accounted for as much as 85 per cent of BERD in 2001. These were: Electrical & Electronic equipment (37.5 per cent); Software & Computer related activities (27.5 per cent); Pharmaceuticals (7.7 per cent); Instruments (6.5 per cent); Food, Drink & Tobacco (5.5 per cent).





## Research and Development in the Higher Education Sector

**Table 3** shows the total expenditure on R&D in the Higher Education sector (HERD) and the distribution between the main R&D performers for the period 1994 to 2000. The total expenditure on HERD reached €238 million in 2000.

The universities are the dominant performers of R&D and continue to account for just over 80 per cent of HERD in 2000 and 90 per cent if the Programmes in Advanced Technologies (PATs) are included. The Institutes of Technology increased their relative share of HERD to a level of 10 per cent in 2000. This continues a strong growth since 1996. In contrast the PATs continued a slow decline in terms of their relative share of HERD which is now at 9 per cent.

**Figure 8** illustrates the trends in expenditure since 1990. Expenditure on HERD reached  $\in$ 238 million in 2000, up from  $\in$ 204 million in 1998. This represents a real increase of 9 per cent over the period 1998 to 2000, or a real annual growth rate of 4.4 per cent. This compares with a real increase of 82 per cent over the period 1994 to 2000, equivalent to a 9.2 per cent real annual growth rate.

The use of Gross National Product (GNP) for Ireland is preferred as GDP data can be significantly affected by, for example, profit repatriation and dividend payments by multinationals. Higher Education Expenditure on Research and Development, as a percentage of GNP, 1990-2000



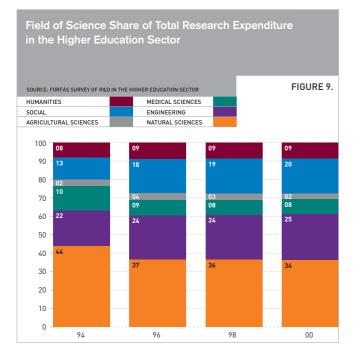
Higher Education Research Expenditure (HERD) analysed by performer 1994–2000, (€M)								
SOURCE: FORFÁS SURVEY OF R&D IN THE HIGHER EDUCATION SECTOR								TABLE 3.
	1994		1994 1996		1998		2000	
	€M	%	€M	%	€M	%	€M	%
UNIVERSITIES	99.4	82%	129.8	85%	169.2	83%	191.6	81%
PROGRAMMES IN ADVANCED TECHNOLOGY	16.0	13%	16.9	11%	21.0	10%	22.4	9%
INSTITUTES OF TECHNOLOGY	5.7	5%	6.4	4%	13.5	7%	24.0	10%
TOTAL (HERD)	121.1	100%	153.1	100%	203.7	100%	238.1	100%
HERD (CONSTANT PRICES)	140.8	-	170.7	-	218.6	-	238.1	-

Expenditure on R&D was recorded in six broad fields of academic activity; these are Natural Sciences, Engineering, Social Sciences, Humanities, Medical Sciences and Agricultural Sciences. All six fields experienced real increases in expenditure over the six-year period to 2000. The most significant increase occurred in Social Sciences which increased its relative share of total R&D expenditure from 13 per cent in 1994 to 20 per cent in 2000. The relative share of Natural Sciences decreased from 44 per cent in 1994 to 36 per cent in 2000. Relative shares of other fields remain broadly unchanged between 1998 and 2000. These findings are depicted in **Figure 9**.

## State Expenditure on Science and Technology, 2002

The Forfás annual publication State Expenditure on Science & Technology shows that Government allocations to scientific and technological activities in 2002 amounted to  $\in$ 1,884.3 million, an increase of  $\in$ 191.4 million, or 11.3 per cent over 2001 levels.

This is accounted for by an increase in public funds (Exchequer & EU), which rose from  $\in$ 1,464 million in 2001 to an allocation of  $\in$ 1,642 million in 2002. The balance of  $\in$ 242 million arises from income earned from the activities of the Departments and agencies.



State Expenditure on Science & Technology – 2002 (Exchequer & EU Community Support Framework [CSF] Programmes)

SOURCE: FORFÁS - STATE EXPENDITURE ON SCIENCE & TECHNOLOGY, 2002		TABLE 4.			
	TOTAL PUBLI	C ALLOCATION			
	€M	% TOTAL			
EDUCATION AND SCIENCE	983.6	59%			
ENTERPRISE, TRADE & EMPLOYMENT	186.5	11%			
AGRICULTURE AND RURAL DEVELOPMENT	134.1	8%			
GOVERNMENT OFFICES	119.2	5%			
PUBLIC ENTERPRISE	76.3	8%			
MARINE AND NATURAL RESOURCES	46.6	3%			
HEALTH AND CHILDREN	35.7	2%			
SOCIAL, COMMUNITY AND FAMILY AFFAIRS	27.6	2%			
ENVIRONMENT AND LOCAL GOVERNMENT	13.4	1%			
ARTS, HERITAGE, GAELTACHT AND THE ISLANDS	10.8	1%			
FINANCE	7.2	-			
TAOISEACH	0.8	-			
TOTAL	1,642.0	100%			

These figures do not include earned income (such as fees for technical services) which amounted to €242 million in 2002. The inclusion of earned income brings the total to €1,884 million.

## Research and Development in the Public Sector

As research and development is a very important component of total Science and Technology (S&T) spend, a separate report on R&D is prepared in addition to the Total S&T Budget Report. Altogether, R&D represents about a quarter of public science & technology expenditure and the 2002 budget allocation amounts to €348.4 million, an increase of €58.4 million over the 2001 outturn.

The levels of R&D performed in the various Government Departments and their agencies do not match the total amounts they fund. An individual Department or its agencies might perform little or no R&D themselves while providing funding to other performers in either the public or private sectors.

The allocation for performance of R&D in 2002 is €118.8 million, up from €104.1 million in 2001. This figure includes €12.2 million which is earned income, so that the public funds invested in R&D performed in the public sector amount to €106.6 million in 2002, compared with €91.4 million in 2001.

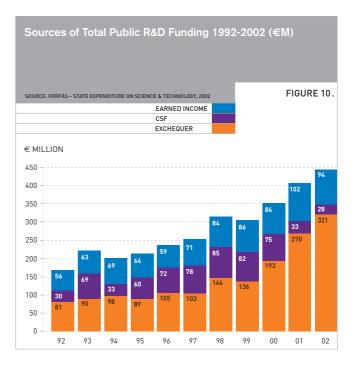
Public Funding of R&D, 2001-2002 (€I	M)	
SOURCE: FORFÁS – STATE EXPENDITURE ON SCIENCE & TECHNOLOGY, 2002		TABLE 5.
	2001 OUT-TURN	2002 ALLOCATION
EXCHEQUER	258.3	320.8
EU CSF	31.7	27.6
TOTAL PUBLIC	290.0	348.4
EARNED INCOME	97.9	94.2
TOTAL	387.9	442.6

In terms of public funding the Departments and their agencies are allocating €348 million to R&D in 2002 up from €290 million in 2001. The allocations for 2002 are up by 20 per cent, or €58 million on 2001 outturn figures. The major contributors to this increased funding are:

- Department of Enterprise, Trade and Employment: €22.6 million
- > Department of Education and Science: €13.9 million
- > Department of Agriculture and Rural Development: €13.3 million

The Department of Enterprise, Trade and Employment increase reflects a build up in expenditures to Forfás to fund Science Foundation Ireland which was up  $\in$ 32.7 million in 2002 over the 2001 outturn ( $\in$ 2.3 million). Additional funding from the Department of Education and Science relates to expenditures under the Programme for Research in Third Level Institutions. The Department of Agriculture & Rural Development includes an increment of  $\in$ 8.5 million in the level of funding for research in the fields of agricultural production and food processing, via Teagasc.

Figure 10 depicts the sources of funds for total public R&D expenditure over the past decade. The most notable aspect is that exchequer funding has significantly increased its percentage of the total funding from 48 per cent in 1992 to 72 per cent in 2002, which is an increase in real terms of €240 million (296 per cent) since 1992. This represents an annual growth rate of 14.8 per cent over the last decade in exchequer funding. The contribution of EU Community Support Framework programmes has decreased in real terms from €75 million in 2000 to €28 million in 2002. There has been a significant downturn in the contribution of EU Community Support Framework programmes since 2000. In real terms this amounts to a decrease of €47 million between 2000 and 2002.





## > Forfás Vision for Enterprise

Enterprise and Technological Development in Ireland for the Benefit of All

- > Building Ireland's Science, Technology and Innovation Capability
- > Developing Policy to Contribute to a Dynamic Enterprise Sector
- > Influencing Conditions to Sustain Ireland's Competitiveness

The work of Forfás and the advisory councils that operate under the auspices of Forfás in 2003 focused on the following areas of importance to Ireland's future economic development:

## Building Ireland's Science, Technology and Innovation Capability

- > European Research Area (ERA) Action Plan
- > European Research Excellence
- Tax Credit for Research and Development (R&D)
- > EU Sixth Framework Programme (FP6)
- > Research Overheads
- > Women in Science
- European Molecular Biology Laboratory
- National Code of Practice for Management of Intellectual Property from 100 per cent Publicly Funded Research
- > ICSTI Statement on State Expenditure Priorities
- Nanotechnology
- > Embedding the PharmaChem Industry in Ireland
- Starting Salaries for Science and Engineering Graduates
- > Innovation Networks in Ireland
- Intellectual Property and Technology Transfer
- > Product, Process and Services Innovation
- > 8th National Innovation Conference
- Science Awareness



### Developing Policy to Contribute to a Dynamic Enterprise Sector

- > Enterprise Strategy Group
- National Spatial Strategy and National Development Plan
- Mid-Term Review of the National Development Plan
- > Delivery of Broadband to Regional Centres
- > Waste Management
- > Energy
- > www.infrastructure.ie
- > Property Rights
- > Business Expansion Scheme/Seed Capital Scheme
- Review of the County and City Enterprise Boards
- > The Enterprise Areas Scheme
- Sectoral Strategies Information Communication Technologies (ICT) and Digital Content
- Skills
  - Biotechnology
  - ICT
  - Engineering
  - Construction
  - Financial Services
  - Logistics
  - Generic Skills

## Influencing Conditions to Sustain Ireland's Competitiveness

- Annual Competitiveness Report and Competitiveness Challenge
- Consumer Pricing Report
- > Statement on Inflation
- > World Trade Organisation Negotiations
- > International Trade: Market Share
- > International Trade and Investment Report 2003
- > National Trade Strategy Statement
- Review of Ireland's Export Controls

### > Building Ireland's Science, Technology and Innovation Capability

Future prosperity depends on making Ireland attractive for knowledgedriven enterprise and on strengthening our engineering, science and research capability. In recent years Ireland has achieved a five fold increase in public investment in research and development and innovation. This shows Ireland's commitment to developing as a knowledge-based economy, but it also presents the significant challenge of ensuring that these investments are productive and efficient and that they deliver real economic and social benefit for Ireland. In this regard, Forfás provided policy advice on the following areas of priority in 2003:

#### European Research Area (ERA) Action Plan

Forfás undertook an extensive and wide-ranging consultation process with stakeholders from industry, academia and public funding bodies to develop a European Research Area Action Plan for Ireland.

The large and growing competitiveness gap between Europe and the USA and Japan was recognised by the EU Heads of State in Lisbon in 2000, who agreed a series of policy measures to establish Europe as "...the most competitive and dynamic knowledge-based economy in the world, capable of sustainable economic growth, with more and better jobs and greater social cohesion." The development of a European Research Area (ERA), which would increase co-ordination of Member State research policies and create an internal market in research, was one of the key measures agreed.

To maintain momentum towards the development of the ERA, the EU Heads of State agreed a target in Barcelona in 2002 for Europe to increase its gross expenditure on R&D from 1.9 per cent to 3 per cent of GDP by 2010, with two-thirds of the increase to come from the business sector. Each Member State is required to develop an action plan to set out its contribution to this target for Europe. Ireland's Gross Expenditure on R&D is currently 1.4 per cent of GNP.



On the occasion of the Symposium on "Europe's Search for Excellence in Basic Research" held during the Irish Presidency of the EU are (I-r) Dr C. de Duve and Dr Tim Hunt (Nobel Laureates), An Tánaiste, Mr M. Cronin, Dr K. Halpin, Dr W.C. Harris, Dr G. t'Hooft (Nobel Laureate) and Dr E.M. Walsh (Symposium Chairman).

In early 2003, the Tánaiste and Minister for Enterprise, Trade and Employment announced the establishment of a high level Interdepartmental Steering Group to assess the implications of the key ERA policy initiatives and to prepare an Irish Action Plan. The Group is chaired by the Department of Enterprise, Trade and Employment. At the request of this Steering Group, Forfás undertook an extensive and wide-ranging consultation process with stakeholders from industry, academia and public funding bodies, examining in particular the issues relating to business and public expenditure on R&D and the business environment for research.

The Group concluded that Ireland is not currently performing to the levels of R&D required for a truly innovative and sustainable knowledge based economy, but that there is a window of opportunity for Ireland to increase its efforts further and to perform to its potential. Ireland has the potential to double its R&D expenditure over the period to 2010, with the major part of the increase coming from the business sector. The Group made recommendations to address a range of policy objectives, including:

The need to increase the quality and quantity of human resources in the sciences and to promote research excellence. The Group estimated that Ireland will require an additional 12,500 researchers over the period to 2010, just over half of which can be produced in Ireland, leaving a shortfall of about 5,000;

Image: A second s

- A supportive environment for research, including intellectual property management, financial markets and fiscal supports;
- Measures to stimulate specific company R&D, including improved industry-academic linkages and the attraction of mobile enterprise R&D;
- Increased policy coherence and institutional partnership for national Science, Technology and Innovation (STI) policy formulation and implementation.

The Group's report is to be published in 2004.

#### **European Research Excellence**

During 2003, Forfás worked closely with the Department of Enterprise, Trade and Employment on how best to promote the quality of basic research in Europe.

Achieving research excellence in Europe is a key priority of the European Research Area initiative. The debate on the quality of basic research in Europe gained momentum during 2003 as a number of European scientific organisations sought to focus the discussion on mechanisms to achieve this priority.

As a contribution to the debate, the Irish Council for Science, Technology and Innovation (ICSTI) in November 2003 published a Statement on the issue and specifically identified a number of questions that the European Commission should address in a forthcoming Communication, including:

- the value added by additional investment in fundamental research at European level;
- the relevance of additional funding for basic research to achieving the European Research Area (ERA) target of research expenditure of three per cent of GDP;
- the respective roles of national governments and the EU in supporting fundamental research;
- > criteria to justify EU support for such research;
- the extent to which fundamental, non-targeted research can be supported under the current EU Treaty;
- the appropriate basis for competition in the area of fundamental research;
- the possible sources of funding for competitive research at EU level.

Forfás' work on this issue culminated in the design of and input to a major policy Symposium on "Europe's Search for Excellence in Basic Research" in early 2004 held in Dublin Castle under the Irish Presidency of the EU. Organised on behalf of the Department of Enterprise, Trade and Employment, the Symposium achieved consensus on the value added of a European initative to award grants to individual research teams, based on competitive peer review, with the sole selection criterion of excellence.

#### Tax Credits for Research and Development (R&D)

Forfás, in conjunction with Enterprise Ireland and IDA Ireland, submitted proposals to the Department of Enterprise, Trade and Employment for a tax credit for R&D as part of the Budget 2004 deliberations. The Minister for Finance announced the introduction of a 20 per cent tax credit for qualifying expenditure on R&D in the Budget 2004.

Through the creation of new knowledge and ideas, research and development (R&D) will contribute towards a more innovative and knowledge-intensive economy. Internationally, fiscal incentives in the form of tax credits or enhanced allowances are widely used to stimulate private sector R&D. Seventeen OECD Member States currently offer such incentives.

Forfás, in conjunction with Enterprise Ireland and IDA Ireland, submitted proposals to the Department of Enterprise, Trade and Employment for a tax credit for consideration as part of the Budget 2004 deliberations. In line with these proposals, the Minister for Finance announced the introduction of a 20 per cent tax credit for qualifying expenditure on R&D in Budget 2004. The tax credit is designed to enhance the attractiveness of Ireland as a location for R&D activity. Particularly in the case of foreign-owned companies, the presence of R&D activities should assist in embedding manufacturing activities in Ireland.

Expenditure on plant and machinery and revenue items will qualify for the tax credit on incremental expenditure over a specified base, while the full cost of buildings used for R&D purposes will qualify. The scheme is subject to clearance by the European Commission from a State Aid perspective.

#### EU Sixth Framework Programme (FP6)

During 2003, Forfás undertook an evaluation and made recommendations to improve the support structures for promoting FP6.

The Sixth Framework Programme (FP6) for Research and Technological Development and Demonstration is the European Union's main instrument for the funding of research in Europe. The total funding available for research is €16.3 billion over the period 2002 to 2006. Initial indications for Ireland in FP6 are that its participation is above FP5.

The Department of Enterprise, Trade and Employment has accorded a high priority to promoting an increased participation by Irish researchers and firms in FP6. Forfás, on behalf of the Office of Science and Technology (OST), provides policy advice and monitors Irish participation in the EU Framework Programmes.

In early 2003, the Department of Enterprise, Trade and Employment requested Forfás to undertake an ex-ante evaluation of the support structures for promoting FP6. This includes 28 national delegates and national contact points (NCPs) drawn from 12 Government Departments, development and funding agencies and the university sector. An FP6 National Information and Support Unit, located within Enterprise Ireland, has two permanent staff. The FP6 Co-ordination Group, which meets quarterly, involves the national delegates and national contact points and is chaired by the Department of Enterprise, Trade and Employment and supported by Forfás.

The recommendations of the evaluation included

- the preparation of a statement of resources and activities by relevant Government Departments, agencies and research bodies outlining their approach to promoting and targeting Irish participation in FP6;
- a more proactive role for the FP6 National Information and Support Unit, to include a partner searching support system and provision of targeted training courses for potential applicants;
- (iii) funding assistance be provided to higher education and industry to prepare proposals. As a first step Enterprise Ireland is to provide funding for co-ordinators of higher education proposals that will have an Irish industry involvement of up to €20,000. Feasibility funding of €15,000 will continue to be available for companies;

- (iv) a more proactive role for the National Contact Points, to include advice on specific proposals, liaison with the EU on proposals and convening clinics with successful FP participants; and
- (v) enhanced resources to promote the full potential of the Human Resources & Mobility Programme for industry to promote the opportunities to indigenous and overseas industry in Ireland.

An implementation group, chaired by the Department of Enterprise, Trade and Employment and supported by Forfás is monitoring progress on the recommendations.

#### **Research Overheads**

A Steering Group of research funding bodies and third level institutions, established by Forfás and the Higher Education Authority, recommended the payment of standard overhead rates in the performance of publicly funded research.

Substantially increased investment by Government in research has meant that there are increasing demands on the overall resources and facilities of third-level and research institutions. For the future sustainability of research programmes, provision needs to be made to ensure that the indirect cost of overheads generated by the expansion of research programmes are appropriately reimbursed in the funding of research.

In order to examine the issues involved and bring forward recommendations, a Steering Group of research funding bodies and third level institutions was established by Forfás and the Higher Education Authority (HEA). The principle that payments should be made for overheads incurred in the carrying out of publicly funded research was accepted by all of the key stakeholders as critical to developing a world class research capacity in Ireland. The Steering Group reviewed existing practice in Ireland and internationally.

The US system was agreed by the Group to be particularly applicable to Ireland. This system entails the estimation of indirect costs associated with research as close as possible to actual costs, leading to agreement of an institutional overhead rate. This rate is audited regularly, and updated as required. The report of the Steering Group recommends that in the first instance a rate of 30 per cent of modified total direct costs (total costs less equipment) of the research project be paid towards overheads/indirect costs for laboratory-based research and that 25 per cent of modified direct costs be paid for desk-based research. This recommendation is now being implemented by a number of the research funding agencies, including Science Foundation Ireland. Institutions need to work towards installing the necessary accounting systems to enable them to determine individual overhead rates.

#### Women in Science

Forfás, on behalf of the Office of Science and Technology at the Department of Enterprise, Trade and Employment, conducted a review of the key issues in relation to the take-up and representation of women in science, engineering and technology (SET) education and careers in Ireland.

A country can undertake increased research and innovation activity only if it has the necessary human resources. Around the world, the demand for researchers and technicians is continually growing, driven by increases in research by industry and increasing research activity in universities and other public sector organisations. This issue is critical for Ireland. Some 12,500 additional researchers will need to be engaged in the country by 2010 if Ireland is to achieve its targets for growth in research and development activity.

At the request of the Office of Science and Technology in the Department of Enterprise, Trade and Employment, Forfás conducted a review in 2003 of the key issues in relation to the take-up and representation of women in science, engineering and technology (SET) education and careers in Ireland. This review was based on an analysis of existing data and initiatives and consultation with representatives from industry, academia and Government Departments and agencies. Ireland compares well relative to other European countries in women in science and technology, although there is potential for further improvement. At Leaving Certificate level, with the exception of chemistry and biology, science, engineering and technology subjects are taken by considerably more males than females. However, at third level, in 2001, approximately 48 per cent of science graduates in Ireland were female compared to a European average of 41 per cent. In 2002, over 50 per cent of science graduates were female. Similarly, the uptake of science, mathematics and computing PhD programmes in 2002 was 50 per cent female, which is among the highest in Europe.



Pictured at the launch of National Science Week is Lisa Bourke of Sky Television.

In the case of engineering, the uptake of both primary and higher engineering degree courses by females is low. Only 18 per cent of engineering graduates in Ireland in 2001 were female, which was slightly below the European average of 21 per cent.

Women currently account for less than a quarter of industrial researchers and most of these are employed in support roles.

The Forfás report set out a number of recommendations for coordinated public and private sector initiatives to encourage the uptake of the sciences by girls at second level, to increase female participation in engineering and to increase the representation of women in research careers, particularly in senior positions and decision-making roles.

#### **European Molecular Biology Laboratory**

During 2003 Forfás worked in partnership with the Department of Enterprise, Trade and Employment and the scientific community in negotiating Ireland's accession to membership of the European Molecular Biology Laboratory (EMBL).

Ireland accounts for less than one per cent of Europe's R&D and therefore cannot provide the world class research facilities in all fields that are needed by the scientific and research communities. Ireland's membership of international organisations that provide the required sophisticated and large scale infrastructures in the sciences is therefore important to developing excellence in the national research system.

The EMBL is a inter-governmental research organisation based in Heidelberg in Germany and has a number of outstation research facilities across Europe. In July 2003, following a study trip by thirty Irish scientists, the Board of the EMBL agreed Ireland's accession to membership with effect from January 2004. This membership will enable Irish researchers across a range of disciplines, in both public and private research, to have access to the equipment and opportunities afforded by this world-class facility, such as instruments for the analysis of protein structure and some of the world's oldest and biggest databases of DNA and protein sequences, as well as access to the services of expert personnel. Membership should stimulate our research community to strengthen their research capacity and increase networking and collaborative activity with scientists in other countries. In the particular case of biotechnology, membership should enable Ireland to leverage its ongoing public and private investment in the development of both the research base and the industry in this country.

### National Code of Practice for Management of Intellectual Property from 100 per cent Publicly Funded Research

Ireland's future prosperity and international competitiveness requires that publicly funded research be available to industry for commercialisation. ICSTI developed and published a National Code of Practice for Management of Intellectual Property from 100 per cent publicly funded research.

The Irish Council for Science Technology and Innovation (ICSTI) has over a number of years strongly advocated the need to increase the commercialisation and exploitation of intellectual property (IP) generated from publicly funded research for economic and social wellbeing. Transparent, certain and consistent procedures for managing IP are key to transferring the knowledge generated in public research organisations (PROs), such as universities and institutes of technology to industry.

In April 2003, ICSTI issued a Statement entitled 'Utilising Intellectual Property for Competitive Advantage' which reviewed the technology practices of several countries. It noted that other countries such as the United States had specific legislation and regulations for the management of intellectual property from publicly funded research. ICSTI recommended that for Ireland in the first instance, a National Code of Practice be agreed among all the stakeholders so as to develop the systems to support the identification and exploitation of Ireland's intellectual property.

During 2003, ICSTI undertook a wide-ranging consultative exercise and developed an agreed National Code of Practice for Management of Intellectual Property from publicly funded research. This Code of Practice was published in early 2004. The objective of the Code is to harmonise IP management and commercialisation systems across PROs. It sets out guidelines on:

- ownership: that IP from publicly funded research will be vested in the PRO;
- commercialisation and sharing of the benefits;
- > IP management strategies in PROs;
- > the role and responsibility of technology transfer offices;
- procedures for the identification of IPR and education of researchers;
- > evaluation, protection and disclosure of IP;
- > managing conflicts of interest; and
- > monitoring and evaluating PRO performance.

The research funding agencies and PROs are encouraged to adopt the Code, on a voluntary basis, to ensure that robust, harmonised IP management systems are in place to deliver on commercialisation.

#### **ICSTI Statement on State Expenditure Priorities**

## In its Statement, State Expenditure Priorities for 2004, ICSTI stressed the need for consistency in funding of research.

ICSTI published a Statement on State Expenditure Priorities for 2004 in July as input to the Estimates and Budget process for 2004, which stressed the critical importance of maintaining Ireland's major commitment under the National Development Plan (NDP) to investment in research and innovation.

The Council outlined that while research initiatives through the Higher Education Authority and Science Foundation Ireland are establishing Ireland as an important location for advanced research, Ireland must avoid a stop-go approach to research funding that would jeopardise these efforts. It also proposed that Ireland should sustain the strong signal to industry and researchers at home and abroad that it is serious about developing as a knowledge and innovation based economy. Maintaining support for research, especially during difficult economic times, is vital to retaining and creating jobs in a knowledge-driven economy. The Council recommended:

- the introduction of R&D tax credits to ensure Ireland is not at a competitive disadvantage as a location for foreign direct investment;
- exemption of stamp duty for transfers of intellectual property such as copyright, patents and trademarks;
- reinstatement of the NDP funding commitments for the developing research infrastructure of strategic importance to Ireland under the HEA's Programme for Research in Third Level Institutions (PRTLI) in 2004;
- continuation of the enhancement of Ireland's investment in research excellence through Science Foundation Ireland;
- increased support for applied research in industry and for commercialising research;
- > an allocation of €14.6 million to initiate implementation of the Report and Recommendations of the Task Force on the Physical Sciences.

The Council noted that the good progress and momentum achieved under the National Development Plan over recent years in establishing an international reputation for Ireland as a centre for world class research excellence be maintained and further developed. The Council advocated the need for certainty and stability of public funding for research by Government Departments if Ireland is to build on the progress achieved.

A number of the key measures advocated by ICSTI, and others, were included in the Budget 2004 announced by the Minister for Finance in December 2003. These included an R&D tax credit for enterprise, stamp duty exemption for transfers of intellectual property, re-instatement of investment in PRTLI and sustained increases in the budgets for SFI and for applied research through Enterprise Ireland.

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#### Nanotechnology

ICSTI established a Nanotechnology Task Force to assess existing national nanotechnology capability and to identify opportunities for Ireland.

Nanotechnology is a collective term for a set of tools and techniques that permit the atoms and molecules that comprise all matter to be imaged and manipulated. Countries across the globe are attempting to understand how best to react to the emergence of nanotechnology as a key enabling technology. Ireland, as a small open knowledgebased economy, also needs to understand how best to react to this development.

Recognising this need, ICSTI established a Nanotechnology Task Force to assess the existing national nanotechnology capability, to assess the nanotechnology opportunity for the Irish economy, to develop a sustainable vision and strategy for nanotechnology in Ireland and to make recommendations that will enable the key stakeholders to work together to exploit the nanotechnology opportunity.

ICSTI will publish its report in 2004 outlining a national strategy and recommendations based on an analysis of the major global trends and the needs of Ireland as a small open knowledgeeconomy. The strategy is to facilitate the co-operation of the key stakeholders to achieve growth in numbers of nanotechnology start-up companies and increase the number of established indigenous and multinational companies in Ireland that are using nanotechnology to improve performance or reduce the cost of existing products and processes.

#### Embedding the PharmaChem Industry in Ireland

ICSTI in its Statement on the PharmaChem industry, focuses on the opportunities for this industry to strengthen its base here by expanding its efforts into process development and optimisation, which is the applied research stage between drug discovery and production.

ICSTI established a Task Force to focus on issues to further embed the PharmaChem industry in Ireland. This is part of a continuing process to follow up on the Technology Foresight 1999 recommendations. It was led by the industry members of the Council. Skills, taxation, patents and regulation were identified as key areas for consideration. The Statement published in February 2003 identifies steps that can be taken to further embed the PharmaChem Industry in Ireland. The key recommendations are that the Government, its agencies and State institutions should create the fiscal business and research conditions to support process development and the Government, together with its Departments and agencies, should optimise the operating environment for the industry.

Since publication of the Statement, the Council has been working to progress the recommendations in the Statement through interactions with stakeholders.

# Starting Salaries for Science and Engineering Graduates

In its Statement "A Comparison of Starting Salaries for Science and Engineering Graduates", ICSTI found that average starting salaries for science and engineering graduates are competitive with those graduating in other disciplines. This finding was in contrast to anecdotal evidence.

The Statement, published in August 2003 and conducted in the context of the findings of the recent Task Force on the Physical Sciences, examines salary as a possible inhibitor to the selection of science subjects at school and in science and engineering courses at third level.

The Statement also reviewed postgraduate stipends and how they compare with starting salaries in industry. It was found that the stipend does compare favourably to starting salaries in industry. However, the deduction of postgraduate registration fees from the stipend means that when disposable incomes of postgraduate students and recent graduates employed are compared, the postgraduate student has a disposable income of seven per cent to 33 per cent less than the industry-employed recent graduate.

The Statement also found that up to 50 per cent of science graduates with a primary degree are leaving science to pursue employment in the business and finance sectors and in engineering. This migration trend was very much lower for engineering graduates.

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ICSTI makes the following recommendations:

- That the findings on the competitiveness of the postgraduate stipends and average starting salary for science and engineering graduates be proactively promoted by all stakeholders, in line with the nation's endeavour to increase take-up and retention in the science and engineering subjects;
- Research funding agencies in conjunction with the third level research institutions should ensure that postgraduate stipends and post doctorate salaries are competitive with the relevant net starting salaries offered by industry in Ireland and those offered by research institutions in competitor countries. Consideration should also be given to the payment of postgraduate fees and support subventions directly to the third level institutions;
- Acknowledging market forces, industry recruitment policy should reflect the level of academic qualification attained in starting salaries for science and engineering graduates and to ensure that any gender-based differential is negated;
- The Higher Education Authority should take action to develop a database of information on Irish graduate destination and that they should, in conjunction with other relevant agencies, conduct a feasibility study on the collection of such data in order to monitor and promote the uptake and retention of science and engineering skills.

### Innovation

Innovation involves the creation of new products and services valued by customers, as well as finding ways to lower the cost and improve the quality of existing products and services. While innovation ultimately occurs at the firm level, it depends on effective linkages between firms, suppliers and customers as well as universities, research institutes, Government and its agencies.

The importance of firm-level innovation and a dynamic innovation policy at national level is increasingly recognised as being key to a competitive economy. During 2003 Forfás commissioned a number of research studies focusing on key aspects of a National Innovation System (NIS). Foundation projects in the area of innovation carried out during 2003 include:

- > Innovation Networks in Ireland
- > Patents, Intellectual Property and Technology Transfer
- > Product, Process and Services Innovation

Forfás also hosted the  $8^{\mbox{\tiny th}}$  National Innovation Conference.



Pictured at the 8th National Innovation Conference are (I-r) Yvonne Temple, Catherine Courage, Seamus Bannon and Michelle Kearney, Forfás.

#### **Innovation Networks in Ireland**

A Forfás study to be published in early 2004, assesses innovation networks by reviewing international best practice, with particular focus on industry-industry, industry-academia and academia-academia networks.

There is strong evidence internationally that a firm's competitive advantages, particularly in innovation-driven industries, often lies outside the firm itself and are rooted either in geographic location and/or local industry dynamics i.e. in networks and clusters.

Networks and clusters have become an important focus of policy interest not only because they allow small companies to gain the advantage of scale but, increasingly and equally importantly because of their role as a conduit of knowledge within a NIS. It is now recognised that innovation occurs most frequently in collaboration.

The study conducted by Forfás found that there is a definite role for Government in getting industry-industry, industry-academia and academia-academia networks up and running. Essentially, Government can play a facilitating role in the formation of networks, leaving decisions on network objectives, composition, structure and activities to the member firms. An important element in this facilitating role is the provision of funding that encourages organisations to collaborate. The study found that support for the development of academicacademic and industry-academic networks is particularly important in promoting the development and transfer of new knowledge.

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#### Intellectual Property and Technology Transfer

A Forfás study on the commercialisation of research, conducted in 2003, recommends specific steps to increase the level of patent registration.

To benefit from the increased investment in research and innovation under the NDP 2000-2006, it is essential that appropriate infrastructure and support mechanisms are in place to enable the protection of research findings and their commercial exploitation.

Commercialisation of research is one of the key mechanisms by which any economy derives economic benefit from its investment in the science base. The commercialisation process includes effective utilisation of the patent systems, appropriate management of Intellectual Property (IP) and effective Technology Transfer (TT). These complex elements require significant levels of investment and interaction between a wide range of stakeholders, such as Government, the enterprise development agencies and other State agencies, research performers and enterprise and business representative organisations to ensure that the State realises the return from its investment.

The study found that when benchmarked globally and against competitor EU Member States, Ireland has a low level of patent registration both nationally, under the European Patent Office and in the USA. Steps need to be taken to increase the level of patent registrations to ensure that the full patent process is adequately pursued, supported and monitored.

Adequate Technology Transfer expertise and awareness is very limited within the third level sector, the State research system and enterprises. Programmes to enhance awareness and develop expertise are urgently required. Training should be aimed at the third level sector, agencies and enterprises, to provide researchers and entrepreneurs with the capability and capacity to identify and realise the potential of commercialising research discovery.

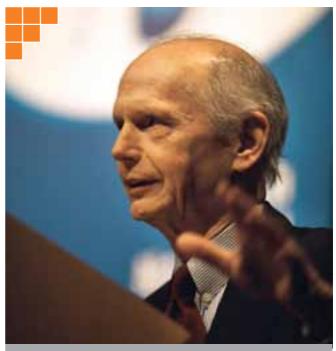
The establishment of a National Code of Practice (NCP) for the Management of Intellectual Property arising from 100 per cent Publicly Funded Research has been agreed by ICSTI with the relevant stakeholders and was published in early 2004. It is important now that the national systems for the commercialisation of IP generated from collaborative (i.e. public/private) research funding be developed to ensure consistency and certainty for enterprise.

#### **Product, Process and Services Innovation**

# In 2003 a Forfás study was undertaken to research and assess product process and services innovation in Ireland.

Innovation involves the development of new ideas and their economic application as new products, processes or services. It provides opportunities for productivity growth through the development of more valuable products or services or the development of new processes that increase efficiency. Forfás commissioned a study to research and assess product process and services innovation in Ireland.

The study concluded that while the delivery of innovation policy in Ireland is well developed, more clarity and transparency in terms of innovation policy governance is required. The importance of innovation delivery through business networks and clusters was also emphasised and the role of Government in fostering this was addressed. It emerged from the study that innovation in the services sector has a distinct character which does not lend itself to traditional notions of technological innovation. It outlined that if Ireland is to maximise its internationally traded services potential, a greater focus, understanding and delivery of services innovation is required.



Mr Richard Riley, former US Secretary of Education, keynote speaker at the 8th National Innovation Conference.

A comprehensive series of supports covering the key stages of the innovation process exist, however a greater awareness of innovation needs to be created in enterprises. The study noted that Ireland has invested strongly in the human resources and skills that are required for good innovation performance, namely science and engineering graduates and recommended that Ireland continues to do this. However, the investment could be further expanded to include skills that enhance the flexibility and creative talents of a wider range of the workforce. The study also examined the crucial area of innovation financing and the need to stimulate high quality demand for innovation financing.

A strategy for university collaboration does not exist in Ireland. The study identified this as an opportunity for Ireland to build a support system which would allow universities and institutes of technology to build up the expertise and resources of their industry liaison officers and technology transfer functions. It also noted the importance of patents in fostering and developing innovation.

#### 8th National Innovation Conference

# Forfás hosted the 8th National Innovation Conference at the Helix in Dublin on 20th November 2003

Since 1995, Forfás has hosted an Annual Innovation Conference, which provides a unique networking forum for representatives of enterprise, education and Government on policy issues important for industry development and future national competitiveness. Previous conferences have contributed significantly to the development of national strategies to encourage innovation. The 8th National Innovation Conference focused on the critical need for collaboration and partnership between the key stakeholders (Government, education and enterprise) in the National Innovation System. The conference was opened by the Tánaiste Ms Mary Harney T.D., and Minister for Enterprise, Trade and Employment. The keynote address was delivered by Mr Richard Riley, former US Secretary of Education, who highlighted the important role that education plays in developing and maintaining a robust National Innovation System.



Pictured at the launch of Discover Science and Engineering, the new national integrated awareness programme are Mr Leo Enright, Chairman, Discover Science and Engineering; Mr Martin Cronin, Chief Executive, Forfás and the Taoiseach, Mr Bertie Ahern, T.D.

#### **Science Awareness**

On behalf of the Office of Science & Technology at the Department of Enterprise, Trade and Employment, Forfás launched Discover Science and Engineering, the new national integrated awareness programme.

Responding to one of the key recommendations in the Report of the Task Force on the Physical Sciences, the Taoiseach, Mr Bertie Ahern, T.D., officially launched the Discover Science and Engineering Programme on 30th October 2003.

#### **Objectives of the Programme:**

The principal objectives of the programme are to:

- Raise the general level of awareness of the physical sciences;
- > Promote a greater understanding of science across society;
- Raise the level of student uptake of the physical sciences at second and third level; and
- Promote a positive attitude towards careers in science, engineering and technology.

The programme is designed to bring together under the "Discover Science & Engineering" umbrella, a number of existing awareness campaigns specifically, the Science, Technology, Innovation Awareness Programme and the National Skills Awareness Campaign managed by Forfás, the STEPS programme managed by the Institution of Engineers of Ireland and the Discover Science programme managed by FÁS. The new programme will be developed and given strategic direction by a high level Steering Committee chaired by Mr Leo Enright.

Since October, a number of high profile initiatives have been undertaken by the Programme.

- A very successful 13 part science and engineering TV series - SCOPE - was broadcast on RTÉ Network 2. The programme had a fast moving and interesting approach to a wide variety of science and engineering concepts and principles and also featured many young professionals describing their interesting jobs – all science or engineering graduates. The programme used teenage interests (music, sport, fashion) to access the science and engineering behind everyday things. The Department of Enterprise, Trade and Employment, Enterprise Ireland, FÁS, Forfás, IDA Ireland, Inter*Trade* Ireland, RTÉ and Science Foundation Ireland together provided the support necessary to make SCOPE a success.
- National Science Week took place at the beginning of November involving over 250 activities throughout the country. Lisa Bourke, the 'SKY Weathergirl' launched the week with a number of well attended events which attracted much media and public interest.
- In January 2004 the All Island Innovation Awards, sponsored by The Irish Times and BT, took place in Belfast. Jointly run by Forfás and the Discover Science and Engineering Programme, Inter*Trade* Ireland and Invest Northern Ireland, there were four winners in four categories with a further overall winner. The Judging Panel was chaired by Mary Cryan, Deputy Chairperson of the Irish Council for Science, Technology and Innovation, and a Chair of Enterprise Ireland's Mentor Network.
- A Speaker's Directory was published in January 2004 containing the names and contact details for people from a range of industries, spread throughout the country, who are prepared to speak in schools about their job, their science or engineering career path and the range of jobs within their industry.

Adding to the impetus of Discover Science and Engineering, the Programme for Government includes a commitment to support the development of an interactive science centre aimed at enhancing knowledge and interest in science. The development of Exploration Station, an interactive Learning Centre with a predominantly science and technology focus, was announced by the Tánaiste in December 2003. Expected to open its doors in 2006 the centre will be custom designed to stimulate interest and excitement in the world of science, engineering and technology.

# Developing Policy to Contribute to a Dynamic Enterprise Sector

Forfás works with the industrial development agencies and others, on an ongoing basis, to facilitate an integrated approach to the development needs of a dynamic enterprise sector. During 2003 key activity included:

#### **Enterprise Strategy Group**

# During 2003 Forfás devoted considerable resources to assisting the Enterprise Strategy Group in its work.

The Enterprise Strategy Group, established by the Tánaiste, Ms Mary Harney, T.D. and Minister for Enterprise, Trade and Employment and chaired by Mr Eoin O'Driscoll, is reviewing Ireland's enterprise strategy in the context of the opportunities and challenges likely to arise over the next decade, to formulate a vision and strategy which will enable Ireland to consolidate and build on successes of the past ten years. Both the domestic and global economies are evolving rapidly and Irish enterprise policy must evolve in line with these changes.

During 2003 Forfás devoted considerable resources to assisting the Group. Tasks have included:

- Collation, review and synopsis of over 100 submissions received in response to an invitation for public comment on the work of the Enterprise Strategy Group;
- Administration of and participation in almost 40 face-to-face consultation meetings arising from the submissions process;
- Secretariat support to the principal Group of 16 members and to a further 14 sub-groups established to provide expert analysis on a range of priority issues, comprising over 100 members in all;
- Programme management of a range of parallel activities, delivering briefing papers, analysis and original research to the Enterprise Strategy Group; and
- Stakeholder management, acting as the principal point of contact across the public and private sectors throughout the process.

It is anticipated that the Enterprise Strategy Group report will be completed by the middle of 2004.



Pictured at the launch of the Enterprise Strategy Group in July 2003 are Ms Mary Harney, T.D., Minister for Enterprise, Trade & Employment and Mr Eoin O'Driscoll, Chairman, Enterprise Strategy Group.

# National Spatial Strategy and National Development Plan

Forfás plays an active role in advising the Government on the infrastructure requirements of the enterprise sector through the implementation of the National Spatial Strategy (NSS) and the National Development Plan (NDP)

Implementation of these plans will create urban centres of critical mass throughout the regions which can match the attractiveness of Dublin, Cork and other cities as locations for investment and employment. Significant progress has been made to date and benefits are beginning to emerge through increased broadband connectivity, reductions in journey times on a number of main inter-urban routes, improved rail safety standards, or development of the Quality Bus Corridor (QBC) system.

### Mid-Term Review of the National Development Plan

Forfás, Enterprise Ireland, IDA Ireland, the NCC, Shannon Development and Údaras na Gaeltachta made a submission to the Mid-Term Review of the NDP, which focused on economic and technological infrastructure.

This joint submission had two objectives. Firstly, drawing from the sectoral and regional development plans of the enterprise development agencies, the submission prioritises categories of economic and technological infrastructure which are deemed vital to the medium and long term economic development of Irish industry (e.g. broadband telecommunications, motorways/dual carriageways and research centres). Secondly, the submission identifies some of the institutional issues which currently impede the rollout of infrastructure, whether through planning delays, institutional inefficiencies or financing difficulties and puts forward a number of proposals to address these bottlenecks. Forfás also worked with various Government Departments on specific infrastructure issues. Key pieces of work in 2003, included:

### **Delivery of Broadband to Regional Centres**

During 2003 Forfás worked with the Department of Communications, the Marine and Natural Resources on the roll out of broadband Metropolitan Area Networks (MANs) to regional locations. It also published a Broadband Telecommunications Benchmarking Study.

Construction of the MANs is on schedule and they are expected to be operational in the near future. In addition the Department has announced a new Broadband Action Plan, to which Forfás contributed, which will connect a further 88 towns of 1,500+ population to broadband with broadband exchanges and strategic fibre.

Forfás published a wide ranging Broadband Telecommunications Benchmarking Study in January 2004. This study benchmarks Ireland's performance in this key area against 21 other advanced economies. Although significant progress has been made and continues to be made in the provision of broadband infrastructure, a key issue remains the cost of broadband services for businesses. It will be necessary to continue to promote both the development of competition in the broadband market, and awareness and demand for broadband content and applications.

#### Waste Management

### Forfás published an update to the work of the 2001 Waste Management Task Force, which noted that significant progress had been made in the area of waste management.

There has been growing concern over the absence of an integrated approach to waste management in Ireland and its negative impact on the competitiveness of Irish industry. In February 2001, Forfás established a Waste Management Task Force with a view to advancing the development of a sustainable integrated approach to waste management. In 2003, Forfás published an update of the work completed in 2001. The update report notes that significant progress has been made. However, much of the progress achieved to date has centred on the implementation of measures to improve the minimisation and recycling of waste, rather than on the treatment of waste generated. As landfill capacity continues to diminish, further actions are required to develop the capabilities of the waste management sector to meet the needs of Ireland's economy.

### Energy

Forfás worked closely with the Department of Enterprise, Trade and Employment, the Department of Communications, Marine and Natural Resources and the development agencies on energy issues from an industrial development perspective during 2003.

Reliable, secure and competitively priced energy supply is a vital ingredient in the competitiveness of Irish industry and the long term economic development of the country. Key industries such as information and communications technology (ICT) and biotechnology require high capacity, high quality power at competitive prices in key regional locations.

#### Supply and Transmission of Energy

Under-investment and a rapid increase in demand for energy have led to capacity constraints and concerns over the ability of the energy market to cater for further economic expansion. These capacity constraints are evidenced by the falling margin of electricity generation capacity over projected demand. Forfás has advocated a range of policies to promote investment in energy generation, and for the attraction of new entrants to develop competition in this sector.

#### **Energy Prices**

The enterprise sector has expressed strong concerns regarding the increasing price of energy in Ireland. Since energy is an integral part of all industry, whether as a direct or indirect input into the production, distribution or supply of goods and services, the cost of energy plays a significant part in an industry's overall costs. The promotion of a competitive energy market in Ireland is critical so that energy costs do not place Ireland at a competitive disadvantage.

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### www.infrastructure.ie

During 2003, Forfás redeveloped its website www.infrastructure.ie which provides up to date information and maps of Ireland's physical, social and enterprise infrastructures

The site is visited by a wide-ranging audience, including State bodies, the development agencies, utilities companies, third level educational institutions and engineers. During 2003 traffic visiting this site increased by approximately 50 per cent.

#### **Property Rights**

Forfás, in conjunction with Enterprise Ireland and IDA Ireland, prepared a response to the All-Party Oireachtas Committee on the Constitution exploring the area of property rights.

The submission focused on the enterprise critical issues of compulsory purchase, the price of development land and infrastructural development and planning. The Agencies concluded that increasing certainty surrounding existing procedures and streamlining the planning processes involved could have significant benefits in terms of reducing the costs and increasing the speed at which public infrastructure projects are delivered. In particular, the submission recommended amendments to the Constitution to re-emphasise the importance of the 'common good' in the context of infrastructural development.

#### **Business Expansion Scheme/Seed Capital Scheme**

Forfás, in conjunction with Enterprise Ireland undertook research which identified the Business Expansion Scheme (BES) and Seed Capital Schemes (SCS) as significant supports of finance to indigenous start-ups and companies wishing to expand into new areas.

The focus of the majority of venture capital firms over the last few years, not just in Ireland but across Europe and the US, has been on their existing portfolios of companies and not on new investments. This led to a significant decline in the number of companies in Ireland receiving venture capital funding from the private sector in the seed stage of development, forcing new start-up companies to increasingly rely on friends, family and private investors to fund the very early phase of development.

BES schemes provide income-tax based incentives for private investors to invest long-term equity in companies, operating in certain sectors of the economy. The objective of the SCS is to help employees, unemployed persons or those made redundant to acquire additional funds with which to start their own business.

The schemes were identified as having been very successful in attracting private capital into new and growing businesses and typically complemented Ireland's growing venture capital funding. The schemes were due to expire on 31 December 2003.

A decision to extend the BES and the SCS for a further three years, from 31st December 2003 until 31st December 2006 was announced by the Minister for Finance in Budget 2004.

#### **Review of the County and City Enterprise Boards**

### During 2003 Forfás and the Department of Enterprise, Trade and Employment commissioned and published a review of the role of the County and City Enterprise Boards.

In June of 2003, consultants were commissioned jointly by Forfás and the Department of Enterprise, Trade and Employment to review the role of the County and City Enterprise Boards (CEBs) in the development of micro-enterprises and make recommendations for future delivery of micro-enterprise supports.

The work concluded that the State should continue to support microenterprise as there is a perceived market failure in the provision of supports for micro-industry and there is a wider benefit accruing to the community when micro-industry is assisted. This is recognised internationally and similar policies for the provision of supports to this sector exist around the world.

Nevertheless it recommended that the current policy objectives should be tightened up significantly to include the encouragement of quality start-ups and continuous improvement, generating referrals to Enterprise Ireland and promoting a positive enterprise culture.

It also recommended that there should be greater repayability of grants and increased emphasis on soft supports for micro-enterprises. An urgent requirement was for identifiable co-ordination and roll out of best practice amongst the CEB network and that their activities should be directed by a new Central Co-ordination Unit under the auspices of Enterprise Ireland.

#### The Enterprise Areas Scheme

Forfás, in conjunction with the industrial development agencies, recommends projects for consideration by the Minister for Enterprise, Trade & Employment under the Enterprise Areas Scheme.

The Enterprise Areas Scheme was introduced in the Finance Act 1995 to provide incentives to undertakings locating in disadvantaged areas in Dublin, Cork and Galway in order to promote economic development in those areas. The Scheme was extended in the Finance Act 1997 to two further locations in Dublin and to areas adjacent to the seven regional airports.

Under the terms of the Finance Acts, Forfás, in conjunction with the industrial development agencies, recommends projects to the Minister for Enterprise Trade & Employment, who issues certificates entitling the companies concerned to benefit from tax and other incentives. Ninety companies have been certified for Enterprise Areas incentives since the schemes inception of which nine were certified in 2003.

### Sectoral Strategies – Information and Communications Technologies (ICT) and Digital Content

Forfás in its Strategy for the Development of the Digital Sector, highlighted key areas of opportunity such as e-learning, games, wireless services, digital libraries and non-media applications. It also published a strategy document entitled "Wireless Communications: An Area of Opportunity for Ireland".

Investment and advances in wireless communications networks are projected to be significant drivers of economic growth, new enterprise creation, research and development activity and a surge in mobile investment in content, m-commerce facilitation, backoffice and network management activities. During 2003 Forfás published a Strategy for the Development of the Digital Games sector in Ireland, involving Enterprise Ireland, IDA Ireland and industry. Although the industry in Ireland is at an early stage of development, the games sector was identified as a key contributor in the overall Digital Content Strategy published by Forfás in 2002.

Forfás published in early 2004 a strategy that outlines the potential for Ireland to further develop wireless communications as a sustainable internationally-traded industry.

Among the recommendations is a proposal for the Commission for Communications Regulation (ComReg) to accelerate the liberalisation of the telecommunications spectrum that would stimulate the trial and deployment of new wireless technologies in Ireland.

#### Skills

In the context of rapid economic and technological change, globalisation, imminent EU enlargement, strengthened competition and changing labour costs, Ireland's future economic growth and competitiveness will increasingly depend on the extent to which it can support high value knowledge based industries. Against this backdrop, the skills and flexibility of the Irish workforce are becoming increasingly important as a source of competitive advantage.

The Expert Group on Future Skills Needs (EGFSN) was established by Government in 1997 to develop national strategies to tackle the issue of skills needs, manpower estimating and training for business and education in Ireland. Forfás provides the secretariat and research support to the Group.

The work of the EGFSN has focused on bringing together the different elements of the demand-side and supply-side of the labour market. During 2003, the Group undertook several studies that examined the future skills needs of sectors and occupations which are important if Ireland is to achieve its strategic goal of becoming a knowledge-based economy. The published reports make key recommendations in the following areas:

- Biotechnology
- > ICT
- > Engineering
- Construction
- Financial Services
- Logistics
- Generic Skills

The Group also published its Fourth Report which brings together a summary of all the work undertaken by the Group throughout 2002/03. A key emerging theme from this report is that an adequate supply of the required key skills will increasingly become an instrument for enterprise development and future economic prosperity.

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#### **Biotechnology**

In its report on the skills needs of the biotechnology sector, published in September 2003, the EGFSN highlighted Ireland's strengths which could facilitate exploitation of the expected worldwide growth in the sector and made recommendations to achieve full potential.

Given the importance of the biotechnology industry globally, and the stated national strategies for Ireland in this area, the EGFSN examined the skills needs for a vibrant biotechnology sector. If the sector is to achieve its full potential, the supply of science related skills must be increased considerably. Among the recommendations to achieve this include: initiatives to increase interest in the study of science and in careers in science; measures to improve the capacity of the Irish education system to supply suitably skilled personnel; and supporting interventions, particularly in the development of Ireland's research competency.



Pictured at the launch of the Expert Group on Future Skills Needs report, Supply and Demand for Skills in the Biotechnology Sector are (I-r) Mr Martin Cronin, Chief Executive, Forfás; Mr Peter Bacon, Peter Bacon & Associates; Dr Catherine Kavanagh, Manager, Expert Group on Future Skills Needs and Dr Daniel O'Hare, Chairman, Expert Group on Future Skills Needs.

### ICT

### The EGFSN, in its report on the ICT sector, made recommendations to prevent potential gaps in the provision of skills to this key sector in the Irish economy.

The Third Report of the EGFSN published in 2001 provided estimates of the skills needs of the ICT sector to 2006. However, the industry has suffered a severe downturn since late 2000 and although there are signs of a recovery, it is likely to be gradual, and there is no general agreement as to when it is likely to happen. In view of this, the Group, in association with Forfás, undertook a broader study to examine the potential for the development of ICT clusters in Ireland and the skills needs of the sector to 2010. The Expert Group believes the ICT sector will continue to be a major driver of growth in the Irish economy. However, the decline in interest in the study of ICT courses implies that the main areas where skills gaps are projected are in computing and electronic engineering for degree level graduates from about 2006 onwards. Up to 2006, demand and supply are reasonably well balanced.

# The Demand and Supply of Engineers and Engineering Technicians

The main focus of the recommendations of the report, "Demand and Supply of Engineers and Engineering Technicians", is on boosting the numbers graduating in engineering from Irish institutions.

In its report on the engineering sector, the EGFSN examined how well the future supply of engineers and engineering technicians is likely to match the requirements of Irish industry and Irish public bodies. Deficiencies in the supply of these skills could constrain the development of key industries and infrastructure.

Two main policy issues emerging from the report include:

- a fall in numbers entering electronic engineering has the potential to limit the growth of a range of ICT sectors once markets for ICT products and services recover; and
- (ii) there is threat of a general decline in numbers graduating in engineering, which may limit the potential of a much wider range of sectors.

### Construction

### The EGFSN published a report which examines the employment and training needs of construction professionals. The report found that there was a potential skills gap in the provision of architects.

The report on construction professionals focuses on the employment and training needs of the professional occupations (architects, building surveyors) to 2006. A decline in employment of approximately 11 per cent over the period 2003-2010 is forecast, but even if these forecasts were to materialise, construction employment in 2010 would be still considerably higher than it was in 1999 and almost as high as the average employment in 2000. The main area where a gap is projected is in the supply of architects and a key recommendation of the study is that the education system should provide approximately 45 additional places annually for students who wish to study architecture. No significant gaps are forecast to arise for other occupations, but new and emerging skills needs identified include: project management; construction, demolition and waste disposal, environmental management and safety.

### **Financial Services**

A study undertaken by the EGFSN of financial services occupations concludes that the provision of high-level financial skills will remain instrumental in attracting foreign direct investment and will be central to the preservation of Ireland's reputation in the global financial domain.

The EGFSN undertook, for the first time, a study of financial services occupations. The financial services sector has and continues to be a major driver of growth in Ireland. Employment increased by 30 per cent from 1998 to 2002 in the ten sub-sets of financial occupations examined in the report.

No major skills shortages are projected over the medium-term, as the financial services industry responds well to any changes in the labour market. However, the report recommends the need for monitoring of the skills requirements of the sector as it is predicted to undergo change. Principal drivers of the future demand for financial skills include overall economic growth, regulation, technological change and the globalisation of the financial services sector. The main occupations which may prove more difficult to source include actuaries, project accountants and quantitative modellers.

### Logistics

The EGFSN in its Fourth Report outlines the education and training needs of the logistics sector to 2006. It makes specific recommendations to ensure that the right skills in the right numbers are available to this sector.

The logistics sector in Ireland employs about 15,600 workers. During 2003 the EGFSN conducted a study based on a census of all 250 companies providing logistics services in Ireland and a survey of all those involved in providing education and training to persons working in this area. The study points to specific skills gaps in the areas of transport, warehousing and distribution, purchasing and e-procurement. The analysis also identifies important barriers to successful supplychain management in Ireland.

The majority of the recommendations are designed specifically to increase the number of young people obtaining qualifications in logistics. Recommendations are also made to significantly increase current education and training provision in all occupations, from transport and warehouse operatives to documentation specialists and involving a range of different delivery systems including full-time and part-time education and training, traineeships and incompany training.

### **Generic Skills**

In its Fourth Report, the EGFSN published an analysis of the role, nature and importance of generic skills in the workplace. It also establishes an Irish employer's viewpoint on generic skills through a survey, and profiles the current Irish education and training provision with regard to soft skills.

Generic skills, defined as the inter-personal and intra-personal skills required to be effective in the workplace, are becoming ever more important for organisational success. Inter-personal skills include the ability to work on a team; communication and influencing skills; and leadership and coaching skills. Intra-personal skills include self-management, orientation to learning, creativity and flexibility; motivation and perseverance and problem-solving.

The report outlines that although continued emphasis on developing core technical skills is essential for the Irish economy, the need for complementary generic skills is increasing and requires attention to prevent a gap arising in the future. Among the recommendations made by the EGFSN in this area are: the need for generic skills development to be explicitly taken into account in a national policy agenda; initiatives in transition year; the need for generic skills to be incorporated into vocational programmes; and the development of generic skills at third level.

# Influencing Conditions to Sustain Ireland's Competitiveness

An enterprise base in Ireland that can compete internationally is a pre-requisite for other public policy goals, such as rising employment, wages and living standards, better public services and social progress. Advising on policies to counter Ireland's declining cost competitiveness and to develop Ireland's ability to trade internationally were significant priorities for Forfás during 2003.

### Annual Competitiveness Report and Competitiveness Challenge

The National Competitiveness Council (NCC) published its sixth Annual Competitiveness Report and Challenge in December 2003. It made recommendations to Government to avoid inflation-fuelling increases in customs and excise duties, VAT and publicly administered prices in Budget 2004.

The sixth Annual Competitiveness Report 2003 was launched by the NCC in December 2003 and benchmarked Ireland's competitiveness performance for 128 key indicators against 15 other countries. This key statistical document concluded that Ireland:

- Is now the joint most expensive country in the euro area for consumer goods and services, along with Finland
- Ranks 13th out of 16 countries with regard to the intensity of domestic competition (ranking of 1 = most competitive)
- Ranks 4th most expensive of 16 countries for insurance premiums per capita
- > Ranks 3rd most expensive out of ten countries for landfill costs
- Ranks 3rd most expensive of nine countries for industrial electricity costs

The Council warned that while there was a sharp decline in the rate of inflation during 2003, Ireland's rate of inflation still remains above that of its main competitors and therefore still represents a threat to our competitive position. It also recommended that Ireland's immediate economic policy priority must be to further slow the growth of prices and costs and indicated that while there are signs of a global recovery that this is not automatically linked to a resumption of strong Irish economic growth.



Pictured at the launch of the National Competitiveness Council's Annual Competitiveness Report and Competitiveness Challenge 2003 are (I-r) Mr Martin Cronin, Council Member; Ms Mary Harney, T.D., Tánaiste and Minister for Enterprise, Trade & Employment; Ms Annette Hughes, Council Member; Mr Peter McLoone, Council Member and Mr William Burgess, Chairman.

The Competitiveness Challenge 2003 policy document was also launched in December. It brought forward key competitiveness policy recommendations to stakeholders aimed at improving areas of weak competitiveness identified in the Annual Competitiveness Report. Key recommendations highlighted in the report included:

- Having as a central goal of fiscal policy in Budget 2004 the reduction of the rate of inflation to under two per cent by minimising increases in customs and excise duties, VAT and administered prices.
- Exploring in conjunction with the Competition Authority, the feasibility from a legal and constitutional perspective, of introducing a regime of civil sanctions for infringements of competition law.
- Reinstating funding for the Programme for Research in Third Level Institutions (PRTLI) (this funding was reinstated during 2003).
- Including in the 2004 Finance Bill a provision for a tax credit for incremental R&D expenditure above a specified baseline. The Minister for Finance announced the introduction of a 20 per cent tax credit for qualifying expenditure on R&D in Budget 2004.

Forfás and the NCC welcome the low inflationary impact of Budget 2004 and are confident that implementation of other proposals could lead to a further reduction in the rate of inflation in 2004. This would in turn help to moderate pay growth in order to keep it in line with cost competitiveness requirements at firm and industry level.

#### **Consumer Pricing Report**

Forfás published a Consumer Pricing Report which found that Ireland is the most expensive country in the euro area.

In May 2003 Forfás published a Consumer Pricing Report which carried out detailed analysis of price levels paid by Irish consumers for a comprehensive range of goods and services compared to our European neighbours. The report found that Ireland has joined Finland as the most expensive country in the euro area and highlighted and analysed some of the key areas driving national inflation including alcohol, tobacco, pubs, administered services and recreation and culture.

The NCC, using the results of the Forfás Consumer Pricing Report, put forward a number of constructive policy proposals in 2003 designed to halt the deterioration in Ireland's cost competitiveness.

#### **Statement on Inflation**

# The NCC published a Statement on Inflation in May 2003 which provided specific policy recommendations to key stakeholders with the aim of reducing inflation to below two per cent.

Restoring Ireland's international cost competitiveness has become an economic priority for the Government and Social Partners. High inflation in recent years has resulted in average price levels significantly above those of our European competitors. While Ireland cannot, and should not, attempt to compete in global markets on the basis of low prices and wages alone, the widening gap between costs here and elsewhere in Europe is not justified by higher Irish levels of productivity. Further cost escalation will put at risk employment and growth in many internationally trading sectors of industry, and will undermine the efforts of Ireland's development agencies to grow new high technology industries here.

Set against the backdrop of the anti-inflation initiative announced by Government and the Social Partners in Sustaining Progress in early 2003, this Statement by the National Competitiveness Council, published in May 2003, set out the actions that are required across a range of public policies in the short, medium and long term, to lower Ireland's inflation rate and reinforce our international competitiveness. Among the key recommendations was a call on the Government to reduce the impact on inflation from rises in administrative prices and indirect taxes. Accordingly, the NCC has welcomed the Government's budget for 2004, which significantly reduced the overall Government contribution to inflation. Other key recommendations were made in the areas of public sector efficiency, fiscal policy, competition policy and regulation.

#### **World Trade Organisation Negotiations**

# Non-tariff issues have become increasingly important at WTO negotiations, as tariff rates fall.

One of the most significant changes in global economic governance since World War II has been the dramatic fall in trade tariffs, heralding an era of free and open trade between countries. However, much work remains to be done. Some tariffs remain high, particularly between developed and developing countries, most notably in agricultural products. There has also been an escalation in the number of trade disputes, which threatens to disrupt the global trading system.

However, a lot of issues are no longer about tariffs, and the negotiations at the World Trade Organisation (WTO) have had to adjust to reflect this new reality. As tariff rates fall, 'non-tariff' issues have become increasingly important. For example, differing technical regulations or complex customs procedures can greatly inhibit trade. Also, while the trade in manufactured goods remains central to world trade, there has been a spectacular rise in the provision of internationally traded services. Ireland has been at the vanguard of this rise.

The WTO held its 5th Ministerial meeting in Cancun, Mexico in September 2003, in an effort to revive the Doha Development Talks which had been making little progress. Forfás has played a leading role in identifying Ireland's priorities at the WTO negotiations, and was represented at the negotiations. Ireland's negotiating stance was largely informed by the Forfás report "World Trade Negotiating Objectives for Irish Enterprise Policy", which was published in February 2003.

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#### International Trade: Market Share

Forfás published its Market Share Report, which provides a medium-term perspective on the potential threats and opportunities to Ireland's international trading.

Forfás is constantly examining trends in Ireland's trading patterns in an effort to identify potential threats and opportunities. The Forfás' Market Share Report indicates the extent to which Ireland's main geographical export markets are being successfully targeted by Chinese exports. However, at the same time, the report highlighted the success of Irish exporters in accessing U.S. markets. Therefore, contrary to conventional wisdom that Ireland is primarily a springboard for U.S. multinationals to sell goods to Europe, Ireland has also been very successful in selling directly into the U.S. market.

#### International Trade and Investment Report 2003

Forfás published its International Trade and Investment Report 2003 which monitors trends in flows of trade and investment between Ireland and the rest of the world which found that there has been a worrying slowdown in international trade, and that Ireland has not been immune to this trend.

The International Trade and Investment Report 2003 published by Forfás in early 2004 examines the trade data from a more shortterm perspective. While the sale of pharmaceuticals and chemicals was very strong in 2002, offsetting a fall in office machinery, this was not repeated in 2003, resulting in a significant slippage in the aggregate value of Irish exports. Ireland's position, however, remains strong as the world's leading trader in both goods and services.

On the investment front, Ireland seemed to buck the international trend in 2003 by recording a rise in inward foreign direct investment, indicating that despite the well known problems of domestic price competitiveness, Ireland remains a very attractive proposition for enterprises from all over the world.

#### **National Trade Strategy Statement**

Forfás provided analysis for the forthcoming National Trade Strategy Statement and emphasises that security of trade is a topic that will have growing relevance over the next decade.

Forfás also provided the analysis behind the forthcoming National Trade Strategy Statement. The Statement analyses where Ireland has come from, where it currently stands and what we need to do to achieve our social goals. In particular, against the background of growing concentration on emerging markets, particularly China, the Strategy reinforces the need to continue developing our U.S. and EU markets. Furthermore, it identifies security of trade as being a topic that will have growing relevance over the next decade.

#### **Review of Ireland's Export Controls**

### Forfás, at the request of the Department of Enterprise, Trade & Employment undertook a review of Ireland's strategy controls system.

Given the increasing national and international focus that is being given to the necessity to strengthen strategic export control rules, it is important to ensure that Ireland's export controls are up to the best international standards. In this context, the Department of Enterprise, Trade and Employment requested Forfás to undertake a review of Ireland's strategic controls system with a view to recommending how best they can be modernised and strengthened to ensure full compliance with Ireland's international obligations.

An extensive two-stage public consultation with all stakeholders was managed by an Inter-departmental Group which includes representatives of the Departments of Enterprise, Trade and Employment, Foreign Affairs, Defence and Justice Equality and Law Reform, together with The Revenue Commissioners. Phase 1, the results of which were published in August, 2003, involved a short review of the current licensing system. It identified perceived gaps in operational procedures and a number of other issues requiring further consideration. The work on the review will be completed during 2004.

# The Irish National Accreditation Board



Dr Máire C.Walsh Chairperson

The Irish National Accreditation Board (INAB) is Ireland's 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.

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). INAB plays a key role in guaranteeing the access of Irish products to both the EU and worldwide markets. Its activities make certain that accredited certificates and test results produced in Ireland are acceptable worldwide and as a result greatly reduce technical barriers to international trade.

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.

# **Strategic Plan**

A major project for INAB during 2003 was the development of a Strategic Plan that clearly sets out a detailed strategy for INAB's growth and development over the next five years. The Strategic Plan stresses the importance of accreditation in the Irish and EU marketplace and predicts significant growth in the demand for INAB accreditation. Key work plans are being implemented to deliver on the objectives set out in the plan including preservation of the integrity of the accreditations already awarded by INAB and servicing the increasing demand for new accreditations.

### **EA General Assembly**

INAB hosted the European Co-Operation for Accreditation (EA) General Assembly and Associated Accreditation Workshop in Dublin on 10th to 13th June 2003. The General Assembly is the highest policy-making level of the EA. Mr. Michael Ahern T.D., Minister for Trade and Commerce gave the opening address, in which he highlighted the importance and value of Accreditation to the Irish economy and the European market.

### **INAB Functions**

There are six distinct functions of INAB, each operating to specific European and international standards and/or regulations.

#### Laboratory Accreditation

Laboratory accreditation granted by the INAB provides a formal recognition of the competence of the laboratory to perform specific tests.

During 2003 INAB awarded accreditation to 13 laboratories and is currently maintaining 91 laboratory accreditations. There were 70 enquiries and 14 applications in hand at year end.

During the year INAB carried out 123 on-site inspections on accredited/applicant laboratories within the Laboratory Accreditation Programme.

### Accreditation of Certification Bodies

The INAB accredits certification bodies operating product certification, quality system certification and certification of personnel. It also accredits certification bodies for environmental management systems (EMS) certification to standards such as the EN ISO 14000 series and EMAS – the EU Eco Management and Audit Scheme and Information Security Management Systems (ISMS).

At the end of 2003 INAB maintained one certification body as a certification service provider (CSP) for the new eCommerce accreditation scheme in support of the EU Directive on eCommerce. In 2003 INAB also maintained four certification bodies' for Quality Management Certification, three certification bodies' accreditation

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was maintained for Product Certification and one certification body's accreditation was maintained for Environmental Management Certification. These certification bodies have, in turn, certified more than 2,000 organisations to the ISO 9000 series of standards and more than 150 organisations to ISO 14001 under INAB accreditation.

#### Accreditation of Attestors and Attestation Bodies

Attestation is the examination of the conditions under which tenders are sought for large contracts offered by the water, energy, transport or telecommunications sectors (utilities). The accreditation criteria are in accordance with the European Standard EN 45503 and INAB regulations. At the end of 2003 one body was accredited to this standard.

#### Accreditation of Inspection Bodies

INAB accredits bodies whose work may include the examination of materials, products, installations, plant, processes, work procedures, or services and the determination of their conformity with requirements and the subsequent reporting of results of these activities. At the end of 2003 INAB had maintained one inspection body's accreditation and had 3 applications in hand.

#### **Good Laboratory Practice**

The INAB is the national monitoring authority for the inspection and verification of Good Laboratory Practice (GLP) under S.I. No.4 of 1991 European Communities (GLP) Regulations. At the end of 2003 five test facilities held GLP Compliance Statements under this programme.

#### National Competent Body for EMAS

INAB is the designated competent body in Ireland for the registration of sites participating in environmental management accreditation systems (EMAS). During 2003 INAB maintained eight organisations registered to EMAS which had their environmental management systems verified by accredited EMAS verifies in accordance with the Eco Management and Audit Scheme set out in Regulation (EC) No. 761/2001 of the European Parliament and the Council.

# INAB Board Members 2002-2003

**Dr Máire C. Walsh**, Chair State Chemist State Laboratory

#### Mr Tom Beegan

Director General Health and Safety Authority

Mr Raymond Byrne<sup>6</sup> Lecturer in Law Business School Dublin City University

### **Mr Donal Connell**

Vice President 3Com

### Mr Paul Kelly

Director Building Materials Federation IBEC

### **Dr Fiona Kenny**

Consultant Microbiologist Sligo General Hospital

### Mr Iain Maclean

Former Director Environmental Protection Agency (EPA)

#### **Mr Michael Maloney**

Chief Executive Bord Glas

#### **Mr David Moore**

Inspector Environment Division Department of the Environment and Local Government

#### Mr Pat O'Mahony<sup>7</sup>

CEO The Irish Medicines Board

#### **Dr Tom Teehan**

Chief Inspector Department of Agriculture

#### Dr Patrick Wall<sup>8</sup>

Chief Executive Food Safety Authority of Ireland (FSAI)

#### Ms Ann Westby (RIP)<sup>9</sup>

Chief Executive Food Safety Authority of Ireland (FSAI)

#### Mr Tom Dempsey (ex-Officio)

Chief Executive

<sup>6</sup> Retired June 2003
<sup>7</sup> Appointed December 2003
<sup>8</sup> Retired June 2003
<sup>9</sup> Appointed December 2003

# Statutory Obligations

The Board operates to best practice corporate governance principles and in line with the guidelines set out in the Code of Practice for the Governance of State Bodies, as issued by the Department of Finance, both in its own activities and in its use of committees.

In accordance with these guidelines, Forfás Board Members register their interests in other undertakings with the Secretary.

# Ethics in Public Office Act, 1995 and Standards in Public Offices Act, 2001

In accordance with the Ethics in Public Office Act, 1995 and Standards in Public Offices Act 2001, Forfás Board Members furnish statements of interest to the Secretary and copies have been provided to the Commission Secretary, Standards in Public Office Commission.

In addition, Forfás staff members holding designated positions have complied with both Acts.

# Freedom of Information (FOI)

With effect from January 2001, Forfás is covered by the provisions of the Freedom of Information (FOI) Act, 1997. This Act established three new statutory rights:

- a legal right for each person to access information held by public bodies;
- a legal right for each person to have official information held by a public body relating to him/herself amended where it is incomplete, incorrect or misleading; and
- a legal right to obtain reasons for decisions affecting oneself taken by a public body.

Since 2001 Forfás has responded to a number of FOI requests, one of which is currently with the FOI Commissioner.

# Equality

Forfás is an equal opportunities employer and is committed to a policy of equal opportunities in the organisation. Forfás adopts a positive approach to equality and operates a number of schemes, providing staff with options in relation to meeting their career and personal needs, such as job sharing, study leave, educational programmes and career breaks.

As part of its continued focus in this area, during 2003 Forfás reviewed and expanded its policies which protect the dignity of each individual at work.

# Worker Participation (State Enterprises) Act, 1988

Sub-Board consultative structures have been put in place by Forfás to support the organisation's communications and consultative structure. The Joint Participation Forum is welcomed as a positive process by both management and staff.

# Safety, Health and Welfare Act, 1989

In accordance with the Safety, Health and Welfare Act (1989), Forfás has a safety statement in place which encompasses all the aspects affecting staff and visitor welfare.

# **Clients' Charter**

Forfás updated its Clients' Charter in 2004 (originally published in 2000) setting out its commitment to a high quality of service to clients and to the general public. This Charter includes a procedure for dealing with complaints. In 2003 no complaints were received.

# **Energy Efficiency**

In each area relevant to energy usage and services to its buildings, Forfás endeavours to employ the most energy efficient and environmentally friendly means available.

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## Prompt Payment of Accounts Act 1997 (as amended by Late Payment in Commercial Transactions Regulations 2002)

The Prompt Payment of Accounts Act 1997 (the Act), which came into operation on 2 January 1998, was amended by the Late Payment in Commercial Transactions Regulations 2002.

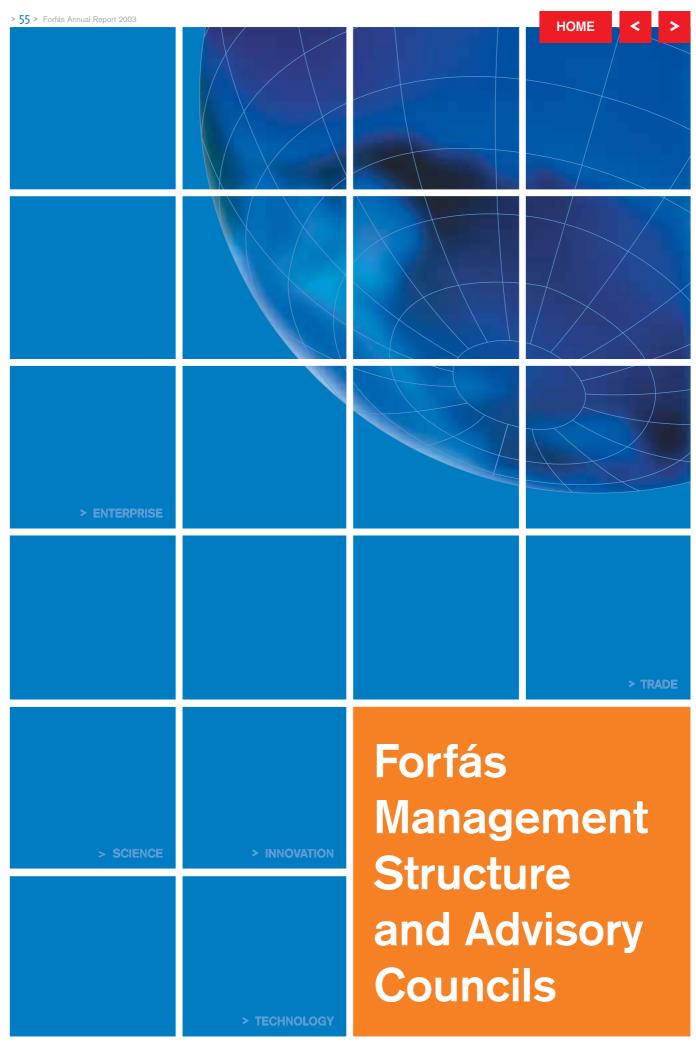
The payment practices of Forfás, as required by the Act, are reported on below for the year ended 31 December 2003.

- (a) It is the policy of Forfás to ensure that all invoices are paid promptly. Specific procedures are in place that enable it to track all invoices and ensure that payments are made before the due date. Invoices are registered daily and cheques are issued as required to ensure timely payments.
- (b) The system of internal control incorporates such controls and procedures as are considered necessary to ensure compliance with the Act. The organisation's system of internal control includes accounting and computer controls designed to ensure the identification of invoices and contracts for payment within the prescribed payment dates defined by the Act. These controls are designed to provide reasonable, and not absolute, assurance against material non-compliance with the Act. The Accounts Department produces a report that identifies unpaid outstanding invoices and this report is reviewed regularly.
- (c) There was one late payment in excess of €317 during 2003 that exceeded the due payment date by 1 day. The value of this late payment was €4,840. Overall, late payments represented 0.03% of total payments made by the Agency with associated penalty interest of €2.

99.97% of all payment demands were paid within the prescribed timeframe.

There have been no material developments since 1 January 2004.





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# > Forfás Management Structure











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# Science and Technology Division

- 2 Killian Halpin Manager Science & Technology Division
- 3 Michael Fitzgibbon Manager Indicators & Technical Evaluations Department
- 4 Declan Hughes Manager S & T Policy & Planning Department
- 5 **Eamonn Kearney** Manager Systems Department
- 6 **Ignatius Rossi** Manager Facilities Department









# Competitiveness & Innovation Division

- 7 Helena Acheson Manager Competitiveness & Innovation Division
- 8 Seamus Bannon Manager Trade & Innovation Policy Department
- 9 Andrew McDowell Manager Competitiveness & Communications Department
- 10 Martin Craig Manager Accounts Department

1 Martin Cronin Chief Executive



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# **Enterprise Division**

- 11 Brian Cogan Manager Enterprise Division
- 12 Marie Bourke Manager Long Term Planning, Tax and Finance Department
- 13 Maria Ginnity Manager Infrastructure & Enterprise Policy Department
- 14 **Catherine Kavanagh** Manager Expert Group on Future Skills Needs
- 15 Michael O'Leary Manager Personnel Department

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# Secretary's Office

16 Michael O'Leary Secretary

# Irish National Accreditation Board

17 **Tom Dempsey** Manager Irish National Accreditation Board

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Mr Leo Enright Chairman

# **Discover Science and Engineering - Steering Group**

Name	Agency/Organisation
Mr Leo Enright	Chairman
Ms Helena Acheson	Competitiveness and Innovation Division, Forfás
Mr Greg Craig	Corporate Affairs Director, FÁS
Dr Roger Downer	President, University of Limerick
Ms Siobhan Greer	Chairperson, Irish Science Teachers Association
Ms Una Halligan	Public Affairs Manager, Hewlett Packard
Dr William C. Harris	Director General, Science Foundation Ireland
Mr Paul Holden	Managing Director, Rédacteurs Ltd
Mr Kevin McCarthy	Department of Education & Science
Dr Matt Moran	Director, Irish Biomedical Devices Association
Dr Pat Morgan	Dean of Science, NUI Galway
Mr Paddy Purcell	Director General, The Institution of Engineers of Ireland
Mr Martin Shanagher	Office of Science & Technology, Department of Enterprise, Trade and Employment
Mr Frank Turpin	Academic Relations Manager, Intel Ireland
Dr Sheila Donegan	CALMAST, Waterford Institute of Technology

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Ms Anne Heraty Chairperson

# **Expert Group on Future Skills Needs**

Name	Agency/Organisation
Anne Heraty <sup>10</sup>	Chairperson, Chief Executive, CPL Resources plc
David Barry 11	Department of Enterprise, Trade & Employment
Brian Cogan 11	Divisional Manager, Enterprise Division, Forfás
Enda Connolly <sup>12</sup>	Director, Education, Skills & Research, IDA Ireland
Senan Cooke <sup>13</sup>	Training & Communications Manager, Waterford Crystal
Fergal Costello <sup>11</sup>	Head of Policy & Planning, Higher Education Authority (HEA)
Roger Fox <sup>12</sup>	Director of Planning, Research & EU Affairs
Jack Golden	Director of Human Resources, Cement Roadstone Holdings/IEI
Una Halligan	Government & Public Affairs Manager, Hewlett Packard/IBEC
David Lowe	Business Development Director, Goodbody Stockbrokers
Joe McCarthy	Director, Arkaon
Kevin McCarthy 11	Principal Officer, Department of Education & Science
Dr Sean McDonagh	Director, Skills Initiative Unit
Anne Nolan <sup>11</sup>	Department of Finance
Aileen O'Donoghue <sup>13</sup>	Director, Financial Services Ireland Association, IBEC
Peter Rigney	Industrial Officer, Irish Congress of Trade Union
Linda Tanham <sup>13</sup>	Divisional Organiser, Mandate

Dr Daniel O'Hare retired as Chairperson of the Group with effect from October 2003

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Dr. Edward M. Walsh Chairman

# Irish Council for Science, Technology and Innovation (ICSTI)

Name	Agency/Organisation
Dr Edward M. Walsh (Chairman)	President Emeritus, University of Limerick
Ms Sharon Bannerton	Director, Clear Solutions
Dr Leonora Bishop	Formerly Business Development Manager, Chiroxia Ltd.
Ms Catherine Caulfield <sup>14</sup>	Chief Executive, Biological Laboratories Europe Ltd.
Ms Marion Coy <sup>15</sup>	Director, Galway-Mayo Institute of Technology
Mr Martin Cronin	Chief Executive, Forfás
Ms Mary Cryan (Deputy Chairman) <sup>15</sup>	Cryan Associates
Prof Donald Fitzmaurice	Chemistry Department, National University of Ireland, Dublin
Dr Peter Heffernan	Chief Executive, Marine Institute
Mr Paul Holden	Managing Director, Rédacteurs Ltd.
Dr Mike Hopkins	Plasma Research Laboratory, Dublin City University
Dr Brendan Hughes <sup>15</sup>	Director of Drug Development, Wyeth Medica Ireland Development Facility
Dr Pádraig Kirk	Post-Primary Inspector, Office of the Inspectorate, Department of Education and Science
Prof Tom McCarthy <sup>15</sup>	Dean of the Business School, Dublin City University
Prof Anita R. Maguire	Department of Chemistry, National University of Ireland, Cork
Dr David Melody	Formerly Vice President for R&D, Loctite (Ireland) Ltd.
Dr Pierre Meulien <sup>15</sup>	Chief Executive, Dublin Molecular Medicine Centre
Dr Pat Morgan	Dean, Faculty of Science, National University of Ireland, Galway

Ms Alva DeVoy resigned during 2003 Ms Anne Downey resigned during 2003 Dr Andy Robertson resigned during 2003 Mr Brian Sweeney resigned during 2003 Mr Brian Trench resigned during 2003 Dr Fionnuala Walsh resigned during 2003 Ms Angela Kennedy resigned January 2004

Prof Ted Farrell retired during 2003 Prof David McConnell retired during 2003

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Name	Agency/Organisation
Ms Ann Murphy	Mathematics Department, Dublin Institute of Technology
Dr Mike Peirce <sup>16</sup>	Chairman, Mentec Ltd.
Dr Ena Prosser	Director, BioResearch Ireland
Prof William J Reville	Biochemistry Department, National University of Ireland, Cork
Prof James A. Slevin <sup>15</sup>	Science Secretary, Royal Irish Academy
Dr Don Thornhill	Chairman, Higher Education Authority

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Mr William Burgess Chairman

# **National Competitiveness Council**

Name	Agency/Organisation
Mr William Burgess	Chairman
Mr Rory Ardagh	Director, Leap Broadband
Mr Brendan Butler <sup>17</sup>	Director – Enterprise, IBEC
Mr Donal Byrne	Chairman, Cadbury Ireland plc
Ms Joan Carmichael	Deputy General Secretary, Irish Congress of Trade Unions
Mr Martin Cronin	Chief Executive, Forfás
Dr John Fingleton <sup>18</sup>	Chairman, Competition Authority
Ms Annette Hughes	Economist, DKM Economic Consultants
Mr Peter McLoone <sup>18</sup>	General Secretary, Impact
Ms Áine Maria Mizzoni	Managing Director Ireland, Grafton Recruitment
Mr Seamus O'Morain <sup>18</sup>	Assistant Secretary, Department of Enterprise, Trade & Employment
Mr Neil Ormonde	Director, Plato Ireland
Professor Ferdinand von Prondzinski	President, Dublin City University
Mr William Slattery <sup>18</sup>	Chief Executive, State Street International
Mr John Travers	Consultant and former Chief Executive, Forfás
Ms Jane Williams	Managing Director, The Sia Group Limited

Mr Kevin Bonner resigned during 2003

Mr Bernard Collins resigned during 2003

Ms Jackie Harrison resigned during 2003

Ms Jane Williams resigned on 8 January 2004

Mr Des Geraghty retired during 2003 Mr Billy McCann retired during 2003

# Reports Published by Forfás 2003/2004

Report	Date of Publication
World Trade Organisation Negotiating Objectives for Irish Enterprise Policy	February 2003
National Survey of Vacancies in the Private Non-Agricultural Sector National Survey of Vacancies in the Public Sector Expert Group on Future Skills Needs (EGFSN)	March 2003
Utilising Intellectual Property for Competitive Advantage Irish Council for Science, Technology & Innovation (ICSTI)	April 2003
Design & Development Irish Council for Science, Technology & Innovation (ICSTI)	April 2003
Baseline Assessment of the Public Research System in Ireland in the areas of Biotechnology and Information and Communication Technologies	April 2003
The Demand and Supply of Skills in the Food Processing Sector Expert Group on Future Skills Needs (EGFSN)	April 2003
State Expenditure on Science and Technology, 2001 Volume One: The Total Science & Technology Budget Volume Two: The Research & Development Element of the Science & Technology Budget	May 2003
Statement on Inflation National Competitiveness Council (NCC)	May 2003
Consumer Pricing Report 2003	May 2003
Embedding the PharmaChem Industry in Ireland Irish Council for Science, Technology & Innovation (ICSTI)	May 2003
International Trade & Investment Report, 2003	June 2003
The Demand and Supply of Engineers and Engineering Technicians Expert Group on Future Skills Needs (EGFSN)	July 2003
State Expenditure Priorities for 2004 Statement of the Irish Council for Science, Technology & Innovation (ICSTI)	July 2003
Forfás Annual Report 2002	July 2003
A Comparison of Starting Salaries for Science and Engineering Graduates Statement of the Irish Council for Science, Technology & Innovation (ICSTI)	August 2003
The Supply and Demand for Skills in the Biotechnology Sector Expert Group on Future Skills Needs (EGFSN)	September 2003
Annual Employment Survey 2002	September 2003
Business Expenditure on Research and Development (BERD), 2001	September 2003
The Fourth Report of the Expert Group on Future Skills Needs	October 2003
Survey of Research and Development in the Higher Education Sector, 2000	November 2003

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Report	Date of Publication
Annual Competitiveness Report 2003	
The Competitiveness Challenge 2003	
National Competitiveness Council (NCC)	December 2003
e-Business Monitor	December 2003
Broadband Telecommunications Benchmarking Study	January 2004
Research and Development in Ireland, 2001 – at a glance	January 2004
Review of the Role of County and City Enterprise Boards in the development of Micro Enterprises	February 2004
Statement on Innovation	
National Competitiveness Council (NCC)	February 2004
Proceedings from the 8th National Innovation Conference	March 2004
Trade and Investment Report 2003	April 2004
Wireless Communications: An Area of Opportunity for Ireland	April 2004
National Code of Practice for Managing Intellectual Property from Publicly Funded Research	
Irish Council for Science, Technology & Innovation (ICSTI)	April 2004





# Report of the Comptroller and Auditor General for presentation to the Houses of the Oireachtas

I have audited the financial statements on pages 70 to 80, under the Industrial Development Act, 1993.

# Respective Responsibilities of Forfás and the Comptroller and Auditor General

The accounting responsibilities of Forfás are set out in the Statement of Board Members' Responsibilities on page 68. It is my responsibility, based on my audit, to form an independent opinion on the financial statements presented to me by Forfás and to report on them.

I review whether the statement on page 69 reflects Forfás's compliance with applicable guidance on corporate governance and report any material instance where it does not do so, or if the statement is misleading or inconsistent with other information of which I am aware from my audit of the financial statements.

#### Basis of Audit Opinion

In the exercise of my function as Comptroller and Auditor General, I conducted my audit of the financial statements in accordance with auditing standards issued by the Auditing Practices Board and by reference to the special considerations which attach to State bodies in relation to their management and operation.

An audit includes examination, on a test basis, of evidence relevant to the amounts and disclosures in the financial statements. It also includes an assessment of the significant estimates and judgments made in the preparation of the financial statements, and of whether the accounting policies are appropriate to Forfás's circumstances, consistently applied and adequately disclosed.

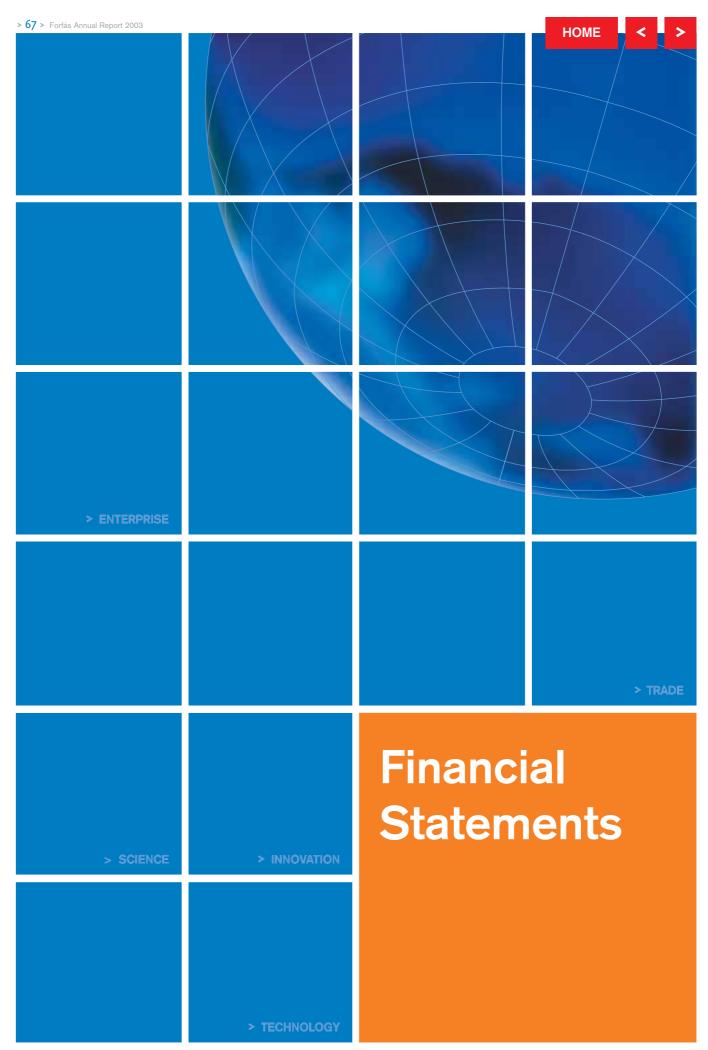
I planned and performed my audit so as to obtain all the information and explanations that I considered necessary to provide me with sufficient evidence to give reasonable assurance that the financial statements are free from material misstatement whether caused by fraud or other irregularity or error. In forming my opinion I also evaluated the overall adequacy of the presentation of information in the financial statements.

### Opinion

In my opinion, proper books of account have been kept by Forfás and the financial statements, which are in agreement with them, give a true and fair view of the state of affairs of Forfás at 31 December 2003 and of its income and expenditure and cash flow for the year then ended.

John Purcell Comptroller and Auditor General

5 April 2004



# Statement of Board Members' Responsibilities For 2003 Annual Financial Statements

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Paragraph 7(2) of the First Schedule to the Industrial Development Act, 1993 requires Forfás to keep, in such form as may be approved of by the Minister for Enterprise, Trade & Employment with the consent of the Minister for Finance, all proper and usual accounts of money received and expended by it. In preparing those financial statements, Forfás is required to:

- > select suitable accounting policies and apply them consistently;
- make judgements and estimates that are reasonable and prudent;
- prepare the financial statements on the going concern basis unless it is inappropriate to presume that Forfás will continue in operation;
- disclose and explain any material departures from applicable Accounting Standards.

The Board is responsible for keeping proper books of account which disclose with reasonable accuracy at any time its financial position and which enables it to ensure that the financial statements comply with Paragraph 7 of the First Schedule to the Industrial Development Act, 1993. These books of account are located at the Agency's headquarters, Wilton Park House, Wilton Place, Dublin 2. The Board is also responsible for safeguarding its assets and hence for taking reasonable steps for the prevention and detection of fraud and other irregularities.

On behalf of the Board:

leter assells

Peter Cassells Chairman

Markhani

Martin Cronin Chief Executive

# Statement on Internal Financial Control

On behalf of the Board of Forfás I acknowledge our responsibility for ensuring that an effective system of internal financial control is maintained and operated.

The system can only provide reasonable and not absolute assurance that assets are safeguarded, transactions authorised and properly recorded, and that material errors or irregularities are either prevented or would be detected in a timely period.

The Board has taken steps to ensure an appropriate control environment is in place by:

- > Clearly defining management responsibilities and powers;
- Establishing formal procedures for monitoring the activities and safeguarding the assets of the organisation;
- Developing a culture of accountability across all levels of the organisation.

The Board has established processes to identify and evaluate business risks by:

- Identifying the nature, extent and financial implication of risks facing the body including the extent and categories which it regards as acceptable;
- > Assessing the likelihood of identified risks occurring;
- Working closely with Government and various Agencies to ensure that there is a clear understanding of Forfás goals and support for the Agencies' strategies to achieve those goals.

The system of internal financial control is based on a framework of regular management information, administration procedures including segregation of duties, and a system of delegation and accountability. In particular it includes:

- A comprehensive budgeting system with an annual budget which is reviewed and agreed by the Board;
- Regular reviews by the Board of periodic and annual financial reports which indicate financial performance against forecasts;
- > Setting targets to measure financial and other performance;
- > Formal project management disciplines.

Forfás has an outsourced internal audit function, which operates in accordance with the Framework Code of Best Practice set out in the Code of Practice on the Governance of State Bodies and which reports directly to the Audit Committee. The work of internal audit is informed by analysis of the risk to which the body is exposed, and annual internal audit plans are based on this analysis. The analysis of risk and the internal audit plans are endorsed by the Audit Committee. The Audit Committee meets quarterly to review with the Internal Auditor the outcome of their audits and to confirm the ongoing adequacy and effectiveness of the system of Internal Financial Control.

While no specific review of the system of internal financial control was carried out during 2003, it is the Board's opinion that an effective system of internal financial control operates within Forfás. This is affirmed by the work of the internal auditor and the Audit Committee which oversees the work of the internal auditor and the control exercised by the executive managers within Forfás who have responsibility for the development and maintenance of the financial control framework.

Signed on behalf of the Board

Teter assells

Peter Cassells Chairman

# > Accounting Policies

# Industrial Development Acts 1993, 1995, 1998 and 2003

Forfás, the policy advisory and co-ordinating board for industrial development and science & technology in Ireland, was established on 1 January, 1994, under the provisions of the Industrial Development Act, 1993, as amended by subsequent legislation. It is the body through which powers are delegated to Enterprise Ireland, for the promotion of indigenous industry, and to IDA Ireland, for the promotion of inward investment.

In addition to its core advisory and co-ordinating function, Forfás has the additional responsibility for pension costs of retired staff of Forfás, IDA Ireland, Enterprise Ireland, Science Foundation Ireland and certain former agencies, under the Industrial Development Acts 1993, 1998 and 2003, as set out in Note 6 of these Financial Statements.

#### (1) Basis of Accounting

The Financial Statements have been prepared under the historical cost convention in the form approved by the Minister for Enterprise, Trade and Employment with the consent of the Minister for Finance under the Industrial Development Act, 1993. The Financial Statements are prepared on an accruals basis, except where stated below and are in accordance with generally accepted accounting practice. Financial Reporting Standards, recommended by the Accounting Standards Board, are adopted as they become effective.

#### (2) Income Recognition

Income from Oireachtas Grant, other than Technology Foresight, represents actual cash receipts in the year.

#### (3) Fixed Assets and Depreciation

Fixed Assets comprise tangible fixed assets which are owned by Forfás and are stated at cost less accumulated depreciation. Depreciation is calculated in order to write off the cost of fixed assets over their estimated useful lives.

#### (4) Capital Account

The Capital Account represents the unamortised funds utilised for the acquisition of Fixed Assets.

#### (5) Foreign Currencies

Monetary assets and liabilities denominated in foreign currencies are translated at the exchange rates ruling at the Balance Sheet date. Revenues and costs are translated at the exchange rates ruling at the dates of the underlying transactions.

#### (6) Pension Costs

Pension Payments are accounted for as they fall due.

#### (7) Operating Leases

The rentals under operating leases are accounted for as they fall due.

#### (8) Contribution to the Exchequer

The agency surrenders to the Exchequer unbudgeted income arising in the year.

# Income and Expenditure Account

Year Ended 31 December 2003

		2003	2002
	Notes	€'000	€'000
Income			
Oireachtas Grant	1	20,265	19,945
Oireachtas Grant – Technology Foresight	1	20,031	34,831
Professional Fees – National Accreditation Board	2	777	596
Other	3	674	911
Departmental Programmes	4	1,906	1,378
		43,653	57,661
Expenditure			
Administration and General Expenses	5	12,785	13,491
Pension Costs	6	8,615	8,017
Depreciation	7	308	351
Departmental Programmes	4	1,906	1,378
Technology Foresight	8	20,031	34,831
		43,645	58,068
Net Movement for Year		8	(407)
Contribution to Exchequer		-	(237)
Balance at beginning of Year		1,515	2,062
Transfer from Capital Account	9	68	97
Balance at end of Year		1,591	1,515

There are no recognised gains or losses, other than those dealt with in the Income and Expenditure Account.

The Accounting Policies, Cash Flow Statement and Notes 1 to 16 form part of these Financial Statements.

On behalf of the Board:

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Peter Cassells Chairman

Markhani

Martin Cronin Chief Executive

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# Balance Sheet As at 31 December 2003

		2003	2002
	Notes	€'000	€'000
Fixed Assets			
Tangible Fixed Assets	7	359	427
Total Fixed Assets		359	427
Current Assets			
Accounts Receivable	10	4,424	3,095
Bank		82	57
		4,506	3,152
Accounts Payable	11	2,915	1,637
Net Current Assets		1,591	1,515
Net Assets		1,950	1,942
Represented By:			
Capital Account	9	359	427
Income and Expenditure Account		1,591	1,515
		1,950	1,942

The Accounting Policies, Cash Flow Statement and Notes 1 to 16 form part of these Financial Statements.

On behalf of the Board:

Peter assells Monthhami

Peter Cassells Chairman

Martin Cronin Chief Executive

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# Cash Flow Statement

Year Ended 31 December 2003

		2003	2002
	Notes	€'000	€'000
RECONCILIATION OF NET MOVEMENT FOR YEAR TO NET			
CASH FLOW FROM OPERATIONS			
Net Movement for Year		8	(407)
Bank Interest		(40)	(40)
(Profit)/Loss on Disposal of Assets		18	-
Depreciation Charge:			
– Tangible Fixed Assets	7	308	351
(Increase)/Decrease in Accounts Receivable		(1,329)	4,466
Increase/(Decrease) in Accounts Payable		1,278	(3,886)
Net Cash Flow from Operations		243	484
CASH FLOW STATEMENT			
Net Cash Flow from Operations		243	484
Returns on Investment and Servicing of Finance			
Bank Interest		40	40
Cash Flow before Capital Expenditure		283	524
Capital Funding			
Sale of Tangible Fixed Assets		1	-
Purchase of Tangible Fixed Assets	7	(259)	(254)
Cash Flow after Capital Expenditure		25	270
Contribution to Exchequer		-	(237)
Increase in Cash		25	33
RECONCILIATION OF INCREASE IN CASH TO CASH AT BANK			
Movement in Cash for the Year		25	33
Cash at Bank at 1 January		57	24
Cash at Bank at 31 December		82	57

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# > Notes to the Accounts Year Ended 31 December 2003

# (1) Oireachtas Grant

	2003	2002
	€'000	€'000
Forfás		
Administration and General Expenses	20,265	19,945
Technology Foresight (to 25 July) (Note 8)		
Administration and General Expenses	2,423	3,831
Capital	17,608	31,000
	20,031	34,831

- (a) Under Section 35 of the Industrial Development (Science Foundation Ireland) Act, 2003, the aggregate amount of grants made by the Minister to Forfás and its Agencies, to enable them to discharge their obligations and liabilities shall not exceed €3,400,000,000. At 31 December, 2003 the aggregate amount so provided was €2,006,533,485.
- (b) Under Section 14(3) of the Industrial Development Act, 1986, Section 37 of the Industrial Development Act, 1969, and Sections 2 and 3 of the Industrial Development Act, 1977, the aggregate amount of grants made by the Minister to Forfás and its Agencies to enable them to meet their obligations or liabilities in respect of principal and interest on foot of Loan Guarantees under any of these sections shall not exceed €158,717,260. At 31 December, 2003 the aggregate amount so provided was €13,547,211.

# (2) Professional Fees - National Accreditation Board

The Irish National Accrediation Board (INAB) was established as a Board of Forfás under Section 10 of the Industrial Development Act, 1993 as amended by Section 46 of the Industrial Development (Enterprise Ireland) Act, 1998 to perform the functions specified below.

It is the national body responsible for accreditation of organisations involved in calibration, testing, and certification of quality, product, and personnel management systems in Ireland and is also the statutory GLP (Good Laboratory Practice) compliance monitoring authority. Professional Fees are generated from these activities which involve assessment of laboratories and certification bodies. Costs incurred in generating this income are included in the relevant expenditure heading.

# (3) Other Income

	2003	2002
	€'000	€'000
Rental Income	632	660
Sundry Income	2	211
Bank Interest	40	40
Total	674	911

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# > Notes to the Accounts (Cont.)

Year Ended 31 December 2003

# (4) Departmental Programmes – Income and Expenditure

These Programmes are administered by Forfás, on behalf of the funding bodies listed below:

Programme		2003	2002
		€'000	€'000
Science & Technology Innovation Awareness	1	1,237	829
Expert Group on Future Skills Needs	2	473	296
Irish Council for Bioethics	3	150	124
eBusiness Development	4	46	81
Ask Ireland	5	-	21
Online Regional Database	6	-	27
Total		1,906	1,378

#### **Details of Funding Bodies:**

1 Office of Science & Technology of the Department of Enterprise, Trade and Employment

- 2 National Training Fund of the Department of Enterprise, Trade and Employment
- 3 Department of Enterprise, Trade and Employment
- 4 Information Society Fund
- 5 Foreign Earnings Committee of the Department of Enterprise, Trade and Employment
- 6 Information Society Fund

# (5) Administration and General Expenses

	2003	2002
	€'000	€'000
Board Members' Remuneration and Expenses	269	336
Pay Costs	6,275	6,239
Other Personnel Costs	379	490
Travelling Expenses	448	574
Specialised and Professional Services	897	1,025
Consultancy and Studies	1,233	1,280
Rents, Rates, Repairs and Maintenance *	1,610	1,819
Other Operating Expenses	1,661	1,619
EMU Business Awareness Campaign	-	96
Audit Fee	13	13
Total	12,785	13,491

Pay Costs comprise:		
Wages and Salaries	5,858	5,803
Social Welfare Costs	308	303
Superannuation Costs	109	133
Total	6,275	6,239

\* These are net of rentals received from sub-tenants of former Industrial Development Authority headquarter buildings.

# Notes to the Accounts (Cont.) Year Ended 31 December 2003

# (6) Superannuation

(a) Forfás has responsibility for the pension costs of retired staff of Forfás, IDA Ireland, Enterprise Ireland, Science Foundation Ireland and certain former agencies, under the Industrial Development Acts 1993, 1998 and 2003. These costs arise under the terms of the following schemes –

Scheme	Staff Covered	Туре
Forfás	The Forfás scheme covers the following categories of staff in Forfás and its Agencies - (a) staff recruited up to 5 April 1995 who became pensionable after that date, (b) staff recruited after 5 April 1995, (c) a small number of staff previously covered by the Garda Siochána Superannuation Scheme, (d) a small number of staff previously covered by the FAS/AnCO Schemes.	Contributory, Defined Benefit, Unfunded. A small number of those in category (b) are included on a non contributory basis.
Former Industrial Development Authority	Staff of the former IDA and those recruited by Forfás and its Agencies in the appropriate grades between 1 January 1994 and 5 April 1995.	Contributory, Defined Benefit. Funded to meet pension costs at retirement. Post retirement increases are unfunded and met by Forfás from Oireachtas Grant.
Former Eolas	Staff of the former Eolas (other than those covered by the former NBST scheme below) and those recruited by Forfás and its Agencies in the appropriate grades between 1 January 1994 and 5 April 1995.	Non Contributory, Defined Benefit, Unfunded.
Former National Board for Science and Technology	A small number of staff of the former NBST serving on 31 December 1987.	Contributory, Defined Benefit, Unfunded.
Former Irish Goods Council	A small number of staff of the former Irish Goods Council serving on 31 August 1991.	Contributory, Defined Benefit. Funded to meet pension costs at retirement. Post retirement increases are unfunded and met by Forfás from Oireachtas Grant.
Former An Bord Tráchtála	Staff of the former ABT (other than those covered by the former Irish Goods Council scheme above) who were pensionable employees on 22 July 1998.	Contributory, Defined Benefit, Unfunded.

Apart from the former Irish Goods Council Scheme, each of the Schemes include Spouses' and Children's Schemes.

(b) Forfás meets the net costs arising from normal retirements. These are paid out of current income and are accounted for as they fall due. Contributions received by Forfás from staff in the contributory unfunded schemes outlined above are used to part fund ongoing pension liabilities.

Costs associated with seconded staff retiring under Voluntary Early Retirement (VER) are carried by the appropriate Agency until normal retirement age is reached.

Year Ended 31 December 2003

# (6) Superannuation (cont.)

#### (c) FRS 17 Retirement Benefits

For accounting periods ending on or after 1 January 2005, Financial Reporting Standard 17 (FRS17) will require financial statements to reflect at fair value the assets and liabilities arising from an employer's superannuation obligations and any related funding and to recognise the costs of providing superannuation benefits in the accounting periods in which they are earned by employees. As a transitional measure for accounting periods ending on or after 22 June 2001, the Standard requires that the present value of scheme liabilities be disclosed as a note to the accounts.

The valuation of defined benefit schemes used for the purposes of FRS17 disclosures has been carried out by an independent actuary in order to assess the liabilities at the balance sheet date. Scheme assets are stated at their market value at the balance sheet date.

The financial assumptions used to calculate the retirement liabilities and components of the defined benefit cost under FRS17 were as follows:

Valuation method	Projec	Projected Unit	
	2003	2002	
Discount Rate	5.25%	5.50%	
Inflation Rate	2.25%	2.25%	
Salary Increases	4.00%	4.00%	
Pension Increases	3.50%	3.50%	

The market value of the assets in the pension schemes, the expected rate of return and the schemes' liabilities at December 31, 2003 were:

	Expected Return 2003	Expected Return 2002	Market Value at 31 December 2003 €'000	Market Value 31 December 2002 €'000
Equities Bonds Property Other	7.75% 4.75% 6.50% 3.00%	7.75% 4.75% 6.50% 3.00%	102,987 23,496 10,974 <u>3,236</u> 140,693	83,885 26,830 12,923 <u>2,562</u> 126,200
Present Value of past service pension schemes' liabilities at	year end		687,894	566,776
Net deficit in pension scheme Related deferred tax liability Net pension asset/(liability)			(547,201) 	(440,576)  (440,576)
Analysis of the amount which would be charged to op Current Service Cost Past Service Cost	perating profit is as follo	ows:	11,435  11,435	9,009 
Analysis of the amount which would be credited to ot Interest on scheme liabilities Expected return on scheme assets	her finance income is a	as follows:	31,056 (8,642) 22,414	29,372 (12,027) 17,345

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Year Ended 31 December 2003

# (6) Superannuation (cont.)

(c)	FRS 17 Retirement Benefits (cont.)		
	Analysis of the amount which would be recognised in the statement of total recognised		
	gains and losses (STRGL) is as follows:	2003	2002
		€'000	€'000
	Actual return less expected return on scheme assets	7,327	(39,724)
	Experience gains and losses	(65,770)	(5,890)
	Changes in assumptions	(28,534)	(44,020)
	Actuarial loss which would be recognised in the STRGL	(86,977)	(89,634)
	Analysis of the movement in deficit during the year is as follows:		
	Deficit at the beginning of the year	(440,576)	(335,107)
	Current service cost	(11,435)	(9,009)
	Contributions	14,201	12,019
	Past service costs	-	(1,500)
	Other finance income/(charges)	(22,414)	(17,345)
	Actuarial gain/(loss)	(86,977)	(89,634)
	Deficit at end of year	(547,201)	(440,576)

The above calculations are included for information only. FRS17 requires full recognition of pension scheme assets/liabilities in the financial statements for periods ending on or after 1 January 2005.

# (7) Tangible Fixed Assets

	Computer	Motor	Fixtures	Total
	Equipment	Vehicles	& Fittings	
	€'000	€'000	€'000	€'000
COST				
At 1 January 2003	1,314	120	4,855	6,289
Additions	132	_	127	259
Disposals	(81)	(61)	(1,419)	(1,561)
At 31 December 2003	1,365	59	3,563	4,987
DEPRECIATION				
At 1 January 2003	1,104	60	4,698	5,862
Charge for Year	207	15	86	308
Disposals	(80)	(45)	(1,417)	(1,542)
At 31 December 2003	1,231	30	3,367	4,628
NET BOOK AMOUNT				
At 1 January 2003	210	60	157	427
Net Movement for Year	(76)	(31)	39	(68)

134

29

196

359

The cost of Tangible Fixed Assets is written off by equal instalments over their expected useful lives as follows:

(i)	Computer Equipment	3 years
(ii)	Motor Vehicles	4 years
(iii)	Fixtures & Fittings	5 years

At 31 December 2003

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Year Ended 31 December 2003

# (8) Technology Foresight

In February 2000 the Government approved the establishment of the Technology Foresight Fund as an important new initiative to provide significant resources for investment in basic research projects. Science Foundation Ireland (SFI) was established as the mechanism for the management, allocation, disbursal and evaluation of this Technology Foresight Fund and operated as a committee of Forfás.

SFI was established as an independent agency of Forfás with effect from 25th July 2003.

	2003	2002
	to 25 July	
	€'000	€'000
Administration and General Expenses		
Board Members' Remuneration and Expenses	167	394
Pay Costs	553	802
Other Personnel Costs	54	93
Travelling Expenses	74	291
Award Programme Management	-	223
Specialised and Professional Services	770	815
Consultancy and Studies	329	324
Rents, Rates, Repairs and Maintenance	186	349
Other Operating Expenses	290	540
Total	2,423	3,831
Grants	17,608	31,000
Total Technology Foresight	20,031	34,831

Grants are payable to Irish third level institutions to carry out world class basic research projects in the Biotechnology and Information and Communications Technologies (ICT) sectors.

# (9) Capital Account

(10)

At 1 January 2003		€'000
Transfer to Income and Expenditure Account		427
- Cost Additions	259	
- Cost Disposals	(1,561)	
- Depreciation Additions	(308)	
- Depreciation Disposals	1,542	
		(68)
At 31 December 2003		359
) Accounts Receivable		
	2003	2002
	€'000	€'000
General Debtors and Prepayments	4,180	2,358
Inter Agency Balances	244	737
Total	4,424	3,095

General Debtors & Prepayments include €1,701,841 (2002: €275,935) VAT recoverable by Forfás on behalf of the Forfás VAT Group (Forfás, IDA Ireland & Enterprise Ireland).

Year Ended 31 December 2003

## (11) Accounts Payable

	2003	2002
	€'000	€'000
General Creditors and Accruals	1,083	1,388
Inter Agency Balances	1,832	249
Total	2,915	1,637

## (12) Commitments under Operating Leases

A net total of  $\leq$ 1,036,000 (2002  $\leq$ 1,220,000) has been charged in respect of operating leases on buildings in the accounts of Forfás. Forfás has commitments of  $\leq$ 5,637,000 to pay during 2004 in respect of leases expiring as follows:

	€'000
(i) 2004	142
(ii) 2005 - 2008	-
(iii) 2009 Onwards	5,495

Costs arising out of these commitments in 2004 will be shared between Forfás and its Agencies in proportion to agreed office space occupied. The Forfás share of these costs in 2004 is anticipated to be approximately €971,000

# (13) Taxation

Section 227 of the Taxes Consolidation Act, 1997, exempts Forfás from further taxation on its Case IV and Case V rental income in excess of that deducted at source.

# (14) Board Members - Disclosure of Transactions

In the normal course of business, Forfás may enter into contractual arrangements with undertakings in which Forfás Board Members are employed or otherwise interested. Forfás has adopted procedures in accordance with the guidelines issued by the Department of Finance in relation to the disclosure of interests by Board Members and these procedures have been adhered to by Forfás during the year.

During 2003, payments amounting to €163,978 were made to an organisation in which a Board Member declared an interest, in respect of services provided by that organisation to the Agency. The member concerned did not receive any documentation on the transactions nor did the member participate in or attend any Board discussion relating to these matters.

# (15) Contingencies and Legal Actions

There are no contingencies or legal actions which require specific provision in the Financial Statements.

# (16) Approval of Financial Statements

The Financial Statements were approved by the Board on 17th February, 2004.