

# Forfás Annual Report 2001

**To the Minister for Enterprise, Trade & Employment**

Pursuant to the Industrial Development Act, 1993, Forfás herewith presents its report and accounts for the year ended December 31, 2001.

**Do Aire Fiontar, Trádála agus Fostaíochta**

De bhun an Achta um Fhorbairt Tionscail, 1993, tá a thurascáil agus a chuntais don bhliain dar chríoch 31 Nollaig, 2001, a dtíolacadh leis seo ag Forfás.

**Peter Cassells**

*Chairman*

**John Travers**

*Chief Executive*

# Functions of Forfás

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 comhachtaí dlíthiúla an stáit maidir le cur-chun-cinn tionscail agus forbairt teicneolaíochta dílsithe ann. Is é an comhlacht é freisin trína dciomnaítear cumhachtaí ar Fhiontraíocht Éireann le tionscail dúchais a chur chus 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 agus d'aon fhoras eile dá leithéid (a bunaíodh go reachtúil) a d'fhéadfadh an tAire a ainmniú trí ordú;
- forbairt na tionsclaíochta, na heolaíochta agus na teicneolaíochta, na nuála, na margáíochta agus acmhainní daonna a spreagadh sa Stát;
- bunú agus forbairt gnóthas tionsclaíoch ón iasacht a spreagadh sa Stát; agus
- Fiontraíocht Éireann agus GFT Éireann a chomhairliú agus a chomhordú ó thaobh a gcuid feidhmeanna.

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 powers for industrial promotion and technology 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. The broad functions of Forfás are to:

- advise the Minister on matters relating to the development of industry in the State;
- to advise on the development and co-ordination of policy for Enterprise Ireland, IDA Ireland and such other bodies (established by or under statute) as the Minister may by order designate;
- encourage the development of industry, science and technology, innovation, 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 and IDA Ireland in relation to their functions.

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# Board Members



**Peter Cassells, Chairman**



**Sean Dorgan**  
*Chief Executive  
IDA Ireland*



**Dan Flinter**  
*Chief Executive  
Enterprise Ireland*



**Paul Haran**  
*Secretary General  
Department of Enterprise,  
Trade & Employment*



**Professor Michael Hillery**  
*Chair of Manufacturing Engineering  
University of Limerick*



**Rody Molloy**  
*Director General  
FÁS*



**William Murphy**  
*Partner  
Tynan Dillon & Company*



**Feargal O'Rourke**  
*Partner, Taxation  
PricewaterhouseCoopers*



**Professor Yvonne Scannell**  
*Professor at Law  
Trinity College*



**John Travers**  
*Chief Executive Officer  
Forfás*



**Toni Wall**  
*Managing Director  
Wall 2 Wall Ltd*



**Jane Williams**  
*Managing Director  
The Sia Group Ltd*



**David Lovegrove**  
*Secretary to the  
Board*



**Martin Cronin**  
*Chief Executive Officer Designate  
from 13 May 2002*



# Chairman's Statement

## Overview – Investing for Competitiveness

The economy is at a crucial turning point. For a continuation in the growth that has raised our living standards over the last decade, we must now invest wisely to ensure competitiveness into the future.

Investment in infrastructure is fundamentally important. We have a backlog to make good in the areas of road infrastructure, public transport, energy, telecommunications and the environment.

But equally important is the need to invest in skills and knowledge. The educational sector must commit resources to facilitate life-long learning. Likewise, companies and individuals must commit to a culture of on-going learning. Investment in research and development is also critical to our future success. To complete the transition to a high-income, knowledge-based economy, research and development and competitive innovation must become an increasing feature of all industrial sectors.

## Employment Trends

Despite the slowdown in economic activity in 2001, there were 42,000 more people in employment in the last quarter of 2001 than in the same period the previous year. The labour force continued to grow during the year, and the rate of unemployment at 4.0 per cent at the end of 2001 was only fractionally higher than that which applied at the end of 2000 (3.9 per cent). Furthermore, employment growth in the Border, Midlands and West (BMW) region, at 2.8 per cent during 2001, was higher than the 2.4 per cent for the rest of the country.

These overall figures, however, mask the fact that while some people were gaining jobs, others were losing theirs. A considerable number of job losses occurred last year – 33,000 alone within the enterprise base supported by State agencies such as IDA Ireland and Enterprise Ireland.

While 'job churn' is a feature of all economies, the level of losses sustained underlines the importance of a constant watch being kept on the wide range of issues impacting on the competitiveness of our economy.

## Global Trade

International trade and direct investment flows are the lifeblood of the Irish economy. Between 1990 and 2001, the value of international trade in goods and services between Ireland and the rest of the world rose as a proportion of Gross Domestic Product (GDP) from 112 per cent to an estimated 180 per cent, making Ireland one of the most open economies in the world. Excluding 'micro states', such as Hong Kong and Singapore, Ireland registered the highest per capita merchandise exports in the world and was the twenty-second largest exporter in absolute terms in 2000. For every \$100 generated globally from export sales that year, \$1.30 accrued to Ireland. There are now few Irish businesses of a significant scale that do not trade in goods and services with overseas customers or suppliers.

This high degree of openness in Ireland's economy has emerged as no accident. It is the outcome of deliberate and prescient decisions made by successive Irish public administrations over a number of decades, guided by a clear and consistent strategic vision of our economic and political future. Milestones along the journey include:

- the abandonment of protectionism in favour of the internationalisation of the Irish economy in the 1950s and 1960s;
- the decision to establish a number of State economic development and promotion agencies in earlier decades including the IDA to actively encourage foreign investment;
- the decision to join the European Union (EU) (then the EEC) in 1973, thereby embracing free trade in industrial goods;
- the break with Sterling in 1979, and the subsequent entry of the Irish pound into the European Monetary System;
- the series of social partnership programmes initiated in 1987;
- our support for the Single European Market Programme (1987-1992);
- the decision to enter Economic Monetary Union (EMU) in 1992, requiring the adoption of the euro as our national currency in 1999;

- the transformation of industrial development policies and the consequential restructuring of the industrial development agencies 1990-1994 and subsequently; and
- our ongoing support for removal of barriers to trade and investments flows on a multilateral basis under the auspices of GATT, and subsequently the World Trade Organisation (WTO).

The resultant deepening of Ireland's integration into the global marketplace through flows of trade and direct investment over the last three decades is clearly linked with Ireland's gradual transformation into a competitive and successful economy and its rapid growth in employment and living standards over the same period, but most particularly during the last decade. Since entering the EU, Irish income per capita, in GDP terms, relative to the EU average, has increased from 58 per cent to 109 per cent. Furthermore, the traditional twin scourges of Irish economic life – involuntary unemployment and emigration – have been seen off by fast growth in global demand for Irish produced goods and services.

As always, the future presents new challenges. Our high percentage of trade with countries outside the euro-zone may leave the economy vulnerable to fluctuations in the external value of the euro. Remaining barriers to trade between Ireland and our EU partners must be identified and addressed, and companies must prepare adequately for a possible rise in the value of the euro against Sterling and the US dollar.

The narrowness of Ireland's export base also raises concerns about vulnerability in the face of world economic growth in 2001 suffering its sharpest deceleration since the first oil crisis in the early 1970s. Fortunately, the global economy appears to be recovering more quickly than originally anticipated. Nonetheless, attracting foreign direct investment (FDI) into Ireland will become increasingly challenging, reflecting a forecasted decline in global FDI flows in 2001-2002, infrastructure congestion in the Irish economy and growing competition for mobile FDI flows from low-cost locations in Asia, central and eastern Europe and elsewhere.

Given the dependence of the Irish economy on foreign trade and investment, it is highly significant that, in November 2001, Ireland, together with 143 other countries, agreed to launch negotiations at the World Trade Organisation aimed at reducing barriers to trade and investment between nations.

The rules agreed govern Ireland's trade relations with almost all non-European Union markets. This is significant given that by 2000, over 42 per cent of total Irish merchandise trade was conducted with countries outside the EU, up from just 29 per cent ten years earlier. Rules governing competition policy and direct investment flows between WTO members will also, for the first time, be the subject of negotiations at the WTO. It is imperative, therefore, that Ireland's key national interests in these negotiations are clearly identified from an enterprise policy perspective.

### Climate Change Strategy and the Enterprise Sector

Greenhouse gas (GHG) emissions and their role in climate change are acknowledged as the most serious problem threatening the global environment. In December 1997, 160 countries signed up to the Kyoto Protocol, which sets out legally binding quantitative GHG emission reductions for industrialised nations to achieve by 2008-2012. Agreement was reached, late last year in Marrakech, on the legal basis of the Kyoto Protocol, and EU environment ministers have already unanimously adopted a legal instrument obliging each member state to ratify it.

The National Climate Change Strategy, published by the Department of the Environment & Local Government in October 2000, has set specific reduction targets for all sectors of the economy. The strategy envisages that both cross-sectoral measures such as taxation and emissions trading<sup>1</sup> and sector-specific measures, for example negotiated agreements<sup>2</sup> (NAs), will be needed for the industrial, commercial and services sectors to meet their specified targets.

Forfás and the Department of Enterprise, Trade and Employment have undertaken studies to assess how these measures could be implemented without impacting on the competitiveness of the enterprise sector, particularly in the manufacturing and traded services industries. One of the principal recommendations coming from these studies is that non-taxation measures should be sought.

1 International emissions trading allows governments or firms to buy and sell parts of their Kyoto emissions reduction allowances.

2 Negotiated Agreements are signed between government and individual or groups of firms to undertake a series of actions to reduce their environmental emissions so that they will comply with specified standards. Agreements can be action- or target-based, and, in the context of climate change, agreements can be negotiated to reduce GHG emissions by undertaking a series of measures to improve energy efficiency within a specified time period.



## Acknowledgements

Throughout 2001, Forfás received invaluable support from An Taoiseach, Mr Bertie Ahern, T.D., from the Tánaiste and Minister for Enterprise, Trade and Employment, Ms Mary Harney, T.D., from the Minister for Science, Technology and Commerce, Mr Noel Treacy, T.D., from the Department of Enterprise, Trade and Employment and from other government ministers and departments in carrying out its work. I wish to acknowledge this support and its practical expression in the context of a range of government policies and publications aimed at the further development of the enterprise sector in Ireland.

In 2001, the enterprise development agencies, namely Enterprise Ireland, IDA Ireland, FÁS, Shannon Development and Údarás na Gaeltachta, all produced excellent results and strongly supported the work of Forfás. I acknowledge and appreciate the sustained support of the third level sector, employer bodies and business organisations, trade unions and the media, which was essential to the achievement of those results and the pro-enterprise policies put in place across a range of government departments.

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

- the National Accreditation Board (NAB), chaired by Dr Marie Walsh;
- the National Competitiveness Council (NCC), chaired by Mr Brian Patterson;
- the Irish Council for Science, Technology and Innovation (ICSTI), chaired by Dr Edward M. Walsh and;
- the Expert Group on Future Skills Needs, chaired by Dr Daniel O'Hare.

Furthermore, I wish to acknowledge the significant support for industrial development provided by the EU and the support of science and technology in Ireland through the Productive Sector Operational Programme and through a range of other programmes that significantly impact on the environment for enterprise.

As Chairman, I would like to express my thanks and appreciation to my fellow board members and, of course, to John Travers, Chief Executive who announced in late 2001 that he would be stepping down from the position he has held since the establishment of Forfás eight years ago.

John is one of the most able and dynamic public servants I have met and has played a crucial role in the economic development and industrialisation of this country.

As Chief Executive of Forfás, he has shown exceptional leadership in positioning the organisation as a pivotal agency bridging the interface between industrial, science and technology development policies and those economic and sectoral policies spanning the full range of related government departments and agencies. In doing so, he has helped Forfás achieve a high level of credibility, influence and effectiveness both in Ireland and internationally.

I would like to welcome Martin Cronin, whose appointment as the Chief Executive of Forfás was announced in May. Martin was formerly Executive Director of IDA Ireland with responsibility for world wide marketing activity in the promotion of investment in Ireland by overseas companies. He has had a distinguished career in that agency and the private sector. I wish him every success in his new position.

Finally, I want to thank the staff of Forfás for their continued dedication, hard work and professionalism throughout the year.

### **Peter Cassells**

*Chairman*

May 2002





# Chief Executive's Report

## Overview of Progress

### Economic

Recent years have seen dramatic transformations in the Irish economy. By any standard, the years from 1993 to 2001 were particularly successful, with average annual growth rates of 8.3 per cent for Gross National Product (GNP) and 4.7 per cent for employment. A downturn had long been predicted, since such high growth rates were unsustainable given the many constraints appearing, especially in infrastructure and in the labour market. However, the domestic economic downturn was sharper than had been previously anticipated, driven by the economic difficulties in the US and the parallel downturn in European and Asian markets. Nonetheless, an estimated out-turn of five per cent real GNP growth in 2001 could still be described as something of a 'soft landing', although growth is expected to be slightly slower again in 2002, before recovery in 2003.

One area within the current downturn where the slump is being felt in particular is in the technology sector. In 2001, the global technology industry suffered the worst slowdown in its 40-year history. In what one observer described as the 'perfect storm', a confluence of factors coincided to bring the industry to its most severe financial crisis in its short history. These factors include a large fall in business spending on information technology following the Y2K changeover; the collapse of internet retailing and the dot.coms; the financial difficulties of telecommunications service providers, and slowing consumer purchases of personal computers and mobile phones, reflecting market saturation and the global economic slowdown. Over the course of the year, over 200,000 jobs were lost in the global electronics industry.

Within six months, the slowdown had spread from the technology sector to more traditional sectors of the economy - manufacturing and services - and from the US to Europe and Asia. Consumer and investor confidence was further damaged by the September 11 terrorist attacks in the US. By late 2001, it was clear that the global economy was experiencing its most severe deceleration since the 1974 oil price shock.

In 2000, global GDP growth averaged 4.7 per cent, the fastest rate of growth since 1998. But in 2001 world GDP growth was estimated to have slowed to just 1.3 per cent, the poorest performance since 1992. The OECD area performed even worse, growing by just 1.0 per cent, its weakest year since 1982.

Ireland was well placed, relatively speaking, to withstand the impact of a world downturn, considering our low rate of unemployment, the strength of government finances, the strong enterprise base, and our relative immunity to financial market instability as a result of our participation in EMU. Nevertheless, the relative size of the information technology sector in Ireland and the deep trade and investment links between Ireland and the rest of the world meant that the effects of the fall-off in global economic performance were quickly felt here. Year-on-year growth in GNP fell to 3.8 per cent in the final quarter of 2001, down from 10.7 per cent in the first quarter. This was largely accounted for by a sharp fall in exports and capital investment over the course of the year (investment spending in the third quarter of 2001 fell by 5.6 per cent compared with the same period in 2000). GDP growth for the year as a whole now seems likely to have averaged at just under six per cent.

Significant job losses, particularly in technology-related industries, saw the unemployment rate rise from a low 3.7 per cent in the first quarter of 2001 to 4.0 per cent by the end of the year. This relatively modest increase in unemployment suggests a rapid re-absorption of many laid-off workers, possibly reflecting pent-up labour demand in sectors of the economy that had long suffered labour shortages. Indeed, prior to the emergence of the global downturn, it had appeared that the main threats to the Irish economy were rising capacity constraints and inflation. Far from imparting any serious damage to Ireland, therefore, it may be that the temporary slowdown in the US and global economies during 2001 had a beneficial moderating influence on Irish GNP and employment growth. Indeed, by curbing fast demand growth, it helped to reduce consumer price inflation from a high of 7.0 per cent in November 2000 to 3.8 per cent 12 months later, although this figure subsequently rose again to reach 4.8 per cent in March 2002.

There are now growing signs that the world economy may have already reached a turning point, largely thanks to a quicker-than-expected recovery in the United States. Consumer and business confidence has strengthened, and industrial production – including that by the information technology (IT) sector – is levelling off. This has been most apparent in the US and, increasingly, the euro-zone area. In contrast, in Japan, while activity may now be bottoming out, the outlook remains very difficult with few signs of a sustained recovery. According to the International Monetary Fund (IMF), global growth is expected to rise to 2.8 per cent in 2002, from 1.3 per cent in 2001. Global economic conditions in 2002 are likely, therefore, to present a more supportive environment for Irish enterprise policy than they did in 2001.

### Enterprise

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As a consequence of the slowing of economic activity globally, 2001 was a challenging year for both IDA Ireland and Enterprise Ireland. In the case of IDA Ireland, whose focus is the attraction and development of foreign direct investment (FDI), job gains of 13,000 among its client base were more than offset by job losses of 17,000. These job losses were concentrated largely in the information and communications technology (ICT) sector. IDA Ireland has expressed its confidence in Ireland's ability to take advantage of a recovery in the global ICT sector when this occurs and the announcement of recent investment decisions support this view. Despite the slight reduction in overall employment levels, foreign-owned companies under the remit of IDA Ireland have continued to increase their exports from Ireland, and the latest survey of expenditure in the Irish economy shows that, in producing those exports, these companies spent more than €14 billion on Irish-sourced materials and services and on payroll costs. IDA Ireland has also achieved success in its main strategic objectives – attracting higher value functions, such as research and development, in new projects and improving the regional spread of these projects.

In the case of Enterprise Ireland, whose focus is on indigenous industry and natural resources, the overall increase in employment among its client base was lower than what had been achieved in recent years. However, job gains still out-numbered job losses by a net figure of 1,100 jobs. Enterprise Ireland also achieved a number of successes in meeting its strategic targets – in particular, in encouraging a greater level of research and development activity within indigenous industry and seeing an increase in the establishment of high potential start-up (HPSU) companies.

By the end of 2001, Enterprise Ireland had supported 150 HPSUs, which is more than double the number originally envisaged in its 1999-2001 Strategic Plan.

### Trade and Investment

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Despite the slowdown in Irish and global economic growth, Ireland's merchandise trade surplus with the rest of the world expanded from €28.0 billion in 2000 to €35.3 billion in 2001 – an all-time record. A dramatic fall-off in the growth rate of merchandise imports was the main reason for this widening trade surplus. While the value of merchandise exports grew by 10 per cent to €92.5 billion, the value of merchandise imports grew by just two per cent to €57.2 billion. This is partly explained by a large drop in car imports in 2001 (down from €4.1 billion in 2000 to just €3.2 billion). Imports of machinery and other capital goods also slowed markedly as investment by manufacturing industry stalled.

When set against the background of zero growth in world trade and the rapid deceleration in global economic growth in 2001, the 10 per cent growth in Irish merchandise exports during 2001 was a considerable achievement. Almost all of the increase was accounted for by chemicals, pharmaceuticals and electronics equipment (including computers), while exports of food and drink and traditional manufactured goods fell. A comparison of the 2001 export figures with those for 2000 shows that exports of medical and pharmaceutical products recorded the largest increase, up from €5.3 billion to €9.0 billion (an increase of 69 per cent), those of computer equipment increased from €19.6 billion to €22.4 billion (up 14 per cent) and exports of electrical machinery and parts (including semiconductors) increased from €7.9 billion to €9.2 billion (up 17 per cent). Exports to the UK increased from €17.1 billion to €20.4 billion (up 20 per cent) and exports to the US increased from €11.2 billion to €12.4 billion (up 10.7 per cent).

Largely reflecting a decline in global investment by US-owned companies, direct investment flows into Ireland declined significantly in 2001. According to Central Statistics Office data, in the first three-quarters of the year (the latest data available), inward direct investment flows into Ireland measured €11.3 billion, down from €18.0 billion in the same period of 2000. This decline, to some extent, reflects a drop in FDI flows into IFSC-related<sup>3</sup> companies, although 'traditional' inward direct investment into industry also fell significantly. This is clearly reflected in IDA data on employment creation and job losses in the foreign-owned manufacturing and internationally traded services sectors (see above).

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3 International Financial Services Centre

In contrast, outward direct investment (ODI) by Irish companies increased to €3.8 billion in the first three-quarters of 2001, up from €3.2 billion in the same period of 2000. Although still well below inward flows, outward direct investment from Ireland has risen significantly during the 1990s, reflecting the emergence of a growing cohort of Irish multinational enterprises. It appears that this long-term trend was not deflected by the deteriorating global economic climate in 2001, and that attractive overseas investment opportunities were still available to Irish companies. Far from being symptomatic of Irish economic distress, growing levels of outward direct investment by Irish companies reflect a restructuring of Irish-owned industry into higher-value added activities, which will form the basis of long-term growth in competitiveness, exports and employment. In this sense, outward direct investment is a crucial element in furthering the aims of Irish enterprise policy with regard to raising the average skill and value-added content of Irish-based enterprise activities. As long as the Irish business environment remains supportive of high value-added activities, then outward direct investment by Irish companies should be consistent with rising average wages and living standards in this country.

### Competing Through Innovation

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One element of the competitiveness agenda that must become a focus of particular attention as we seek to complete the transformation to a high-income, high-skill knowledge-based economy is the area of research and development. R&D is an important determinant of innovation, and future competitiveness will need to be increasingly built on innovation as our cost advantages continue to be eroded as Ireland moves to become a high-income economy. Current indicators show that Ireland has a considerable distance to go in bringing innovation to the heart of development policies at national, regional, local and enterprise level. Levels of R&D, both in the business sector and in the public sector, including the Higher Education Institutes, are about 25 per cent below the EU average and even further below the OECD average. While there are dangers in making crude comparisons with such averages, it is probably true to say that the levels of R&D investment in 1999 (the latest available data) are not consistent with the vision of Ireland as a knowledge-based or learning economy. Furthermore, our low levels of R&D investment are reflected in indicators of innovation such as patents, where Ireland ranks twenty-second in number of patents per head of population terms, according to the Global Competitiveness Report.

The eminent Harvard economist, Jeffrey Sachs, speaking at the 2002 IMI conference, recommended a target for R&D expenditure of over three per cent of GNP. Likewise, an overall target of three per cent for the EU by 2010 was agreed at the Barcelona Council in March 2002. This compares with Ireland's actual expenditure of 1.4 per cent in 1999.

The Government has taken steps to address these weaknesses through the work of a number of research funding bodies, including HEA, Enterprise Ireland, IDA Ireland, the Health Research Board (HRB), Teagasc, the Marine Institute and Science Foundation Ireland, which Forfás established in 2000. The increased funding made available by Government to these bodies is highly welcome but these initiatives are at an early stage and there is no room for complacency that the gap in R&D policy has been fully overcome. It is essential that a national policy framework which brings R&D, innovation and technological development to the centre of Ireland's economic and social development policies is put in place. The recent (early 2002) Government decision to request the Chairman of the Irish Council for Science, Technology and Innovation to establish a high-level commission to advise on how best this can be achieved is highly welcome in this respect.

### Threats to Progress

#### Government Finances

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Buoyancy in the public finances dropped considerably in 2001. The position in recent years has been so strong that the exchequer nevertheless maintained a surplus in 2001 of €650 million. This, however, compares with a surplus of €3.2 billion in 2000. The drop in buoyancy is due to a combination of lower than expected tax revenue growth and large increases in current expenditure. The dramatic downturn in the global economy also had an important contributory effect.

Income tax receipts grew by just 2.2 per cent in 2001, by comparison with 13.9 per cent in 2000. The growth of tax receipts from corporation tax and value added tax (VAT) was below the levels recorded in 2000. These effects combined meant that tax revenue grew by just 3.2 per cent in 2001, as compared with 14.5 per cent in 2000. On the other hand, current expenditure grew by 16.4 per cent in 2001, by contrast with growth of 4.5 per cent in 2000. The net effect of the lower than expected tax revenue growth and increased expenditure was a dramatic fall of almost €2.2 billion in current surplus.

If significant deficits are to be avoided in the period immediately ahead, then current expenditure growth must be brought into line, particularly given recent revenue trends. The ESRI, for example, has forecast that the exchequer balance will slip into deficit by over €700 million in 2002 and €1.9 billion in 2003 on the basis of current trends. Last year's trends are continuing in both revenue and expenditure: current expenditure increased by 16.5 per cent while tax revenue actually fell by 2.8 per cent in the first quarter of the year, when compared with the same period in 2001.

It is important in this context of tightening public revenues that renewed emphasis is given to maximising the effectiveness and efficiency of public expenditure. Improved performance in this area can lead to increased provision of public services without putting additional pressure on public finances. This highlights the considerable importance of initiatives such as the Strategic Management Initiative and allied programmes of public service management reform.

### Social Partnership

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At the time of writing, public comments by Social Partners were suggesting that there might be significant difficulties in reaching a successor agreement to the Programme for Prosperity and Fairness, which ends its course later this year. When the Social Partners came together in the mid-1980s to find agreed solutions to the severe problems that were facing the country at that time - in particular high unemployment, massive emigration, and huge public debt - they identified a way forward that was based on pay moderation and tax cuts in a low inflation environment, and later integrated a socially inclusive focus with recommendations for particular areas of public expenditure. There can be no doubt of the enormous contribution that the series of Social Partnership agreements over the last 15 years has made to the dramatic transformation of the Irish economy. Even sectors of the economy nominally not involved in the agreements have benefited considerably from the stability, certainty, industrial peace and atmosphere of co-operation in industrial relations. The importance of the agreements have transcended the terms written down on paper: they have represented an inclusive, problem-solving approach to addressing difficulties facing society as a whole, and they have enriched the public policy making process.

Different times require different measures. The shape of a successor agreement may not necessarily be the same as the previous agreements, each of which in any event had a unique character and particular focus. What is important, however, is that the current challenges are not allowed to undermine what has been an extremely effective manner of doing business for the nation as a whole.

Although the economy and the public finances are in far better shape than they were fifteen years ago, we are once again at a difficult crossroads. This is a time for national leadership, in which the Social Partners have an important, positive role to play. Moderate, sustainable income growth, combined with rising productivity in a stable fiscal environment must be the aim. In the area of productivity, there must be an increased commitment to on-going in-company training, partnership and improved efficiency through enhanced organisation. International research has shown that enterprise-level partnership, combined with gain-sharing mechanisms can deliver productivity gains, and this is an area that has been relatively under-developed in Ireland until recently. It is certainly something to which the Social Partners can give their support in the period ahead.

### Infrastructure Delivery

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Considerable investment in infrastructure in key areas of significance for enterprise development took place in 2001. This included roads, public transport, telecommunications, environmental services and energy, as outlined below:

- Construction activity as part of the national roads programme reached unprecedented levels in 2001, with investment of over €900 million. Thirteen projects comprising 106 km of roadway were completed and opened to traffic during the year. A further 13 road projects commenced construction in 2001. Investment is continuing at a high level in 2002. This investment is of considerable importance given the critical role of access infrastructure for business and regional development.
- The year also saw considerable investment in public transport. Total expenditure in this area amounted to €490 million in 2001. The main infrastructure contracts were signed for the LUAS light rail system for Dublin. Five new Quality Bus Corridors (QBCs) were introduced in Dublin, and the Dublin Bus and Bus Éireann fleets received over five hundred new buses, over half of which were additions to the fleet. Investment in national rail infrastructure also proceeded rapidly.



- An investment of €571 million took place in environmental infrastructure during the year. A total of 80 water and waste-water schemes were completed in 2001, bringing the numbers completed during the first two years of the National Development Plan 2000-2006 (NDP) to over 180. More than €720 million has been allocated to continue this work in 2002.
- Energy infrastructure was improved through an on-going transmission network investment programme and the decision to commission the construction of a second natural gas inter-connector between Ireland and Scotland. Concerns about security of energy supply at national level have been alleviated in the medium term. However, there are still issues concerning low voltage, overloading problems and grid capacity at several locations and the likely high costs associated with expanding the onshore natural gas transmission infrastructure.
- The deterioration in the financial markets for telecommunications stocks in 2001 discouraged investments in telecommunications infrastructure and services by telecomm operators in Ireland and internationally. The government allocated €200 million to support regional broadband investment in the National Development Plan 2000–2006, with a number of important initiatives underway. The government has also clarified the regulatory environment with the recent passage of the Communications Regulation Act 2002. Given the emergence of a broadband gap in Ireland relative to other countries in 2001, the government announced a major initiative to deliver improved regional broadband infrastructure in regional towns on a phased basis. Phase One will see investment of €60 million for the rollout of metropolitan rings to 19 towns. This move is an acknowledgement of the key role Government has to play in ensuring the provision of broadband in the event of market failure, and it is one that recognises the provision of broadband and other infrastructures in the regions is subject to changing market conditions and that private utility markets do not always behave in a socially optimal way.

Overall, there was significant investment in infrastructure in 2001. Some of this investment benefited from improvements in the design and planning of projects. The National Roads Authority (NRA), for example, has estimated that the time required to put new road projects in place has been reduced by up to eighteen months due to modifications to the design and planning phases of the work. The government is encouraging such initiatives and exploring further ways of improving the efficiency of infrastructure delivery through the use of infrastructure corridors, which Forfás has recommended.

While progress with the NDP and other capital projects has been substantial, there are a number of causes for concern that will need to be monitored closely in the coming period, in particular: escalating costs, delays, and the fact that tightening public revenues may put pressure on the capital budget. With regard to the latter, Forfás has consistently argued that, given its pre-eminent importance in sustaining future growth and living standards, public capital investment should be accorded top priority.

## Competitiveness

The goal of competitiveness, which is reflected in the capacity to achieve increased sales in international markets, is to maintain and improve living standards. It is the basic foundation of prosperity - supporting employment, creating private incomes, and underpinning public expenditure in areas such as infrastructure, health, education and social welfare.

Ireland is an economy in transition: costs are rising and labour supply is tighter for the first time in decades. As we move towards a high-income, high-skill, high-tech, capital-intensive economy, the drivers of competitiveness are necessarily different from those that have worked for us in the past. The key issues currently on the competitiveness agenda include the following factors:

- Wages are now rising at one of the fastest rates in the OECD – faster even than productivity growth, which is slowing somewhat. This has negative implications for both employment and incomes. More moderate growth in employment costs is now required, together with enhanced productivity growth.
- Performance in the area of education needs to be improved, in terms of both participation and attainment. Too many of our young people are emerging from the education system without adequate skills for a modern economy. There are also problems with specific skill deficiencies. Of particular concern is the fall off in the study of scientific and technical subjects at second and third level. In general, the education system needs to re-gear to facilitate life-long learning. Companies and individuals must also show increased commitment to on going training and re-training.
- A modern economy needs modern infrastructure. The efficient, flexible, cost-competitive movement of goods, people, and, increasingly, knowledge is a prerequisite for competition and efficiency. Ireland has deficits in all of these areas, as well as in the areas of energy and environmental infrastructure. Government is dealing with these issues – through the NDP, and through the recent

initiative announced in the area of broadband rollout to the regions, for example. The key now is to deliver efficiently and on time, and this requires substantial improvements in project management skills, including integrated planning and decision-making.

- The public sector has made an enormous contribution to Ireland's economic transformation in recent years. However, it is important that on-going efforts are maintained to improve public sector efficiency and effectiveness. Where it occurs, public sector ineffectiveness hampers competitiveness, while inefficiency in the use of public resources imposes an additional taxation burden or the opportunity cost of services foregone.
- The promotion of competition and regulatory reform is increasingly being used by developed economies as a means for improving competitiveness, efficiency and productivity. This can be particularly important in the non-traded sector of the economy, which is not subject to the rigours of international competition, but which makes a huge contribution to national incomes and to the attractiveness of Ireland as a location for investment and to the cost-base of the internationally traded sector. Following the work of the National Competitiveness Council (*Statement on Regulatory Reform 2000*) and of the OECD (*Regulatory Reform in Ireland 2001*), the Government has taken a number of positive initiatives. Progress in this area must be continued.

## European Union

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Ireland's membership of the European Union has contributed to major advances in the economy and in the enterprise sector. Together with supportive domestic policies, EU membership has facilitated strong economic growth, particularly in the 1990s, and convergence with per capita income levels in the EU.

Per capita GDP in Ireland increased from almost 59 per cent of the EU average in 1973 to almost 114 per cent of the EU average in 2000. The associated transfers of financial resources and knowledge and the introduction of EU policies and disciplines in the areas of competition policy, macro-economic stability, the labour market and market opening have encouraged modernisation, diversification and the global integration of the economy. They have also helped develop the scientific base, improve working conditions and promote regional and social cohesion. Equally, the growth and diversification of Ireland's trade and investment has been strongly encouraged by EU membership.

The Forfás *Submission to the National Forum on Europe* (January 2002) highlighted the key benefits of EU membership to Ireland and strongly supported closer economic integration with the EU and its enlargement to central and eastern Europe and to Cyprus and Malta. Enlargement will increase the prospects for economic growth, provide opportunities to expand trade and investment with central and eastern Europe, inject new dynamism and stimulate innovation in the European economy. But it will also pose challenges for Ireland to maintain competitiveness and to support economic convergence. One of the key challenges is in adjusting our mindset of dependency on the EU to one of full participation in shaping EU policies. This, coupled with Ireland's forthcoming Presidency of the EU in the first half of 2004, will require significant preparation. Looking further ahead, the EU's plans to create the world's most dynamic, competitive, knowledge-based economy by 2010 strongly accord with Ireland's economic interests in competitiveness, flexibility and global economic integration. This goal requires sustained policy co-ordination and strategic management across departments and agencies.

## Overview of Forfás Activities 1994-2002

Forfás was established on 1 January 1994 as part of the restructuring of government agencies dedicated to enterprise development and the promotion of science, technology and innovation in Ireland as part of a fundamental restructuring of industrial policy following the analysis and recommendations of the Review Group on Industrial Policy (Culliton Report) in 1990. Since that time, Forfás has played its part in the strong success of the Irish economy. Some of the key achievements of the organisation during that period include the following:

- Forfás published two influential strategy documents on enterprise policy – *Shaping Our Future* in 1996 and *Enterprise 2010* in 2000. These documents have helped to position industrial policy in a wider context by demonstrating the importance of many areas of public policy (transport, telecommunications, education, science and technology, competition policy etc.) to the competitiveness of the enterprise sector. The proposal for a single rate of corporation tax, for example, was a key element of the *Shaping Our Future* report, which was adopted by Government.
- Forfás was one of the first state agencies to highlight the importance of telecommunications and the rollout of broadband for enterprise development and, in particular,

its importance for balanced regional development. Similarly, Forfás has taken the lead in arguing for policy changes to encourage the development of e-business in Ireland. Forfás was centrally involved in preparing the first action plan for the information society in Ireland, *Information Society Ireland: Strategy for Action*. Its proposals in relation to international connectivity, the establishment of an Information Society Commission, digital parks, and the legislative framework for e-business were subsequently implemented by Government.

- Forfás has been a consistent advocate for investment and efficiency in the area of transport and logistics. It has highlighted the requirements of the enterprise sector in key reports such as *Transport Needs of Irish Manufacturing* and *World Class to Serve the World* and was instrumental in the establishment of the National Institute for Transport and Logistics.
- Forfás played a pivotal role in the development of the first ever *White Paper on Science, Technology and Innovation*. The organisation was closely involved in facilitating the work of the Science, Technology and Innovation Advisory Council (STIAC). The report of the group charged with taking forward the STIAC recommendations, chaired by the Chief Executive of Forfás formed the core of the White Paper, published in 1996.
- Forfás was instrumental in establishing the *Irish Council for Science, Technology and Innovation* under Forfás legislation, in conjunction with the Minister for Science and Technology as a specialist science council to advise government on science and technology policy issues. Its reports and recommendations have been highly influential and include *Mechanisms for Prioritisation of State Expenditure on Science and Technology* published in 1998, which put forward a new framework for commissioning and supporting R&D at Government level which has become embedded in the system of public administration.
- Forfás co-ordinated the major Technology Foresight exercise in 1998/1999, which sought to create consensus on key technology priorities to support Ireland's future economic development. The Technology Foresight exercise, which placed an emphasis on biotechnology and information and communications technology ultimately led to the creation of a Technology Foresight Fund of more than €700 million to fund world class research in these areas. This fund is managed by Science Foundation Ireland (SFI), established in 2000 as part of Forfás.
- Forfás has provided the secretariat for the *National Competitiveness Council* since it was established in 1997 as part of the Partnership 2000 agreement. The Council

reports to the Taoiseach on key competitiveness issues for the Irish economy. Each year, the Council produces a major benchmarking document to compare Ireland's competitiveness vis-à-vis other economies (*Annual Competitiveness Report*) together with key recommendations on matters impacting on national competitiveness (*The Competitiveness Challenge*). The Council has also produced influential statements on matters such as infrastructure, telecommunications, industrial costs, labour market supply, regulatory reform and social partnership.

- Forfás was one of the first agencies to highlight the skills shortages that were becoming apparent in the mid-1990s and these warnings led to the establishment of the *Expert Group on Future Skills Needs*, the secretariat of which is also provided by Forfás. The Group has produced a number of detailed reports to identify skills needs in the economy and the actions required to ensure these needs are met. Forfás has worked successfully to manage the implementation of the Group's recommendations across a number of government departments.
- Forfás managed the EMU Business Awareness Campaign from 1997 through to the successful changeover to euro notes and coins in February 2002. The Campaign provided the enterprise sector with information and advice on the steps required to make their businesses ready for trading in euro. This promotion, together with the campaign aimed at the general public, was a key factor in Ireland's smooth transition to the new currency.
- In 2001 Forfás, in conjunction with the National Competitiveness Council, provided a number of substantive position papers on the social partnership process and the options for the future to the main participants in the process following a series of individual discussions with participants.

### Science Foundation Ireland

Science Foundation Ireland, the National Foundation for Excellence in Scientific Research announced its first awards, worth €71 million in July 2001. The Principal Investigators (PIs) who were allocated funding by the Foundation were chosen following a worldwide competitive process. The successful candidates were judged by an international peer review process as being outstanding scientists in their fields of biotechnology and information and communication technologies and are currently leading teams in carrying out ambitious and far-reaching research programmes in Irish third level education institutions.



These awards are part of the overall investment of €700 million allocated for Science Foundation Ireland in the National Development Plan covering the period 2000-2006. The Foundation also announced a Second Call for Proposals for SFI fellows in 2001, which is aimed at outstanding researchers in the early part of their careers.

The year 2001 saw the formal launch of the Foundation with the appointment of Dr William Harris as Director General. Dr Harris is an eminent scientist in his own right and has a wealth of experience at the highest levels in the promotion and funding of research. He is formerly Vice President for Research at the University of South Carolina, was Executive Director of Columbia University's Biosphere 2 Centre and has served as Director for Mathematical and Physical Sciences at the National Science Foundation in the US.

The membership of the SFI Board has been announced and its first meeting took place in January 2002. The appointment of the scientific directors for both biotechnology and information and communication technologies and the director of corporate affairs, which took place in early 2002, has completed the senior management team for the Foundation.

### Determinants of Future Success

It would be easy, with the progress of the Irish economy over the last decade, to allow complacency creep into the way we view the challenges ahead. We must not let this happen, because continued success is by no means a foregone conclusion. The determinants of future success in broad outline include the following:

- investment in infrastructure – roads, rail, public transport, energy, telecommunications, and environmental services;
- investment in skills – re-focusing the educational sector to facilitate the delivery of lifelong learning, engendering a culture of on-going training for both companies and individuals;
- maintaining sound public finances, while funding quality public services through competitive rates of tax;
- improving effectiveness and efficiency in the public service through management reform and performance measurement;
- strengthening the commitment to research, development and innovation by the public sector and by the private sector as a fundamental determinant of future national competitiveness and higher living standards;

- fully embracing the potential of technological change to achieve and shape social and economic objectives and establishing the framework of national policies through which this can happen; and
- improving efficiency and productivity in the non-traded sector through improved regulation and competition policy and enforcement.

There is much that public policy can address, but also much that it cannot, particularly now that we no longer have recourse to the traditional macro-economic tools of exchange rate and interest rate policy. A very positive contribution can continue to be played by the Social Partners: reducing bargaining costs for both firms and employees, promoting harmonious industrial relations and partnership at enterprise level, and assisting with the policy-making process.

But ultimately, the competitiveness of Ireland's economy is a function of competitiveness at the level of individual enterprises. It is affected by scale, technology, skills levels, capital intensity, innovation and, above all by welding these factors synergistically into an effective flexible and adaptive organisational entity through good management practice. These are things that our entrepreneurs and managers, together with their employees, have to get right. How well they do this will be severely tested by the current environment. We are vulnerable, for example, to fluctuations in the external value of the euro, particularly against Sterling and the US dollar. But many parts of the enterprise sector in Ireland have progressed enormously in the past years. It has demonstrated that it can compete successfully at home and abroad and, in doing so, create the wealth to sustain higher living standards for all our citizens. Emboldened by this success, we can move forward into the future with confidence.

Today Ireland has within its grasp the capacity to achieve a quality of life for all its citizens which is among the highest and most widely shared in the developed world. Building, and sustaining, a world-class traded goods and services sector will determine the difference between success and failure in meeting this objective.

### John Travers

Chief Executive Officer  
May 2002

# Overview of 2001

The overall economic situation in 2001<sup>4</sup> was characterised by strong growth in the first part of the year, giving way to a sharp deceleration as the year progressed. Overall, real GDP growth for the year is estimated at 5.9 per cent, down from the 11.5 per cent high of 2000. Real GNP growth for the year is estimated at 5.0 per cent, a significant decrease on the 10.4 per cent realised in 2000. This is still significantly ahead of the growth estimates, however, for our main trading partners and the EU-15 average of 1.5 per cent growth in GDP in 2001.

The slowdown in activity in 2001 is reflected in other macroeconomic indicators. Overall employment growth is estimated at 2.9 per cent for 2001, down from 4.7 per cent in 2000. However, unemployment rose only marginally to 4.0 per cent of the labour force in 2001, and is expected to average at no more than 4.6 per cent in 2002. Exports of goods and services are estimated to have grown by 7.8 per cent in real terms in 2001, compared with the 17.8 per cent growth achieved in 2000. Import growth has also moderated, increasing by just 4.9 per cent in 2001 compared with 16.6 per cent in the previous year. This easing in economic activity has impacted positively on the rate of inflation. Using the consumer price index, inflation is estimated at 4.9 per cent in 2001, compared to the 5.6 per cent recorded in 2000, and it is expected to moderate further in 2002.

## Employment in Agency Supported Companies

The *Forfás Annual Employment Survey* shows that total permanent full-time employment in companies under the remit of Enterprise Ireland, IDA Ireland, Shannon

Development and Údarás na Gaeltachta amounted to 315,500 in 2001, a decline of 3,500 (-1.1 per cent) over the figure in 2000. This is the first time there has been a decline in permanent full-time employment in the past ten years, and the trend is in marked contrast to the significant net increases in employment witnessed in recent times. Permanent full-time employment in 2001, however, was still the second highest recorded over the past ten years, and was 100,000 higher than the corresponding figure in 1992.

The overall net decrease in employment in 2001 was attributable to job losses in foreign-owned companies, where permanent full-time jobs decreased by 4,600 between 2000 and 2001. In contrast, there was a net increase of 1,100 permanent full-time jobs among Irish-owned companies in manufacturing and internationally traded/financial services during the same period.

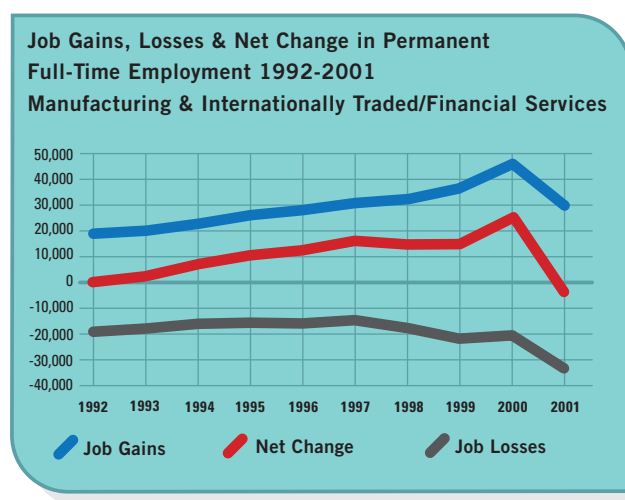
Figure 2 highlights the dynamic underlying the net change in employment. There were actually 30,000 jobs created in manufacturing and internationally traded services in 2001,

Figure 1



Source: *Forfás Annual Employment Survey*

Figure 2



Source: *Forfás Annual Employment Survey*

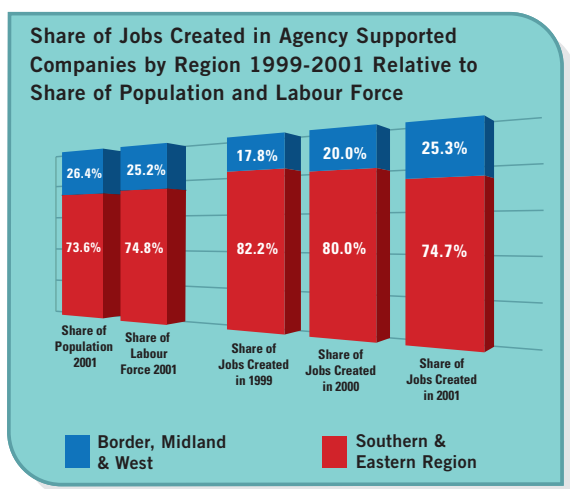
4 Sources: CSO National Accounts, Eurostat and ESRI Quarterly Economic Commentary, Spring 2002.

but these job gains were offset by job losses of 33,500 during the same period. Figure 2 shows that 2001 marked a reversal of fortune compared to the previous decade when job gains had outweighed job losses in each year. In sectoral terms, the main areas of net job creation were internationally traded services (+4,000 jobs) and the chemicals sector (+1,350 jobs). The main sector where job losses outweighed job gains was the metals and engineering sector (including electronics) where there was a net decline in employment of 7,600 jobs.

### 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, Midland and West Region<sup>5</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.

Figure 3



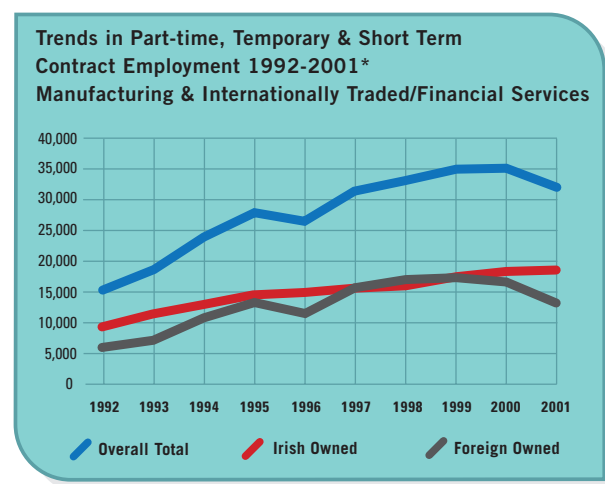
Source: Forfás Employment Survey, ESO Population and Migration estimated and Quarterly National Household Survey

There are encouraging signs that the policies being adopted by the enterprise development agencies to promote the development of the BMW region are having a positive impact. Figure 3 shows that this region accounts for 26.4 per cent of the population and 25.2 per cent of the labour force. In 1999, the region accounted for 17.8 per cent of gross job gains in agency-assisted companies. The latest figure for 2001 shows a significant change in this balance with 25.3 per cent of gross job gains accruing to the BMW region. The regional share of employment in agency-assisted companies will continue to be monitored into the future.

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

In addition to the 315,000 persons employed full-time in agency-assisted manufacturing and internationally traded services companies, 32,000 persons were also employed in part-time, temporary and short-term contract positions in 2001 as illustrated in Figure 4. Employment in this category has grown over the last decade, accounting for over 10 per cent of all jobs in agency-assisted companies (excluding those assisted by Shannon Development) in 2001. This compares with seven per cent of all jobs in 1992. Taking the two categories of employment together (permanent full-time and temporary/part-time), there are now close to 350,000 persons employed in agency-assisted companies, up from 230,000 in 1992.

Figure 4



Source: Forfás Annual Employment Survey  
\* Excludes companies under the remit of Shannon Development

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

Manufacturing and internationally-traded services companies under the remit of IDA Ireland, Enterprise Ireland, Shannon Development and Údarás na Gaeltachta make a direct contribution to the Irish economy in terms of their expenditure on **payroll**, **Irish-produced raw materials** and **bought-in services**. Forfás, in conjunction with the enterprise development agencies, tracks this expenditure in the *Annual Business Survey of Economic Impact*. The survey conducted in 2001 shows that agency-supported firms spent more than €31.6 billion on these items of expenditure in 2000, an increase of 16.8 per cent over 1999, in line with the increase in output of these firms. Relevant data is outlined in Table 1.

5 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, Midland and West region accounts for the other 13 counties.

Table 1

Direct Expenditure of Agency Supported Firms in the Irish Economy								
		Irish-Owned Firms		Foreign-Owned Firms		All Firms		
		1999	2000	1999	1999	2000	Change	
Sales	€m	19,507	22,000	48,909	59,684	68,416	81,685	19.4%
Payroll Costs	€m	3,439	4,031	4,916	5,568	8,355	9,598	14.9%
Irish Sourced Materials	€m	6,839	7,787	6,033	7,504	12,872	15,291	18.8%
Irish Sourced Services	€m	2,189	2,493	3,663	4,245	5,852	6,738	15.1%
Direct Expenditure in the Economy	€m	12,467	14,311	14,613	17,316	27,080	31,627	16.8%
Direct Expenditure as % Sales	%	63.9	65.0	29.9	29.0	39.6	38.7	-0.9%

Source: Annual Business Survey of Economic Impact, Forfás

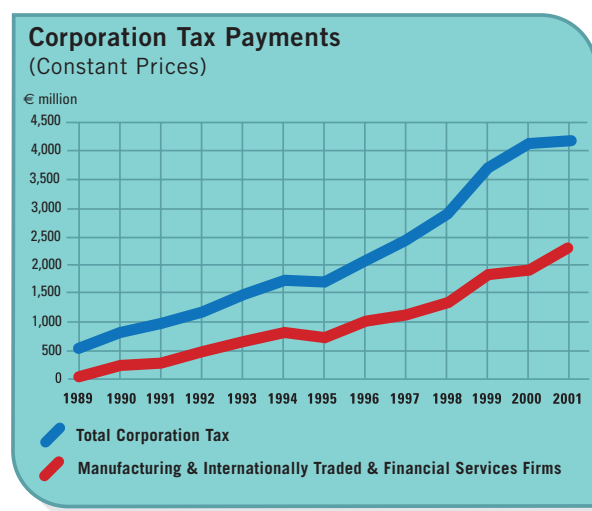
Payroll costs accounted for €9.6 billion (30.4 per cent) of this expenditure, Irish-produced raw materials accounted for €15.3 billion (48.4 per cent) and bought-in services accounted for the remaining €6.7 billion (21.2 per cent). In total, Irish-owned companies accounted for €14.3 billion of direct expenditure in the economy, equating to 65 per cent of the value of their sales. Foreign-owned companies accounted for the remaining €17.3 billion, translating to 29 per cent of the value of their sales. The *Annual Business Survey of Economic Impact* found that foreign-owned manufacturing industry<sup>6</sup> sourced 28 per cent of its raw material requirements in Ireland in 2000, up from 18 per cent at the beginning of the 1990s. This is an encouraging indicator of the increasing 'embeddedness' of foreign-owned multinationals in the economy.

### Corporation Tax Payments

In addition to their expenditure in the economy, manufacturing and internationally traded/financial services companies provide a very significant direct return to the Exchequer by way of corporation tax payments. Trends in rate of corporation tax payments are illustrated in Figure 5.

- The total corporation tax take amounted to €4,156 million in 2001<sup>7</sup> as can be seen from Figure 5. This represents a rise of 595 per cent in real terms over the period 1988 to 2001 (16.1 per cent per annum).
- Corporation tax paid at the 10 per cent rate by manufacturing and internationally traded and financial services companies, according to a survey by Forfás, amounted to €2,355 million in 2001, equivalent to 57 per cent of total corporation tax receipts.
- It is clear from the data that the lowering of corporate tax rates has boosted employment and economic activity in Ireland, thereby increasing the overall tax revenues available to finance public services and social programmes.

Figure 5



Source: Forfás Corporation Tax Survey

### Increased Investment in Enterprise Development

Forfás undertakes an annual survey and analysis of expenditures invested by the development agencies to promote the development of the enterprise sector and to create employment in Ireland. Findings from the survey undertaken in 2001 are illustrated in Figure 6 and indicate that:

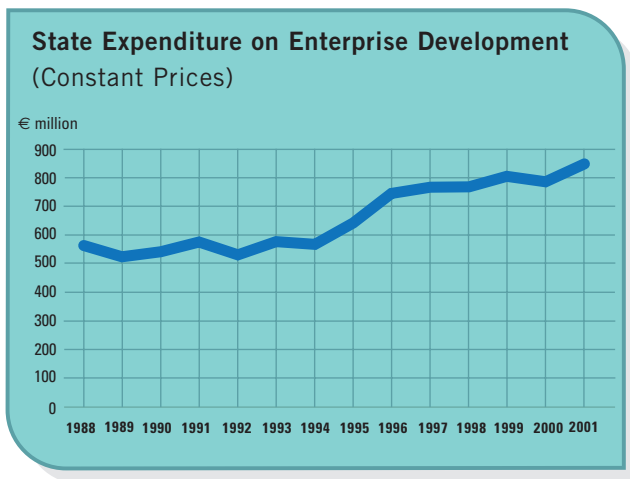
- Direct (gross) expenditure by the agencies involved in the development and promotion of enterprise (all costs of operating the development agencies, financial and other support programmes etc.) was approximately €786 million in 2000, and is estimated at €846.4 million for 2001. This represents a rise of 50 per cent in real terms over the period 1988-2001;
- Over the same period, 1988 to 2001, growth in gross government expenditure (current plus capital) of 94 per cent in real terms was recorded. The growth in GNP in real terms over this period was 167 per cent. Thus, direct expenditure by the agencies has fallen from 2.9 per cent of government expenditure to 2.3 per cent and from 1.5 per cent of GNP to 0.9 per cent over that period.

6 Excludes Food, Drink and Tobacco

7 Source: End 2001 – Exchequer Returns 3/1/2002

- There has been a trend away from fixed-asset related supports to other forms of assistance such as R&D, equity investment, employment grants and supports aimed at upgrading the business capability of firms. In 1988, fixed asset type supports granted by the development agencies accounted for 68.4 per cent of total direct expenditure. By 2001, the percentage had fallen to 29.2 per cent.

Figure 6



Source: Forfás: *Financial Support by Government for the Development of Enterprise in Ireland*

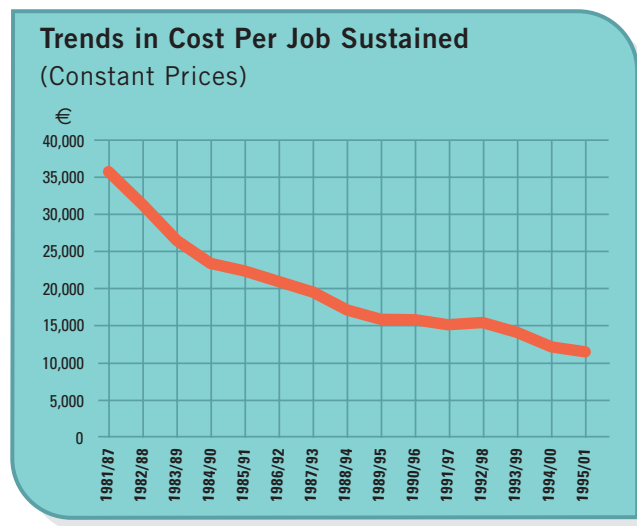
### Cost Per Job Sustained

The average cost per job sustained<sup>8</sup> in agency-supported companies over the seven year period ending in 2001 amounted to approximately €11,500, which is less than half of the figure that applied in the 1980s (when measured in 2001 prices) as illustrated in Figure 7. This downward trend is due to a number of factors, including the improved value for money approach to projects pursued by the agencies, the continued growth of internationally traded services projects where investment costs are generally lower than manufacturing projects, and the favourable economic environment for enterprise development.

### Investment in Research and Development

Total research and development expenditure data, based on Forfás surveys for the three sectors that constitute the national R&D system in Ireland - namely business, higher education and government - are outlined in Table 2 (see page 20) for the reference year 1999. This table also shows Ireland's ranking out of 26 OECD countries for national expenditure on R&D as a percentage of GDP (GNP for Ireland).

Figure 7



Source: Forfás Annual Employment Survey

The business sector accounted for 71.2 per cent (€765.6 million) of total R&D expenditure in 1999. This is an increase on its share of 69.3 per cent of gross expenditure on R&D (GERD) in 1997. The next largest funder of R&D is the government sector, which financed 22.6 per cent (€243 million) of total GERD in 1999. This figure is down on the Government's 24.2 per cent share of GERD in 1997. The remaining 6.3 per cent of GERD funding (€67.3 million) in 1999 came from other sources (higher education institutes, foreign sources etc.).

### Research and Development in the Business Sector

The Forfás *Survey of Research and Development in the Business Sector* in 1999 was completed during 2001. The results show that R&D activity in aggregate terms in the business sector (BERD) continued to grow between 1997 and 1999. Total expenditure on R&D amounted to €784 million in 1999, up from €612 million in 1997. This represents 1.03 per cent of GNP in 1999, compared with 1.04 per cent in 1997, as illustrated in Figure 8. The 1999 EU average for this measure was 1.2 per cent and the OECD average was 1.5 per cent.

The annual rate of growth in R&D expenditure for the overall period 1991-1999 was 14.6 per cent, and within this period, the rate of growth slowed to 11 per cent per annum during 1997-1999. Furthermore, BERD as a percentage of GDP increased substantially during the period 1991 to 1995 but has remained at around 1.0 per cent since 1995,

8 Data excludes companies under the remit of Shannon Development and Údarás na Gaeltachta. The cost per job is calculated by taking into account all direct Enterprise Ireland and IDA Ireland expenditure, including equity investments, to firms in the period of calculation. Only jobs created during, and sustained to the end of, each seven-year period are credited in the calculations.

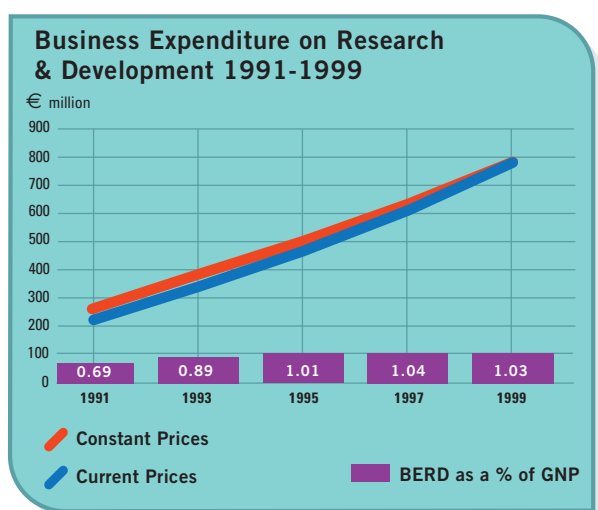


Table 2

Gross expenditure on R&D (GERD) as a percentage of GDP 1991-1999					
	1991	1993	1995	1997	1999
GERD €m	345.4	501.8	667.4	856.2	1,075.6
Gerd as a % GNP	1.07	1.30	1.43	1.45	1.42
EU Average GERD as % GDP	1.98	1.92	1.81	1.8	1.86
OECD Average (26 Countries)	2.32	2.25	2.11	2.16	2.21
<b>Ireland's Rank</b>	<b>19</b>	<b>17</b>	<b>17</b>	<b>17</b>	<b>17</b>

Source: Forfás; OECD (GNP used in place of GDP for Ireland)

Figure 8



Source: Forfás

partially due to the extraordinary growth in GNP experienced in Ireland over this time. This figure compares with BERD as a percentage of GDP for the EU and for the OECD reaching averages of 1.2 per cent and 1.5 per cent, respectively.

Among the major findings of the survey are the following:

- The number of firms spending significant amounts of money (€1.3 million or more) on R&D increased from 75 in 1997 to 98 in 1999. The number of foreign-owned firms in this category increased from 50 to 55, while 43 indigenous firms spent more than €1.3 million on R&D compared to 25 in 1997.
- Foreign-owned firms accounted for two-thirds of BERD in 1999, which is in line with the trend of previous years.
- On a sectoral basis, the key indicator of the level of research is the ratio of R&D to total output. For the manufacturing industry as a whole, this ratio is low at

0.8 per cent, compared to the EU average of 2.4 per cent. This is partly because, in general, expenditure on research in Ireland by foreign-owned firms is a relatively low proportion of recorded output levels. This is particularly the case for the electrical and electronic equipment sector. In this high-tech sector, which accounts for 40 per cent of total BERD, foreign-owned firms have an R&D intensity of just 1.2 per cent, translating to less than one quarter that of the OECD average of 5.6 per cent. Finland, a major competitor in this field, has an R&D intensity of 9.8 per cent for the electrical and electronic equipment sector. The picture is much the same for the pharmaceutical sector, the second largest R&D performer.

- Another useful indicator of research activity in a country is the number of business sector researchers for every one thousand people in the labour force. In Ireland, this equates to a figure of 3.1, which is above the EU average of 2.5, and, on this score, Ireland ranks tenth highest out of 25 OECD countries.
- Government financing of R&D averaged between five to six per cent over the period 1991 to 1999. This compares to an OECD average of almost 10 per cent in 1999.

### State Expenditure on Science and Technology

The Forfás annual publication State Expenditure on Science & Technology shows that Government allocations to scientific and technological activities in 2001 amounted to €1,760m, an increase of €399.3m, or 29.4 per cent over 2000 levels. This is accounted for by an increase in public funds (Exchequer & EU), which rose from €1,160 million in 2000 to an allocation of €1,565 million in 2001. The balance of €195 million arises from income earned from the activities of the departments and agencies.

Table 3

	Total Public Allocation	
	€'000	%Total
Taoiseach	729	0.05%
Finance	6,040	0.39%
Environment and Local Government	15,192	0.97%
Education and Science	927,564	59.28%
Marine and Natural Resources	39,345	2.51%
Arts, Heritage, Gaeltacht and the Islands	8,204	0.52%
Agriculture and Food	118,385	7.57%
Enterprise, Trade and Employment	177,028	11.31%
Public Enterprise	124,292	7.94%
Social, Community and Family Affairs	33,642	2.15%
Health and Children	28,955	1.85%
Government Offices	85,340	5.45%
<b>Total</b>	<b>1,564,717</b>	<b>100.00%</b>

Source: Forfás – State Expenditure on Science & Technology, 2001

\* These figures do not include earned income (such as fees for technical services) which amounted to €195 million in 2001. The inclusion of earned income brings the total to €1,760 million.

### Research and Development in the Public Sector

As research and development is a very important component of total S&T spend, a separate report on R&D is prepared in addition to the *Total S&T Budget* report. Altogether, R&D represents 22 per cent of public science & technology expenditure and the 2001 budget allocation amounts to €342 million.

The allocations for 2001 are up by 40%, or €98 million on 2000 outturn figures. The major contributors to this increased funding are (see Table 3):

- Department of Education and Science: €39.1 million
- Department of Enterprise, Trade and Employment: €28 million
- Department of Public Enterprise: €10.6 million

Other significant increases are in the Department of Agriculture, Food and Rural Development (€7.5m) and the Department of the Marine & Natural Resources (€7.4m)

Additional funding from the Department of Education & Science relates to expenditures under the Programme for Research in Third Level Institutions. The Department of Enterprise, Trade & Employment increase reflects a build up in expenditures to Forfás to fund Science Foundation Ireland as well as additional grants for R&D from Enterprise Ireland to the business sector and to third level institutions. The Department of Public Enterprise has begun to support R&D in a significant way in the Digital Hub and in MediaLab Europe.

The allocation for *performance* of R&D in the public sector in 2001 is €127.7 million, up from €95.6 million in 2000. This figure includes €13.1 million, which is earned income so that the public funds invested in R&D performed in the public sector amount to €114.6 million in 2001, compared with €82.7 million in 2000.

Table 4

Changes in R&D Expenditure, (€m)			
	2000 Out Turn	2001 Allocation	Change
Dept. of Education & Science	82.5	121.6	+39.1
Dept. of Enterprise, Trade & Employment	61.6	89.2	+27.6
Dept. of Agriculture & Food	51.1	58.6	+7.5
Dept. of Marine & Natural Resources	13.6	21.0	+7.4
Dept. of Public Enterprise	7.4	18.0	+10.6
Dept. of Health & Children	12.5	15.6	+3.1



# Activities in 2001

## Introduction

Forfás was established in 1994 as the Advisory Board for Industrial Policy and Science and Technology. In this capacity, Forfás:

- advises the Minister for Enterprise, Trade and Employment on the development of State policies designed to stimulate enterprise and employment;
- is responsible for co-ordinating key aspects of the activities of the promotional agencies; and
- is responsible for evaluating and monitoring programmes that promote enterprise development, science and technology.

The National Accreditation Board (NAB) operates as a division of Forfás.

Science Foundation Ireland (SFI) was established in January 2002 as a Committee of Forfás under the Industrial Development Acts 1993 to 1998 and the functions of SFI are derived from the Science & Technology Act, 1987. It is proposed to establish SFI, under a new enactment in the near future, as a corporate body and as an agency of Forfás.

This section outlines some of the activities undertaken in 2001 in each of these areas.

## Policy

During 2001, Forfás put forward policy recommendations on a range of issues relating to the development of enterprise, trade, science, technology and innovation in Ireland. A number of these recommendations were devised in conjunction with bodies established by Government, including the National Competitiveness Council (NCC), the Irish Council for Science, Technology and Innovation (ICSTI) and the Expert Group on Future Skills Needs. Forfás provides research support and secretariat for each of these bodies. A short overview of some of Forfás' activities in 2001 is set out below under the following headings:



*Pat Martin, Accounts Department; Mary Toolan, National Accreditation Board and Aine McDonagh, Enterprise & Trade Policy Division.*

- Competitiveness
- Regulatory Reform
- Skills
- Trade
- Infrastructure Provision
- Energy
- Waste Management
- Spatial Planning and Regional Development
- Regional Strategy Agendas
- Telecommunications
- e-Business
- Taxation and Finance
- Indigenous Industry Strategy
- EU Affairs
- Science Foundation Ireland
- European Research Area
- Inter-Governmental Research Organisations
- Irish Council for Science, Technology and Innovation (ICSTI)
- Innovation and Creativity

## Competitiveness

The National Competitiveness Council was established in 1997 under the Partnership 2000 agreement and includes representatives from the social partners. Its primary function is the identification and analysis of actions required to progress Ireland's competitiveness.

The Council's major policy statement *The Competitiveness Challenge 2001* was launched by An Taoiseach in December 2001. It covered the full range of competitiveness issues and proposed a number of urgent recommendations designed to improve competitiveness in the light of the changed economic circumstances. Key concerns highlighted were:

- the cost environment for enterprise;
- the need for timely delivery of infrastructure under the National Development Plan;
- improvement in market regulation; and
- increased efficiency and effectiveness in the public sector.

The fourth *Annual Competitiveness Report (ACR) 2001* was published in December 2001. This report comprehensively evaluates Ireland's competitive position by benchmarking its performance against other countries. The report provides increased breadth and depth of coverage compared with previous years. Many of the previous indicators were replaced and new ones were added. Over 200 statistical indicators were used, and these were categorised into 11 *aspects of competitiveness*.

Throughout the year, various other studies were undertaken to address important competitiveness issues:

- Work was undertaken to monitor progress on the implementation of the National Development Plan in areas posing significant constraints to the growth of industry at national and regional levels. In this context, particular attention was paid to achievements on road and public transport projects. Work was initiated in international benchmarking, focusing on international best practice in the provision of infrastructure and public transport systems, as well as outlining priorities for benchmarking in the project implementation field.
- The Council participated in the preparation of a report on North-South competitiveness for the North South Ministerial Council.

- A study on labour force participation rates among the over-55s in Ireland was initiated in conjunction with the Expert Group on Future Skills Needs. The aim was to recommend ways of increasing the participation of older workers in the workforce, without compromising other social and economic objectives. It examined the factors affecting participation of older workers with a view to specifying how these might be influenced by Government measures to increase their participation rates
- The Council commenced research on identifying and eliminating barriers to the growth of small business and enterprise. A Council sub-group, comprising members with direct experience of small business, is working towards producing policy recommendations to improve the environment for enterprise and encourage entrepreneurship. A further element of this project will be the development of a system of indicators to benchmark small business/entrepreneurship on an international basis.
- The Council, together with Forfás, has for a number of years been addressing issues of regulation and competition as essential components of national competitiveness. Both bodies were actively involved in encouraging and participating in the OECD review of regulatory reform in Ireland, published earlier this year. Forfás is also represented on the High Level Group established by the Government to examine the findings of the OECD report, to consider existing and emerging implementation plans, and to report to Government on a regular basis regarding measures in place, progress being achieved and any difficulties being encountered.
- In addition, the NCC has considered a wide number of other issues that impact on competitiveness including labour supply, social partnership, electricity/gas, the Kyoto Protocol, preparations for the euro, sustainable development, telecommunications, e-government, science in education, cost issues including PRSI, and the role of competition in the economy.
- A detailed review of all NCC recommendations was undertaken to improve the methodology of making recommendations and to identify priorities. The Council works closely with a group of six assistant secretaries from key Government Departments to monitor and follow-up on the implementation of its recommendations.



Orla O'Neill, Accounts Department and Helen Doherty, Personnel Department.

### Regulatory Reform

Much progress was made last year in the area of regulatory reform. The OECD, at the behest of the Government and with assistance provided by Forfás, delivered a report entitled *Regulatory Reform in Ireland*. Building, in some respects, on the National Competitiveness Council's *Statement on Regulatory Reform* (2000), this report highlighted a number of areas where regulation could be improved, leading to increased competitiveness and efficiency. The main recommendations that emerged out of this process included:

- the need for an over-arching national statement on regulatory reform and competition policy;
- the introduction of full regulatory impact analysis for legislation and regulation;
- continued emphasis on the primacy of the needs of consumers (including businesses as customers) especially through improvements in the consultative process;
- a review of the operations of the legal system, examining in particular whether the processes and institutions themselves could be restructured towards the objective of reducing costs;
- institutionalised collaboration between the regulators, Government Departments and the Competition Authority through the establishment of a High Level Group on Regulation.

The Government subsequently established a High-Level Group to consider implementation of the OECD's recommendations. Forfás is represented on this Group. As a next step towards producing a national policy of regulatory reform, based on agreed principles such as the primacy of consumer welfare, the Government recently launched a consultation document entitled *Towards Better Regulation*. The purpose is to stimulate broader debate amongst the various concerned parties. Forfás will shortly be making a formal submission to this process.

### Skills

The skills and flexibility of the Irish workforce are becoming increasingly important in ensuring sustained economic growth in a competitive global economy. Available evidence indicates that a tight labour market situation will continue in the medium term, particularly in the higher-level skills area of the economy and in certain parts of the tourism industry. In this context, the issue of future skills needs in the labour market generally, and the changing content of those skills, will be of prime importance. Demographics and declining numbers entering and leaving school are also a key consideration.

During 2001, the Expert Group on Future Skills Needs, and its various sub-groups, addressed the skills needs of a number of individual sectors ranging from e-business to the construction industry. *The Third Report of the Expert Group on Future Skills Needs* was published in June 2001. This is wider in scope than its predecessor, and it analyses the labour market in terms of the availability of labour generally. It pays particular attention to the situation in lower-skill occupations. While recognising that many sectors of the economy were experiencing difficulties in recruiting people with the required skills in 2001, the group carried out specific studies for the IT sector, the construction sector, the science research sector, the over-55s age group, and the logistics sector and on the overall supply as well as the demand position in the labour force generally.

The factors that will affect demand and supply of IT skills over the period 2001-2005 were reviewed in light of the events of September 11 and the industry slowdown. A key recommendation was that a strategic investment of an additional €165 million be made in the third-level provision of IT skills to ensure that Ireland can retain and enhance a competitive edge in promoting a knowledge-based economy. The areas where that additional funding could best be deployed were identified.

The construction study addressed the shortage in manpower at all levels, including management, professional and craft skills within the sector. The report also examined the issue of career development and life-long learning with a view to encouraging people to enter and stay within the industry.

The study of participation rates of the over 55s in the labour market was carried out by the Expert Group, in co-operation with the National Competitiveness Council. It focuses on obstacles to participation and proposes policy recommendations for their removal. The main findings were presented to a conference on Employment and Retirement among the Over-55s held in September 2001, organised jointly by the Expert Group on Future Skills Needs and the National Council on Aging and Older People. The Conference was opened by Minister Tom Kitt, T.D. Proceedings of the conference have been published and submitted to Government.

The research skills study identified the significant increase in demand for people with high-level skills in scientific research that will arise from the new support measures put in place by the Government including those for Science Foundation Ireland, the Higher Education Authority (HEA), the Health Research Board (HRB), Teagasc and the Marine Institute, as well as the expansion of research activities by industry. Under the National Development Plan, significant research funding is to be made available on an increasing basis up to 2006.

In this regard, a critical policy issue concerns the number of doctorates awarded in science and engineering. While this increased between 1996 and 1999, the Irish level of awards per head of population remains well below leading nations such as Switzerland and Finland.

In view of a projected skills gap between the demand for researchers with a PhD degree and the probable supply from within Ireland over the coming years, the Expert Group believes that it will become increasingly necessary to attract suitably qualified people from abroad. In this context, it has identified a range of mechanisms and strategies that other countries use to attract researchers from abroad, which are relevant to the actions required in Ireland at this point in time. This analysis has been published by Forfás and the HEA.

The labour force study proposed the establishment of a dedicated labour/skills research unit with a mandate for three to five years. This gave rise in November to a new mandate for the Expert Group on Future Skills Needs and the strengthening of its the research and managerial resources as well as the establishment of a Labour Research Unit within FÁS.

## Trade

While most Irish goods trade is still conducted within the Single European Market (SEM), and governed by EU rules, a growing share of trade takes place outside the SEM, and is, therefore, governed by multilateral agreements under the auspices of the World Trade Organisation. As a small open economy, Ireland is dependent on the free movement of goods, services and investment across national boundaries. Accordingly, a highly positive development for Ireland was the decision by the 144 members of the WTO in November 2001 to launch a new round of negotiations aimed at reducing barriers to trade and investment between countries. These negotiations began in January 2002, focusing on a range of areas, including industrial tariffs, regulatory barriers, subsidies, anti-dumping, regional trade agreements, environment and dispute settlement issues. Negotiations in agriculture and services trade began in early 2000, and negotiations on investment and trade facilitation are due to begin in 2003-2004.

These talks will potentially affect companies in Ireland that currently sell, or plan to begin selling, goods or services into non-European Union markets through exports or overseas investment. They will also potentially affect companies in Ireland that are dependent on imported inputs from non-EU markets, or that are vulnerable to import competition from outside the EU in the event of the elimination or reduction of EU import barriers. In September 2001, Forfás and the Department of Enterprise, Trade and Employment, in conjunction with the development agencies, jointly launched a WTO Industry Consultation Process designed to alert industry to the implications of a new round of trade liberalisation negotiations, and to provide an opportunity for industry to make its views known on key issues. The consultation process can be accessed at [www.openmarkets.ie](http://www.openmarkets.ie). Feedback from companies during this process will enable Irish trade negotiators to draw up a detailed list of Ireland's priorities in the negotiations.

The draft Ministerial Declaration agreed at the WTO's meeting in Doha which launched the current round of negotiations is broadly balanced, with the 'New Round' negotiating agenda including all the main areas of interest from an Irish enterprise policy perspective, particularly, with investment, trade facilitation and government procurement in the negotiating agenda.

The second Forfás *International Trade and Investment Report* was completed in December 2001, examining and monitoring Irish trends in a global context and raising international trade and investment issues for policy discussion.



In order to evaluate the impact of the downturn on the information and communication technology sector (ICT) in Ireland and to identify the main threats to the industry here, between May and July 2001, Forfás and IDA staff interviewed major IDA-supported ICT companies in Ireland and in the US. Based on the information collected from these interviews and an overview analysis of international trends and prospects in the sector, an action plan was prepared to support the development of existing ICT investment in Ireland and to position Ireland more strongly as a base for new investment.

A Forfás *Statement on Outward Direct Investment* was published in early October 2001. The purpose of this was to develop greater awareness of, and debate on, the implications of growing levels of Outward Direct Investment (ODI) for the Irish economy.

In partnership with the Chambers of Commerce of Ireland and in consultation with the Department of Enterprise, Trade and Employment, work was undertaken in 2001 to identify the barriers faced by Irish firms when sourcing goods directly from euro-zone countries. Arising from this work, Forfás will act with Enterprise Ireland, the Department of Enterprise, Trade and Employment and the industry representative bodies to monitor implementation of a SourceEuro strategy aimed at identifying the opportunities for Irish firms in achieving a greater diversification in sourcing supply needs in the euro-zone area.

### Infrastructure Provision

Given increasing concerns about the costs and time associated with providing new infrastructure, the Department of An Taoiseach requested Forfás to undertake a study of alternative approaches to infrastructure delivery to increase the efficiency and speed of deployment, including the potential to develop infrastructure corridors. Specifically the applicability of a corridor approach to infrastructure provision that involves 'bundling' suitable infrastructures such as roads, electricity, telecommunications and water, and delivering these to a particular location through a common strip of pre-designated land was examined. This avoids uncoordinated and piecemeal provision and can minimise land take by concentrating infrastructure delivery into a single channel.

Forfás completed two case studies on the potential for application of a corridor approach in Ireland and submitted a report on findings to the Cabinet Committee on Infrastructure and Public Private Partnerships.

The analysis of international experience, engineering assessments and interviews with relevant stakeholders in Ireland has indicated that such an approach would be both economically beneficial and technically feasible. Corridors can also help to spread compensation costs across a range of utilities and provide a strategic and long-term approach to the delivery of infrastructures in a way that helps minimise negative social and environmental impacts. Furthermore, they provide transparency concerning future intentions with respect to infrastructure developments and land use and are recommended for consideration in the formulation of regional planning guidelines.

### Energy

The exceptional growth of the Irish economy over the last decade has resulted in a dramatic increase in demand for energy. This has placed additional pressure on the supply infrastructure for electricity and gas in the context of on-going liberalisation of the country's energy market.

In early 2001, Forfás completed a review of the electricity sector in Ireland entitled *Electricity Supply in the Irish Economy: Key Competitiveness Issues and Policy Requirements*. This review was submitted to the Cabinet Committee on Infrastructure and Public Private Partnerships. The analysis also formed the basis for a submission by the National Competitiveness Council in this area. The review identified key competitiveness issues relating to Ireland's electricity system, following highlighted concerns on the ability of the system to accommodate high rates of economic growth and to adequately respond to the needs of high energy-intensive e-business foreign investment projects, particularly, internet data centres.

The report concluded that there were weaknesses in Ireland's electricity generation, transmission<sup>9</sup> and distribution systems and noted that these difficulties have potentially serious implications for current and future enterprise development at national, regional and sectoral levels. Critically, it identified an increasingly small projected surplus (margin) of reserve generating capacity relative to demand, reducing the security and reliability of power supply, and it set out seventeen key recommendations to address weaknesses identified.

The key short term recommendations included:

- the immediate commissioning of additional back-up generation capacity to meet projected demand for the winter of 2001/2002;

9 The transmission network is the backbone of the national electricity system and links the generating stations with the distribution network, which provides power to business and residential customers.

- the promotion of conservation and demand side management strategies, including the use of pricing mechanisms;
- the development of a top-class communications and public awareness campaign to explain the critical importance of rapid investment in transmission and distribution infrastructure at regional and local level for economic and social development;
- the provision to Eirgrid of appropriate authority to effectively manage, operate control and quickly develop the national transmission system;
- rapid agreement on the use of external contractors by ESB to enable completion of critical investment in the transmission and distribution networks in 2001 and thereafter; and,
- determination of tariffs for gas transmission and gas network development plans needed to provide certainty to operators considering investment in additional electricity generating capacity.

In autumn 2001, Forfás reviewed progress on implementation of the recommendations set out. This review noted that while good progress had been made, a number of medium and longer term issues still needed to be addressed.

Over the medium term, the margin between electricity supply and demand will remain below Generating Security Standards. It is estimated that Ireland will require the equivalent of a new 400 MW electricity capacity every two years to 2010 if it is to achieve a margin equivalent to the Generating Security Standard.

In addition, many of the towns prioritised by the development agencies and the emerging National Spatial Strategy (NSS) for the development of flagship business parks and as gateway towns will not have capacity to support extra demand over the medium term. An initial assessment of sixteen key regional cities/towns indicates that only six could accommodate additional growth for electricity of up to 10 MW over the period to 2008 and beyond.

Given the long lead times of up to four years for the planning and construction of new generating plant and up to seven years for planning and deployment of transmission network infrastructures, it was recommended that:



*Bernie Moran, Press Office; Kieran Donoghue, Enterprise & Trade Policy Division; Lorraine Callaghan, Secretariat and Carol Monaghan, Personnel Department.*

- the Department of Public Enterprise request Eirgrid to initiate the development of a long term plan for the transmission network in the context of the regional industrial development priorities of the agencies and the emerging priorities of the National Spatial Strategy;
- the Department of Public Enterprise and the Commission for Electricity Regulation (CER) undertake an assessment of the attractiveness of the Irish market for investment in electricity generating plants and introduce changes to the regulatory environment and other areas as required;
- the financing options for putting infrastructural investment in place ahead of demand to promote economic and social development be examined;
- Eirgrid undertake a review of the system of transmission credits, and amend as appropriate, to promote smaller-scale distributed generation close to areas of demand.

Forfás also provided advice to the Department of Enterprise, Trade and Employment on several issues related to the development of the natural gas market in 2001. The Irish gas market is in transition, as Ireland seeks to implement various measures to comply with EU Directives on market opening. Gas demand has increased by over 110 per cent since 1990 and this has led to concerns over security of supply. At the same time, the dynamics of gas supply are changing due to depletion of gas reserves in the Kinsale gas field, the discovery of a new field off the coast of Mayo (Corrib) and investment in a new interconnector between Scotland and Ireland.



*Diarmuid ÓConghaile, Enterprise & Trade Policy Division; Josephine Lynch, Science Technology & Innovation Division and Pat O'Brien, National Accreditation Board.*

During the year, Forfás undertook an assessment of future gas supply-demand forecasts, evaluated a proposal to Government to construct a second interconnector with Scotland and reviewed proposals for a tariff regime for gas transmission. In July 2001, the Gas (Interim) Regulation Bill, 2001 was published by the Minister for Public Enterprise and was passed in early 2002. Forfás conducted a review of the Bill and concluded that it provided the foundations for the establishment of regulatory processes that were transparent, non-discriminatory and efficient. The passage of the Bill in early 2002 is a major step toward establishing an independent regulatory office for gas supply and pipeline construction in Ireland.

It gives effect to the Minister's intention to establish the Commission for Electricity Regulation (CER) as the independent regulator of the natural gas sector in Ireland and for the CER to be re-named the Commission for Energy Regulation. In addition, it provides the basic set of powers and functions required by the CER to carry out this role effectively. Moreover, it is aimed at promoting third party access to gas pipeline systems in Ireland and the development of new pipeline capacity where needed.

### Waste Management

Between 1995 and 1998, the amount of non-agricultural waste generated in Ireland increased by 89 per cent. While this development was not entirely surprising given the high levels of economic growth at the time, it has led to a serious waste management problem. The current waste management infrastructure in Ireland, such as landfill sites, is proving to be inadequate to deal with the increasing volumes of waste. The continued development of the enterprise sector may be hampered if the current situation is not addressed.

In order to expedite the development of a sustainable and integrated approach to waste management, Forfás established a Waste Management Task Force with representatives of the Environmental Protection Agency (EPA), the Department of the Environment and Local Government (DoELG), IDA Ireland, Enterprise Ireland, the Department of Enterprise, Trade and Employment (DETE), the Irish Business and Employers Confederation (IBEC) and other business interests. The Task Force published a report entitled *Key Waste Management Issues in Ireland* during 2001 and outlined a series of policy recommendations under the following headings:

#### ■ Build Consensus and Improve Co-ordination on Waste Management:

- a two-way communication programme and a technical expert group should be established to create a national vision for an integrated waste management strategy;
- a National Waste Management Agency (NWMA) should be established to provide the co-ordination and the central focus required to fulfil the wide range of functions needed to implement national, regional and county waste management plans. Regional Waste Management Boards would also support the NWMA.

#### ■ Accelerate the Planning Process for the Development of Waste Infrastructure:

- Strategic Environmental Assessment should be used in developing the new waste infrastructure specified in national, regional and county plans and all waste management plans should be incorporated into the framework of the National Spatial Strategy;
- pre-designated 'Waste Management Centres' should be established based on a concept contained in the Planning and Development Act 2000;
- a framework should be put in place for the provision of incentives for communities who host waste management facilities.

#### ■ Deliver Integrated Programmes and Infrastructure:

- demonstration programmes and best practice guidelines should be put in place to promote waste prevention and minimisation programmes;
- recycling projects should be encouraged and measures put in place to ensure effective segregation of waste streams at source;
- the establishment of a national thermal treatment facility for non-hazardous/hazardous waste should be facilitated.



Following publication of the report, the Minister for the Environment and Local Government announced that a National Waste Management Board (NWMB) would be established to co-ordinate, monitor, review and advise on all aspects of waste management policy at all levels of the waste hierarchy.

In addition to the establishment of the NWMB, significant progress is also being made on the recommendations dealing with the two-way communication programme, the establishment of an information expert group, waste prevention and minimisation and waste recycling.

### Spatial Planning and Regional Development

Spatial planning and regional development issues were an important component of Forfás work in 2001.

Greater balance in the spatial distribution of economic activities is essential for both social and economic reasons. Uneven spatial development can undermine the achievement of social equity and economic efficiency.

Forfás established an inter-agency working group comprising representatives of the industrial development agencies IDA Ireland, Enterprise Ireland, Shannon Development and Údarás Na Gaeltachta to complete a detailed examination of the enterprise policy dimensions of the National Spatial Strategy, to prepare a formal submission on the strategy to the Minister for the Environment and Local Government and to agree other inputs during the year. This submission provided an enterprise development perspective on the NSS and outlined the policy actions required to ensure that the NSS and enterprise policy are mutually reinforcing going into the future. It was supported by analysis of spatial trends in employment, output and productivity growth at county level. Further work on the NSS involved an examination of the regional strategies of the development agencies and assessment of the infrastructure capacities of the regions. Collectively, this analysis highlighted the important role that the enterprise sector will play in the achievement of the objectives of the NSS and indicated some of the priorities, especially in the infrastructure area, that the strategy will need to address if it is to be successful. Overall, the NSS represents a unique opportunity to put in place a coherent long-term planning framework to guide the future distribution of population, infrastructure investment and economic activity across the country.

### Regional Database of Infrastructure

In order to facilitate a more efficient spatial distribution of the enterprise sector, the Tánaiste and Minister for Enterprise, Trade and Employment requested Forfás to construct a database of the physical and social infrastructure available to support enterprise development in the regions. This project was successfully completed in 2001. The database is intended to help identify the developmental capacity and potential of various locations and regions and pinpoint areas in need of improvement. The project recognises that physical and social infrastructure provides the framework conditions for economic growth, localised development and social progress.

The Forfás Regional Database was developed with funding from the Government's Information Society Fund. The database is an internet-based databank of tables and maps of physical and social infrastructure, relating to enterprise development and promotion, and containing details of the agency-supported enterprise base in 123 locations around Ireland, (towns with a population in excess of 1,500, according to the Central Statistics Office, 1996 Census). It includes various categories of infrastructure that are considered essential and significant for the development of the enterprise sector. For each of the towns covered, this infrastructure is described by reference to a list of indicators identifying quantity, quality and sophistication. Moreover, the physical and social infrastructure data is supplemented by further details outlining the number of manufacturing/internationally-traded services facilities supported by the industrial development agencies and employment details, as they apply to each town and sector.

The database is accompanied by a geographical information system (GIS) facility, which displays maps of certain physical features, for example, electricity, telecommunications and gas infrastructure, and seaports and airports. Furthermore, its website acts as a portal, linking the user to the sites of relevant sources of data, infrastructure providers, agencies and departments. The web address is [www.infrastructure.ie](http://www.infrastructure.ie).

### Regional Strategy Agendas

During the year, implementation of the National Development Plan 2000-2006 and the design of a National Spatial Strategy focussed renewed attention on regional policy issues in Ireland.

Forfás co-ordinated the approach of the development agencies in addressing this requirement by re-designing their

regional strategies to achieve a larger volume of enterprise activity outside the eastern region. An important component of the work involved the preparation of Regional Strategic Agendas (RSAs).

RSAs are strategic plans for the development of the regions in which the development agencies (IDA, EI) are operating. They include a profile and Strength, Weaknesses, Opportunities and Threats (SWOT) analysis of each region, together with a set of development objectives, which the agencies will work towards. The RSAs identify the key investment and other requirements by region, so as to enable the agencies achieve their objectives, including provision of critical infrastructure such as roads, energy networks, waste management facilities, telecommunications and the strengthening of local educational facilities and the skills base.

They provide the agencies and their regional teams with a long-term plan for the development of regions. These plans acknowledge that developing the regions will require a collective effort by all appropriate public bodies, regional organisations and local communities and that there are limits to what the industrial development agencies can achieve by themselves. In this regard, the RSAs highlight the contingencies involved in the regional development process and the need to build up social capital in each region.

### Telecommunications

In recent years, the Government has focused strongly on addressing key telecommunications bottlenecks and providing infrastructure to areas where the market is not meeting the needs of businesses quickly.

During 2001, Forfás continued to benchmark the competitiveness of the telecomm market and work with Government Departments on the implementation of a number of key initiatives. Forfás' Telecommunications Benchmarking Reports have noted that while the competitiveness of telecommunications for the enterprise sector has improved significantly over the past two years, key weaknesses remain, particularly for broadband leased line and mobile services.

Forfás, in consultation with key stakeholders, revised its benchmarking process in 2001 to reflect recent technological and market developments, including the strong acceleration in the adoption of broadband technologies internationally. The process going forward will specifically benchmark the price, quality, availability, and adoption of broadband telecommunications services relative to leading and competitor countries.

A widening broadband competitiveness gap has already been identified. Other countries have moved ahead quickly in the provision of broadband services over the existing copper telephone networks at very competitive prices. Such services were launched in Ireland in early 2002 at prices above those in the lead countries. Similarly, broadband is readily provided on cable networks in leading countries, but has yet to happen on a wide basis in Ireland.

In 2001, Forfás completed a review of the broadband needs of industry and enterprise in the regions. The organisation worked with the Department of Public Enterprise to develop a call for proposals under the NDP to specifically address the identified gaps through public private partnership investment in physical infrastructure and through the promotion of further competition. This work recommended the allocation of NDP funding on the deployment of optical fibre backbone infrastructure and broadband points of presence, Digital Subscriber Line (DSL) technologies to enable provision of broadband on copper networks and the provision of ducting by local authorities in key towns for rental to telecommunications operators.

Forfás was also a member of the Telecommunications Working Group, established by the Cross-Departmental Team on Infrastructure and Public Private Partnerships in September 2001, to assess key broadband telecommunications priorities and to determine how best these could be met. In March 2002, the Government approved the strategy submitted by the cross-departmental team. This will accelerate competitive broadband rollout in an initial 19 towns and will be extended to an additional 48 towns within three years.

Forfás and the development agencies will continue to assess progress in addressing the telecommunications needs of the enterprise base in remaining towns, and work with Government, local authorities, telecommunications operators and firms in the allocation of future rounds of funding.

Forfás also reviewed policy and regulatory developments in the telecommunications market since the publication of the Forfás report *Broadband Telecommunications Investment in Ireland*, in March 1998 and the subsequent liberalisation of the market. The update report entitled *Broadband Investment in Ireland – Review of Progress and Key Policy Requirements* notes that, while significant progress has been achieved, a number of long-standing critical issues require action in relation to the cost, quality and availability of advanced broadband telecomm services for business. The downturn in

the world economy and the technology markets in 2001 have had a significant effect on investment in broadband infrastructure and services in Ireland. Key issues include the following:

- the establishment of a strong and effective, pro-competitive/pro-consumer regulatory regime following the enactment of the Communications Act 2002 and quick transposition of outstanding EU Directives;
- the unbundling of the local loop<sup>10</sup>, which has occurred in a number of other countries over the past two to three years, but has yet to be widely implemented in the Irish market;
- the introduction of flat rate narrowband internet access charges;
- the separation of Eircom's network and retail businesses to provide a wholesale network accessible to all operators;
- the deployment of regional broadband infrastructures and services through the extension of open-access, diverse, resilient and advanced broadband and dark fibre backbone infrastructures throughout Ireland and the development of competitive local access infrastructures for the provision of broadband services;
- the introduction of new provisions to ensure that the planning guidelines for road opening are consistent and fair, that infrastructure sharing is encouraged, and, where technically feasible, that provision be made for the bundling of ducting for telecommunications with other infrastructures.

### e-Business

Forfás continued, through a quarterly benchmarking process, to monitor e-business developments in Ireland and internationally, as part of its role to encourage and monitor the implementation of the Forfás report *e-Commerce – The Policy Requirements*<sup>11</sup>. These benchmarking reports monitor the requirements and actions necessary to improve the competitiveness of the business environment for e-business in Ireland and to promote the adoption of e-business. Its objectives are to monitor:

- the key e-business drivers and developments internationally;



*Caroline Mooney, Facilities Department; Finbarr Tumelty, Systems Department; Sean Quinn, Facilities Department and Caroline Markey, Science, Technology & Innovation Division.*

- the relative competitiveness of the business environment in Ireland for e-Business; and
- the rate of adoption of e-Business in key sectors of the Irish economy, relative to international best practice.

While the reports note that e-business in Ireland and overseas has not developed as strongly as expected due to the slowdown in the technology, media and telecommunications (TMT) sector, Ireland has made significant progress. This is particularly the case in the areas of e-Government and general ICT adoption, with the implementation of Basis<sup>12</sup> and Oasis<sup>13</sup>, and strong growth in the adoption of ICT among firms and citizens in Ireland.

A large variation exists, however, in the adoption of e-business across key sectors of the economy, with a two-tiered approach emerging. Multinationals and the larger and/or more technologically oriented enterprises are moving to adopt e-business but the majority of small and medium enterprises (SMEs) lag significantly behind these. Following the major stock market correction in April 2000, and subsequent global economic downturn in 2001, the 'dot-com' component of e-business, based on exaggerated expectation rather than real performance, has disappeared. Many Irish SMEs have become complacent and more focused on short-term needs, as they have come to the mistaken view that the adoption of e-business is over-hyped, less urgent now that

10 Local loop unbundling allows other telecommunications companies and service providers access to the former incumbent's local network (Eircom) and provide services directly to the customer.

11 'e-Commerce: The Policy Requirements' prepared at the request of the Tánaiste and Minister for Enterprise, Trade and Employment and published in July 1999.

12 [www.basis.ie](http://www.basis.ie). The BASIS Project is a Department of Enterprise, Trade and Employment initiative aimed at improving the electronic delivery of Government information and services to the business community.

13 [www.oasis.gov.ie](http://www.oasis.gov.ie) provides frontline information on public services for use by the general public. In time, the website will also act as a portal or gateway to services. Oasis acts as a central portal and has the information-seeking public as its primary focus.

the perceived competitive threat has waned, and will be cheaper and easier in the future as the required support services improve. In reality, the adoption of e-Business is even more important for Irish businesses in the context of a global economic downturn.

e-Business continues to be one of the major issues facing businesses today. How quickly they adopt new technological processes, how well they adapt, and how flexible they are in responding to changes in technology, in business relationships and in customer behaviour will determine their success, and indeed their ability to survive. Firms need to develop long-term e-business strategies that move beyond developing a web site, to the integration of ICTs and e-business into all aspects of their business processes. Companies and countries that do not respond dynamically to the challenges that e-business brings will be at a competitive disadvantage relative to e-enabled companies and countries, as the world economy improves.

Forfás has also undertaken reviews of the development of the internet data centre sector, of e-marketplaces and of e-procurement, and of the growth of the digital content and m-commerce sectors with the industrial development agencies. These have outlined recent and emerging developments in each area and assessed likely future developments. They also set out strategies to ensure that Ireland remains an attractive location for mobile investment in these emerging sectors, that indigenous companies in these areas operate in a conducive environment relative to best practice overseas, and that all Irish-based enterprises are capable of leveraging the benefits of these technologies and the associated services to boost their productivity and competitiveness.

## Taxation and Finance

Progress continued to be made in 2001 in a number of key areas relating to the taxation and finance environment for business development in Ireland:

- **Reduction of the Overall Tax Burden on Enterprise**  
Forfás has advocated a policy of lowering the burden of taxation on the enterprise sector. This has facilitated the creation of a pro-business culture and has boosted economic activity and associated taxation revenue available to Government for social and economic development purposes. Significant progress has been made in this area through tax reductions contained in the

past five budgets, including Budget 2002. Taxation<sup>14</sup> in Ireland, at 32.2 per cent of GDP was the lowest in the EU in 1999. It was also significantly below the OECD average of 37 per cent for that year and fell further to 29.4 per cent in 2001<sup>15</sup>. This has provided a more competitive base for the private sector in Ireland and, due to the additional economic activity generated, it has increased taxation revenues above what they would be in a high-tax environment.

- **Reduced Tax Wedge**

Reductions in the burden of personal taxation and pay related social insurance (PRSI) have assisted the competitive position of employers in Ireland, compared with their counterparts in the UK and elsewhere. This is measured by the extent of the 'tax wedge', which is the difference between the cost to an employer of employing someone and that person's net pay. Figures published by the OECD<sup>16</sup> show that the tax wedge in Ireland in 2000 for single persons was the lowest in the EU (and lower than the US). Forfás has also been comparing these figures with those for UK and has published its most recent findings. These show that the tax wedge has been reduced significantly in Ireland compared with the UK, and currently stands at an all time low. For a single person earning €19,000 per annum, the tax wedge is now 22 per cent in Ireland compared with 26.9 per cent in the UK. In 1994/1995, the tax wedge for a single person on the average industrial wage was 38.3 per cent in Ireland compared with 32.3 per cent in the UK<sup>17</sup>.

- **VAT on Basic Research**

As a result of work undertaken by Forfás, in conjunction with Science Foundation Ireland and the Revenue Commissioners, the Finance Act 2001 (supplemented by a Statement of Practice) contained measures to ensure that the basic research activities financed by SFI are exempt from VAT. This will be of significant benefit to the financing of SFI's activities.

- **VAT on e-Business**

Forfás has undertaken a considerable amount of work to develop a VAT regime supportive of the development of e-business activities in Ireland, and has been monitoring developments at EU level in relation to proposals for VAT on electronic services. The ECOFIN Council (European Finance Ministers) has now given its agreement to the European Commission's June 2000 proposals for a Directive and a Regulation on the application of VAT to

14 Includes social security contributions

15 Budget 2002, Department of Finance

16 Taxing Wages 2000-2001 (OECD).

17 "Taxes on Labour in Ireland and the United Kingdom", a report for IBEC by Colm McCarthy, DKM Economic Consultants and Paul Tansey, Economic Consultant.



digital products. The implementation date is set for 1 July 2003. The Directive will contain a number of measures supportive of Irish enterprises, which had been advocated by Forfás.

The proposals will, for example, remove the obligation on EU suppliers to apply VAT on electronic services delivered to non-EU customers. This will remove a disadvantage suffered by EU suppliers vis-à-vis US and other competitors. The proposals will also require, for the first time, suppliers of digital products from outside the EU to register for VAT in just one Member State and to charge VAT on digital sales to private consumers in the EU at the VAT rate applicable in the country where the private consumer is resident. These non-EU suppliers' sales to the private consumer will not therefore be treated identically to EU suppliers sales for VAT purposes, as EU suppliers of the same digital products to the private consumer will continue to charge VAT at the rate applicable in the country where the supplier is located in the EU. The directive has to be transposed into all Member States' law by 1 July 2003 and will apply for three years before it is reviewed.

#### ■ **Increase in the Supply of Seed and Venture Capital**

In 2001 Forfás worked with Enterprise Ireland on the development of proposals for a new Seed and Venture Capital Scheme to cover the period 2001-2006 in partnership with the private sector. Under the scheme, €95 million has been allocated by Enterprise Ireland to 14 qualifying venture capital firms on an equity basis for investment in smaller emerging firms with good growth potential in all regions and all sectors. The initiative provides an additional source of finance for projects with good potential in the current difficult project-financing climate.

### **Indigenous Industry Strategy**

Irish-owned industry performed relatively well in 2001, despite the sharp slowdown in the Irish and global economy during the year. The Forfás *Annual Employment Survey 2001* shows that Irish-owned firms achieved a net increase of 1,100 jobs in manufacturing and internationally traded services activities in 2001. This strong performance compared with the foreign-owned sector may reflect a number of factors. Irish-owned industry was less exposed to the sharp downturn in the technology industry, and particularly the industrial electronics industry, than the foreign-owned sector here. Moreover, unlike many IDA

supported companies, few indigenous Irish companies, with the exception of companies in the giftware and technology sectors, were directly impacted by the sharp slowdown in the US import demand over the first nine months of the year.

Despite indications of an upturn in the global economy, the business environment for indigenous industry will remain challenging in 2002. Growth in Ireland's main export markets, particularly those in continental Europe, is likely to remain subdued – a development that may be reflected in slowing export growth by indigenous Irish companies in 2002. Other risk factors presented over the coming six to twelve months include:

- a downturn in Irish economy expenditures by multinationals in Ireland;
- an appreciation of the euro against Sterling and the Dollar;
- a deterioration in the financing environment; and,
- increased price competition in global markets.

As part of its next three-year business plan, Enterprise Ireland has proposed measures to address the threats being faced by the indigenous sector in the current economic climate and to intensify its engagement with client companies in order to grow exports and enhance competitiveness and product innovation. Forfás worked with Enterprise Ireland on some aspects of the Plan. The actions being taken, or proposed, include:

- intensifying international marketing activities;
- the creation of a "Competitiveness Fund" to support client productivity initiatives;
- strengthening the flow of new start-ups with export potential; and
- enhancing the flow of private equity to industry.

Other areas of agency and public policy relevant to indigenous industry that will also be considered in 2002 include:

- enhancing market access for Irish companies through outward direct investment;
- support structures for applied research and preparing for a euro appreciation.



*Loretta Mulvihill, Systems Department and Noel Gillatt, Science, Technology & Innovation Division.*

### EU Affairs

Forfás responded to a request from the National Forum on Europe to make a submission on Ireland's experience of, and evolving relationship with, the European Union. The submission emphasised that, in the interest of social, economic and political development, Ireland should develop closer economic integration with an enlarged EU.

The submission covered enterprise policy, science and technology and trade and investment. It highlighted the significance of membership in boosting economic growth and catch-up with the EU, expanding the R&D base and transforming the regulatory environment with benefits to producers, workers and consumers. The long-term benefits of access to the single market and the importance of macro-economic disciplines and policy co-ordination to Ireland were emphasised.

Enlargement of the EU, now in train, is expected to increase competition and trade and investment opportunities. In particular, it creates opportunities for outward direct investment from Ireland.

### Science Foundation Ireland

The year 2001 saw the completion of the launch of Science Foundation Ireland with the appointment of Director General, Dr. William C. Harris. The establishment of SFI as a sub-board of Forfás arose from work carried out by the Irish Council for Science, Technology and Innovation, Technology Foresight and Forfás. The membership of the Board was announced and this, together with the announcement of the

director of the Information and Communications Technologies Division and the director of the Biology and Biotechnology Division, completed the top management structure of the Foundation.

The Foundation announced the results of the First Call for Proposals for Principal Investigators in July 2001. This call to the international research community was aimed at supporting a small number of outstanding researchers, who are world leaders in their fields. Following a very positive response to the call from around the world and a very rigorous and independent international peer review process, eleven principal investigators were selected to head-up teams carrying out leading-edge international research in Ireland. The awards ranged up to €1.3 million per annum, for a three to five year period, covering funding for principal investigators and their research teams, comprising up to 12 people.

The research programmes currently being carried out include:

#### Biotechnology

- the biological mechanisms underlying programmed cell death and its role in diseases such as cancer and auto-immune disorders;
- an examination of how the immune system protects against infectious agents and disease with a view to developing more effective medicines and vaccines;
- the integration of biology and information technology to study the fundamental evolutionary relationships between organisms.

#### Information and Communications Technologies

- an investigation of the electronic properties of magnetic materials leading to an industrial shift from semiconductor devices to magnetic devices in meeting the storage demands of information technology in the 21st century;
- research into methods for solving very complex problems that conventional computer programming techniques often cannot handle – with potential applications in bioinformatics, computer and telecommunications networks and e-commerce;
- the development of new, practically useful methods for the analysis and design of interacting computer controlled systems, with future applications in the aerospace, automotive, bioscience and telecommunications industries;



- an investigation of new techniques that can effectively optimise the scarce resources of broadband communications networks, operating systems and parallel processors;
- research enabling the design of innovative photonic devices that use light instead of electrons to communicate, leading to the development of systems with increased bandwidth, which will, in turn, enable the communication of much larger quantities of information;
- the development of the key tools and materials for working at the molecular level, atom by atom, to create structures with a fundamentally new molecular organisation. The potential applications from this work span many areas of science and technology including faster and more powerful electronic and photonic devices;
- an investigation of the surfaces and interfaces of magnetic materials, leading to the development of magnetic devices that are smaller and faster than corresponding semi-conductor devices and will enable the design of more powerful computers.

In order to maintain the momentum of the first call for proposals, the Foundation, in the second quarter, announced a new international call for proposals for SFI principal investigators. The Foundation also announced a call for SFI fellows, aimed at supporting outstanding researchers in the early part of their career. Successful applicants as SFI fellows can receive up to €1,625,000 over five years to support their work and that of their team.

The first meeting of the SFI board took place in January 2002. Several new SFI funding programmes were announced in February including the following:

- **SFI Fellows**  
Five-year awards to support senior, distinguished researchers in fields of science and engineering that underpin biotechnology and information and communications technology;
- **SFI Investigator Programme Grants**  
Four-year programme grants to support fields of science and engineering that underpin biotechnology and information and communications technology;
- **SFI Centres for Science Engineering and Technology: Campus Industry Partnerships**  
To fund scientists who build collaborative efforts that develop internationally competitive research clusters allied to industry; and

- **SFI Workshop and Conference Grants**  
To support workshops and conferences sponsored by or involving Irish scientists and research bodies and aimed toward an international scientific audience.

### European Research Area

The EU Commission Communication *Towards a European Research Area* of January 2000, outlined the objectives and scope of a new research strategy for Europe. This was subsequently endorsed by Heads of Government in Lisbon (March 2000) and given a fresh impetus in Barcelona (March 2002) with the agreement that overall spending on R&D and innovation in the Union should be increased with the aim of approaching three per cent of GDP by 2010. The Heads of Government agreed in Barcelona that two thirds of this new investment should come from the private sector.

The vision expressed in the European Research Area (ERA) Communication points towards a fully developed, functioning and interconnected research space, in which barriers would disappear, collaboration would flourish, and where a functional integration process would take place. Since March 2000, the ERA has become the reference framework for research policy issues in Europe.

In the context of developing the ERA, Ireland, represented by Forfás, is involved in the benchmarking of national research policies, specifically in relation to the following topics:

- human resources in RTD;
- public and private investment in RTD;
- scientific and technological productivity;
- the impact of RTD on economic competitiveness and employment; and
- the public understanding of science.

A final report will be prepared by the end of 2002 for submission to the EU Research Council.

In parallel with this benchmarking work, the EU Commission is undertaking, with the help of the High Level Group of representatives from the Member States, a mapping of research excellence throughout the Union. A pilot study in three broad areas is currently under way and an international conference will be held during 2002 to discuss the results and the next steps.

The implementation and funding of the European Union's research and technology development policy is done through multi-annual Framework Programmes. The Sixth Framework Programme 2002-2006, which is currently under negotiation, will contribute to the integration of research efforts and activities on a European scale, as well as contributing to the structuring of the various dimensions of the European Research Area. Forfás provides policy advice to the Department of Enterprise, Trade and Employment in respect of EU RTD policy, specifically the EU Framework Programmes for Research, Technology Development and Innovation. Associated with this, the division monitors Irish participation in framework programmes (FP) and co-ordinates the national delegates and national contact points for each of the specific programmes within the overall FP.

### Inter-Governmental Research Organisations

Scientific endeavours are more often than not collaborative in nature. In some cases, the nature of the science and the scope of the collaboration involved are beyond the capacity of any one country to fund on its own. Consequently, some large-scale research facilities have been built and funding for their ongoing running costs has been provided by support from a number of national governments.

Forfás, on behalf of the Department of Enterprise, Trade and Employment has assessed the case for Irish membership of four such inter-governmental research organisations (IGROs). These were:

- CERN - European Organisation for Nuclear Research;
- EMBL - European Molecular Biology Laboratory;
- ESO - The European Southern Observatory; and
- ESRF - European Synchrotron Research Facility.

Forfás consulted widely with the scientific and business sectors and with the industrial development agencies before making the recommendation that Ireland should join EMBL and, subject to negotiations about membership type (full or associate), Ireland should also consider joining ESRF and ESO at an early stage.

In relation to CERN, which would involve high-level membership costs, Forfás judged that Ireland should not join at this point. There is a need to develop the scientific capability necessary to take advantage of the opportunities for high-level collaborative scientific work that full membership of CERN would provide. An appropriate allocation of resources will need to be put in place by the

relevant government departments and research funding bodies to achieve this capability. Once the necessary capability is in place, positive consideration should be given to membership of CERN. In the meantime, opportunities to develop collaborative work and other links with CERN should continue to be strongly pursued by research bodies and industry in Ireland as part of the effort needed to build up the required capability in Ireland.

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

The Irish Council for Science, Technology and Innovation advises the Government and the board of Forfás on science, technology and innovation (STI) policy. It implements its work programme through the establishment of task forces that develop recommendations on agreed priority topics for ratification by the Council itself.

### Biotechnology

The growing prevalence of biotechnology has raised many issues of public concern, including the use of genetically modified organisms (GMOs) in food production, the effect of GMOs on the environment and the application of biotechnology in healthcare and in new methods of medical therapy. The current public debate is quite polarised, and it is widely accepted that the debate should be more open, transparent, informed and involve all stakeholders. In the absence of widely available, independent and credible information on biotechnology, the general public is not given an opportunity to fully understand, and therefore make informed decisions on, the enormously wide range of applications of traditional and modern biotechnology in the agricultural, industrial and healthcare sectors.

ICSTI decided to make a contribution to the public debate, in response to a recommendation in the *Report of the Charing Panel of the National Consultation Debate on Genetically Modified Organisms and the Environment*, (October 1999).

The ICSTI report, published in December 2001, seeks to promote and achieve dialogue on biotechnology between those who work in the field and the general public. Among the recommendations in the report is the establishment of an information centre for science and technology, providing balanced, comprehensive information on current and proposed uses of GMOs.

The report also supports:

- informed choice and mandatory labelling of GM foods;

- information on applications for release or marketing of GMOs to be made available;
- research and clinical trials in gene therapy to be regulated; and
- the establishment of a fully independent biotechnology ethics committee.

### Measuring and Evaluating Research

The Council ratified a statement entitled *Measuring and Evaluating Research*, which looks at the rationale for public funding of research and the tools used to measure and assess the inputs and outputs from research. Specifically, the document reviews the principal indicators and techniques used internationally to measure science, technology and innovation policy activities and their impacts. It provides an account of the current situation in Ireland with respect to science, technology and innovation (STI) indicators and their collection, as well as the application of STI evaluation tools. The statement makes recommendations on how current practice in Ireland could benefit from the implementation of best international practice.

It acknowledges that the choice of indicators and evaluation techniques rests on underlying, sometimes implicit, models of the production of scientific knowledge. The main recommendations are that expertise in indicators and evaluation techniques for STI policy should be more widely embedded in public policy agencies in Ireland. This would support a more full reflection of the centrality of STI policy to economic and social development by:

- the continued development and use of such techniques by specialist agencies e.g. Forfás, the Higher Education Authority and Science Foundation Ireland, and evaluation units involved in STI activities;
- the dissemination of information on, and the results of, such techniques in the wider policy community through publications and conferences/seminars on these themes;
- consultation with the scientific and technological communities as to the evaluation approaches adopted or under consideration;
- the much wider use by funding sources (typically government departments) of a formal, ex-ante evaluation prior to approving the introduction of any new or revised STI initiatives; and

- the provision of a specific allocation for the costs of monitoring and evaluation within the overall budget for each STI support programme.

### Other Issues

The Council is progressing work on a variety of other issues including:

- Utilising intellectual property for competitive advantage;
- Lifelong learning;
- Industrial design and development;
- Embedding the pharmachem industry in Ireland;
- Sustainable development; and
- Representation of the Organisation of Public Science, Technology and Innovation (STI) in Ireland.

### Innovation and Creativity

The seventh National Innovation Conference, organised by Forfás was held in October 2001 and attracted 110 delegates. The aim of the conference was to investigate how to leverage creativity for competitive advantage at all points in the business chain and to make policy recommendations that would, when implemented, help creativity to add value in all sectors of society.

Mr John Travers, Chief Executive of Forfás, officially opened and chaired the conference. Mr Noel Treacy, T.D., Minister for Science, Technology and Commerce, delivered the opening address. The keynote address was delivered by Professor Nicholas Negroponte, Director, MIT Media Lab. Dr Chris Horn, Chairman of the Board of Iona Technologies. Dr William Harris, Director General of Science Foundation Ireland, responded to Professor Negroponte's speech.

Three workshops, organised around creativity themes, enabled the participants to formulate recommendations, addressed both to the state sector and the enterprise sector, on the initiatives and policies necessary to support the competitiveness of the enterprise sector by leveraging creativity. The workshop chairmen presented the recommendations from the workshop at the final plenary session.

# Co-ordination

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## Introduction

Co-ordination of the industrial development agencies is a core function of Forfás. This is achieved through a number of mechanisms, including:

- the Board of Forfás, of which the Chief Executives of the industrial development agencies and the Secretary General of the Department of Enterprise, Trade and Employment are members;
- the Inter-Agency Planning Managers' Group, chaired by Forfás, the function of which is to facilitate an integrated approach by the development agencies to the development needs of the enterprise sector; and
- a number of cross-agency working groups operated by Forfás on specific policy areas and working closely with individual agencies to help achieve operational consistency.

The co-ordination function during 2001 was carried out effectively in the fora mentioned above. There are several other areas co-ordinated by Forfás.

## Enterprise Area Scheme

Forfás co-ordinates the Enterprise Area Scheme, which was introduced in the Finance Act 1995 to provide incentives to investors and qualifying companies 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 locations in Dublin (Cherry Orchard and Finglas), as well as Rosslare Harbour and areas adjacent to the regional airports.

To qualify for incentives, companies must be engaged in manufacturing or computer services. In the case of the regional airports, freight forwarding/logistical services are also eligible.

Enterprise Area Certificates are issued by the Minister for Enterprise Trade and Employment, after consulting with the Minister for Finance, on the recommendation of Forfás in consultation with Enterprise Ireland/IDA Ireland. Some 15 Enterprise Areas Certificates were issued in 2001, and since the scheme was launched, 81 certificates have been issued. Some 49 of these were for projects in Dublin, 30 in Cork and

two elsewhere. In total, the projects employed approximately 5,500 people in the various Enterprise Areas at the end of 2001.

## Awareness Programmes

During 2001, Forfás took steps to help co-ordinate the various awareness programmes that were being run by, or were associated with, groups within Forfás' remit. These included the National Skills Awareness Programme, the Science Technology and Innovation (STI) Awareness Programme and STEPS (a programme being run by the Institution of Engineers of Ireland). The co-ordination included cross-representation on these groups and a focus on more effective expenditure of awareness funds.

## EMU Business Awareness Campaign

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The Forfás EMU Business Awareness Campaign was established as part of the Government's National Information Programme on the euro. The primary objective was to provide Irish businesses with the information they needed to assist them with their preparations for the changeover to the new single currency.

On 1 January 2002, euro notes and coins were successfully introduced into circulation in Ireland. Customer accounts in financial institutions were all converted to the euro on this date. In addition, 85 per cent of ATMs were dispensing euro notes by 6.00pm, and retailers began systematically giving change in euro and withdrawing the old Irish currency.

These, and other measures, combined with the enthusiastic reception of the new currency by the Irish public, meant that the changeover caused minimum disruption and was essentially complete within a week, well ahead of the predicted schedule.

The Forfás EMU Business Awareness Campaign played an important role in the changeover. The main outputs of the campaign were:

- targeted advertising, using national and provincial media, together with ad-hoc advertising in relevant business/trade publications took place in the early years of the Campaign. In 2001, a very focused *Put the Euro in Business* campaign was undertaken;
- close to two million publications were distributed to assist businesses to prepare for the changeover;
- the Campaign team handled in excess of 40,000 queries and gave almost 360 presentations;
- ‘The Loughrea Eurotown’ was established as a demonstration project and was regarded as a significant success nationally and internationally;
- a Retailing Kit, to train retail staff, was developed and 60,000 kits were distributed throughout the country;
- the Campaign team worked with FÁS in the area of providing retail training for Irish retailers, using the Retail Training Kit as the basis for the training sessions;
- a brochure and calculator were supplied to taxi drivers to assist them with the changeover, and a similar brochure was supplied to hackney drivers;
- a video was produced and distributed to illustrate many of the issues to be dealt with at an operational level in retail outlets.

Numerous working groups and committees were supported and facilitated by Forfás. The extent to which Irish retailers were well prepared is acknowledged as being a key contributor to the success of the changeover to the euro. Both the Tánaiste, Mary Harney T.D. and Minister Noel Treacy, T.D. praised Forfás’ proactive role in working with the business community to ensure the success of the changeover.

### Science, Technology and Innovation (STI) Awareness Campaign



A full programme of activities was carried out in 2001, the sixth year of the Science, Technology and Innovation (STI) campaign. The audiences of focus continued to be young people, business, the general public and the media. The

objectives were to raise the perception among young people of science and technology subjects, to help stimulate innovation in business, to assist the public in becoming more comfortable discussing issues with a strong technical component and to inform the media of the relevance of science, technology and innovation.

The highlight of the programme was *Science Week*, which ran from November 11 – 18. The seven-day promotion consisted of 160 events countrywide, including science fairs in Carlow, Limerick and Sligo. The largest attendance was at the Limerick Science Fair, which attracted 25,000 people.

A new element in the programme for 2001 was *Primary Science Day*. The theme chosen was magnetism. All resource materials and a workbook for teachers, available either in English or Irish, were provided to all primary schools.

Other events in 2001 included:

- The National Innovation Awards;
- The National Science and Technology Journalism Awards;
- The Junior Scientist Feature in the RTE Guide; and
- The *RTE Family Science Quiz* on the Pat Kenny Radio Show.

The STI Awareness Programme website added a number of new features, including the monthly e-zine *Atmosphere*.

The STI Awareness Programme is managed by Forfás on behalf of the Department of Enterprise, Trade and Employment. In 2001, an independent evaluation of the programme was carried out on behalf of the Office of Science and Technology within the Department of Enterprise, Trade and Employment.

The programme of activities in 2002 reflects the conclusions and recommendations of that evaluation report.





### National Skills Awareness Campaign

The National Skills Awareness Campaign, which is managed by Forfás, operates under the aegis of the *Expert Group on Future Skills Needs*. The mission of the Campaign is to promote the work undertaken by the Expert Group and to encourage school leavers to consider careers in specific sectors.

During 2001, the Campaign focused on 24 occupations identified by the Expert Group as likely to experience skills shortages over the next few years. A concerted effort has been made to raise the awareness of these career opportunities, using three key communication methods: television, the World Wide Web and direct face-to-face-contact. Key activities undertaken included:

#### ■ New Website

A new website called [www.skillsireland.ie](http://www.skillsireland.ie) outlining the work undertaken by the Expert Group, identified areas of expected skills shortages and government initiatives introduced in response to the skills situation.

#### ■ TV Series

An eight-part television series featuring the 24 occupations identified as likely to experience skills shortages was produced and broadcast. Programme transmission ended in late October; the series was repeated in Spring 2002.

#### ■ Publications

A series of leaflets featuring 16 key/priority occupation/skill areas was produced for use at recruitment fairs and for distribution to students, career guidance counsellors and parents.

#### ■ Career Exhibitions/Conferences

The Group co-ordinated exhibitions at the *Irish Times Higher Options Conference* and the *FÁS Opportunities Jobs Fair*. A number of meetings were also undertaken with regional branches of the Institute of Guidance Counsellors of Ireland.

During 2002, it is intended to take an even more proactive role, regarding direct contact with the target

audience. Special attention will be paid to the calendar of events organised by the Institute of Career Guidance Counsellors so as to identify opportunities to participate in their events. It is expected these will provide the Skills Awareness Campaign with a unique opportunity to reach two-thirds of its target audience.

### Ask Ireland

[www.askireland.com](http://www.askireland.com) is a Government website, managed by Forfás, to provide a single reference point for the promotion of Irish trade, investment and tourism on the World Wide Web. Launched in 1999, Ask Ireland aims to provide a one-stop portal to all information relevant to those interested in buying Irish goods or services, or investing in, visiting or researching Ireland.

The site brings together key overseas-oriented departments and agencies of the State to provide an interactive entry point to thousands of pages of information about Ireland. This is in keeping with the philosophy of the Government's information society initiative and goes a long way towards meeting the Government's commitment to ensure transparency in the services provided by public institutions.

In 2001, the following initiatives were undertaken:

- the site was restructured to ensure maximum complementarity between it and other existing Government and state agencies websites;
- the purchase of strategic key terms to improve search engine visibility continued;
- an extensive linking campaign to broaden awareness of the site was undertaken.

During 2002, the Ask Ireland management group, based in Forfás, will continue identifying new ways to improve the site and to increase its relevance to the participating agencies and their target audiences.

### Economic Model

The Economic Appraisal System is used by the development agencies to assist them in deciding whether to provide support for industrial projects in Ireland, be they Irish or overseas owned, greenfield or expansions, high or low labour or capital intensive projects. The agencies have used a system of cost-benefit analysis since the late 1970s.

The role of the economic appraisal system for projects is to identify whether specific supports by the agencies are likely to yield benefits in excess of the associated costs in order to ensure that the State gets value for money.

A team from University College Dublin, led by Professor Brendan Walsh, was commissioned to review alternative approaches to the economic appraisal of industrial development projects. In particular, the group was to determine how an economic appraisal procedure could contribute effectively and practically to the overall agency evaluation process, alongside the other elements of the agency project appraisal system, and to develop the principles, structure and content of the procedure to be adopted.

The new model incorporates revisions intended to reflect the marked changes in the economic and labour market environment in which the agencies operate and the changed objectives of national enterprise policy and of the enterprise promotion agencies. Specifically, the revised model:

- is in line with the objectives of enterprise policy, and of the development agencies, as set out in the Forfás report *Enterprise 2010 – A New Strategy for the Promotion of Enterprise in Ireland in the 21st Century*;
- is in line with CSF Evaluation Unit guidelines, relevant Irish legislation and EU State-aid guidelines;
- adheres to current best economic theory;
- attributes a greater weight to high wage projects, which are in higher value added activities, involve investment in training, and are R&D intensive;
- recognises the additional economic benefits to be gained by the agencies endeavouring to achieve more balanced regional development; and
- is based on a medium- to long-term perspective of the likely economic and labour market conditions that are expected to prevail, and will be more easily adjusted to take account of cyclical changes in economic performance in the future.

### Inter-Departmental Group on Biotechnology

In March 1999, the Government approved the establishment of an Inter-Departmental Group (IDG) on Modern Biotechnology to help ensure a co-ordinated approach on biotechnology across relevant Government Departments

and agencies. The IDG published its first report in October 2000. Forfás provides secretariat support for the group, which is chaired by the Department of Enterprise, Trade and Employment, and comprises senior officials from the Departments of Health and Children; Agriculture, Food and Rural Development; Environment and Local Government and Education and Science. The agencies represented are Enterprise Ireland, the Environmental Protection Agency (EPA), Forfás, the Food Safety Authority of Ireland (FSAI) and the Food Safety Promotions Board (FSPB).

In 2001, the IDG continued progress with the implementation of the recommendations of the first report. Forfás is responsible for a number of these recommendations and has made significant progress in this respect. One achievement, for instance, is the development of a central Government biotechnology information website. Called **[www.biotechinfo.ie](http://www.biotechinfo.ie)**, the site went live in the first quarter of 2002, with the aim of becoming a 'one-stop-shop' for all biotechnology-related information.

Forfás has also commissioned a study of public consultation mechanisms, and following consideration of the final report by Forfás and the IDG, it is envisaged that the most appropriate mechanism identified will be considered for piloting during 2002.

## Monitoring and Review

Forfás oversaw reviews of a number of programmes and studies during 2001, including the following:

- Research Capabilities Study
- Science, Technology and Innovation Awareness Programme
- Community Enterprise Centre Programme

### Research Capabilities Study

When approving the establishment of Science Foundation Ireland, the Government called for a baseline study of the existing level and quality of Irish research in biotechnology and information and communications technologies. The main purpose of this review was to provide parameters against which the progress of the Foundation could be evaluated over the coming years.

A postal survey of all Irish researchers active in the two fields was carried out. During this phase, approximately 700 individuals were identified as being involved in some level of relevant research activity. A bibliometric analysis of their publications and associated citations was also completed.

International peer panels will visit leading research groups, and they will undertake a review of the findings from the first two phases in mid-2002.

### Evaluation of STI Awareness Programme

The overall aim of the STI Awareness Programme is to promote awareness of science, technology and innovation at all levels of society in Ireland. It encompasses a variety of distinct activities, targeted at particular groups in the national community. The programme, which is managed by Forfás, on behalf of the Office of Science and Technology in the Department of Enterprise, Trade and Employment, commenced in late 1996.

To ensure objectivity, the review was conducted by outside evaluators, overseen by an independent steering committee. Among the key findings of the study were the observations that:

- the Programme has played an important role in promoting science and technology to young people and the general public, and this activity needs to continue;

- the Programme's resources, both financial and human, have been spread too thinly, across too many initiatives;
- assuming substantial additional resources cannot be provided, some current activities should be discontinued, allowing a greater focus on the remainder;
- there is scope for greater synergies between the Programme and other initiatives that have been launched in recent years.

### Community Enterprise Centre Programme

At the request of the Department of Enterprise, Trade and Employment, Forfás carried out a study to examine the benefits accruing to the economy and to the community from the 1989 Community Enterprise Centre Programme (CECP). The key recommendations were as follows:

- the Community Enterprise Centre Programme should be continued, in view of its achievements to date and its apparent success in encouraging and supporting enterprise development in relatively disadvantaged or weak areas;
- there should be two distinct circumstances appropriate for the development of CECP community enterprise centres. They should be located in areas of high long-term unemployment and social disadvantage and wider under-development; and in areas, where the levels of enterprise activity and enterprise 'critical mass' are below what is considered appropriate to the provision of community facilities;
- in demonstrating that these circumstances prevail, the communities seeking financial support ought to be required to explicitly demonstrate their need through detailed feasibility studies;
- centres and communities seeking support should also be required to demonstrate the link between the proposed centre within wider local development plans and any other relevant local integrated plan;
- at a national level, the scheme should continue to be administered by Enterprise Ireland but should be treated as a distinct programme in its own right;
- a cross-agency management committee should be established to manage the programme;
- there should be a once-off increase in the €127,000 cap on individual grant awards, to take account of inflation in building and land costs since the scheme began, and thereafter an inflationary allowance for grant ceilings. The current 22.5 per cent cap on capital costs covered should be maintained.

# The Irish National Accreditation Board

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The National Accreditation Board (NAB) 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.

NAB, as the national authority for the accreditation of certification bodies, laboratories and inspection bodies is a signatory to the multilateral agreements (MLAs) in Europe, through the European co-operation for Accreditation (EA), and worldwide through the International Laboratory Accreditation Co-operation (ILAC) and the International Accreditation Forum (IAF). Thus, NAB plays a key role in guaranteeing the access of Irish products to both the EU and global markets. Its activities ensure that accredited certificates and test results produced in Ireland are acceptable worldwide, and, as a result, greatly reduce technical barriers to international trade.

NAB 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.

## NAB Functions

The NAB has six distinct functions, each operating to specific European and international standards and/or regulations.

### Laboratory Accreditation

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Laboratory accreditation granted by the NAB is commonly referred to as ILAB accreditation. This is a formal recognition of the competence of a laboratory to perform specific tests. During 2001, NAB awarded accreditation to four laboratories, bringing the total accredited to 122. There were 80 enquiries and 16 applications in hand at the year-end.

Also during the year, NAB carried out 87 surveillance inspections on accredited laboratories within the laboratory accreditation programme.

### Accreditation of Certification Bodies

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The NAB 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.

During 2001 NAB developed a new accreditation scheme in the field of Information Security Management Systems (ISMS) and accredited the first certification body operating in this field.

At the end of 2001, NAB had accredited three certification bodies for quality management certification, two certification bodies were accredited for product certification and one certification body was accredited for environmental management certification. These certification bodies have, in turn, certified more than 1,000 organisations to the ISO 9000 series of standards and more than 100 organisations to ISO 14001 under NAB accreditation.

### Accreditation of Inspection Bodies

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NAB 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. NAB accredited one inspection body during 2001.

### Accreditation of Attestors and Attestation Bodies

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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 NAB regulations. At the end of 2001, one body was accredited to this standard.

### Good Laboratory Practice

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The NAB 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 2001, five test facilities held GLP Compliance Statements under this programme.

During 2001, NAB implemented a pilot scheme for e-commerce accreditation and developed a new accreditation scheme in support of the EU Directive on e-commerce.

### National Competent Body for EMAS

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

# Statutory Obligations

## Board Members

In accordance with Department of Finance guidelines for State agencies, 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 have furnished a statement of interest to the Secretary and a copy has been provided to the Commission Secretary, Standards Public Office Commission.

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

## Freedom of Information (FOI) Act, 1997

With effect from January 2001, Forfás is covered by the provisions of the Freedom of Information (FOI) Act, 1997. This Act establishes 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.

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

## Personnel

### Equality

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Forfás is committed to a policy of equal opportunities and adopts a positive approach to equality in the organisation. Forfás 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.

A policy on sexual harassment is in operation to ensure there are measures in place to protect the dignity of each individual at work.

### Worker Participation (State Enterprises) Act, 1988

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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

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

### Clients' Charter

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Forfás published a Clients' Charter in 2000 setting out its commitment to a high quality of service to clients and to the general public.

### Energy Efficiency

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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.



# Management Structure



**John Travers**  
Chief Executive Officer



**Martin Cronin**  
Chief Executive Officer Designate  
from 13 May 2002



**Colm Regan**  
Executive Director



**Jim Bourke**  
Enterprise & Trade Policy Division



**Killian Halpin**  
Science Technology & Innovation Division



**Tom Dempsey**  
The National Accreditation Board



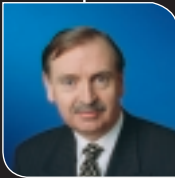
**Michael O'Leary**  
Personnel Department



**David Lovegrove**  
Secretariat, Media, Facilities & Internal Audit Department



**Terry Levin**  
Accounts Department



**Eamon Kearney**  
Systems Department



### National Accreditation Board Members

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<b>Dr Máire C. Walsh</b>	State Chemist, State Laboratory
<b>Mr Tom Beegan</b>	Director General, Health & Safety Authority
<b>Mr Raymond Byrne</b>	Lecturer in Law, DCU
<b>Mr Donal Connell</b>	Vice President, 3Com
<b>Mr Tom Dempsey</b>	Manager, National Accreditation Board
<b>Mr Paul Kelly</b>	Director, Building Materials Federation, IBEC
<b>Dr Fiona Kenny</b>	Consultant Microbiologist, Sligo General Hospital
<b>Mr Ian Maclean</b>	Director, Environmental Protection Agency (EPA)
<b>Mr Michael Maloney</b>	CEO, An Bord Glas
<b>Mr David Moore</b>	Inspector, Department of Environment
<b>Dr Tom Teehan</b>	Deputy Chief Inspector, Department of Agriculture & Food
<b>Dr Patrick Wall</b>	CEO, Food Safety Authority of Ireland, (FSAI)

Ms Catherine Caulfield - retired from the Board in November 2001

Mr E Mullins - retired from the Board in June 2001

Mr Joe Rowley - retired from the Board in June 2002

# Reports Published by Forfás 2001/2002

<b>The 4th Framework Programme in Ireland</b>	April 2001
<b>Commercialisation of Publicly Funded Research</b> <i>Irish Council for Science, Technology &amp; Innovation (ICSTI)</i>	April 2001
<b>The Third Report of the Expert Group on Future Skills Needs</b> <i>Responding to Ireland's growing skill needs</i>	July 2001
<b>Forfás Annual Report 2000</b>	August 2001
<b>Annual Employment Survey 2000</b>	September 2001
<b>Statement of Outward Direct Investment</b>	October 2001
<b>State Expenditure on Science &amp; Technology, 2000</b>	December 2001
<b>Research and Development in the Public Sector, 2000</b>	December 2001
<b>Key Waste Management Issues in Ireland</b>	December 2001
<b>The Competitiveness Challenge</b> <i>National Competitiveness Council</i>	December 2001
<b>The Annual Competitiveness Report, 2001</b> <i>National Competitiveness Council</i>	December 2001
<b>The Labour Market Participation of Over 55s in Ireland</b> <i>Expert Group on Future Skills Needs / National Competitiveness Council</i>	January 2002
<b>International Trade and Investment Report</b>	February 2002
<b>Biotechnology</b> <i>Irish Council for Science, Technology &amp; Innovation (ICSTI)</i>	February 2002
<b>Enlargement of the European Union</b> <i>Forfás Submission to the National Forum on Europe</i>	February 2002
<b>Broadband Investment in Ireland</b>	March 2002
<b>Research &amp; Development in the Business Sector 1999</b>	May 2002
<b>Comparative Consumer Prices in the Eurozone &amp; Consumer Price Inflation in the Changeover Period</b>	June 2002



# Forfás Advisory Groups

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

<b>Dr Edward M. Walsh</b> (Chairman)	President Emeritus	University of Limerick
<b>Dr. Leonora Bishop</b>	Managing Director	Plateomic Ltd. and Dept. of Clinical Pharmacology Royal College of Surgeons in Ireland
<b>Dr Alva DeVoy</b>	Senior Investment Analyst	KBC Asset Management Ltd.
<b>Ms Anne Downey</b>	Senior Vice President	QSET
<b>Prof. Ted Farrell</b>	Dept. of Environmental Resource Management	Faculty of Agriculture, National University of Ireland, Dublin
<b>Prof. Donald Fitzmaurice</b>	Solar Technology Group	Chemistry Dept. National University of Ireland, Dublin
<b>Mr Paul Holden</b>	Managing Director	Rédacteurs Software Documentation Ltd.
<b>Dr Mike Hopkins</b>	President & Chief Executive Officer	Scientific Systems Ltd
<b>Ms Angela Kennedy</b>	Business Director	Megazyme International Ireland Ltd
<b>Dr Peter Heffernan</b>	Chief Executive	The Marine Institute
<b>Ms Sharon Kennedy</b>	Chief Executive Officer	TAMOO
<b>Mr Pádraig Kirk</b>	STEPS Project Manager	The Institution of Engineers of Ireland
<b>Ms Josephine Lynch</b>	Secretary to Council	Forfás
<b>Dr Anita R. Maguire</b>	Dept. of Chemistry	National University of Ireland, Cork
<b>Prof. David McConnell</b>	Genetics Dept.	Trinity College Dublin
<b>Dr David Melody</b>	Vice President for R&D	Loctite (Ireland) Ltd.
<b>Dr Pat Morgan</b>	Dean, Faculty of Science	National University of Ireland, Galway
<b>Ms Ann Murphy</b>	Mathematics Dept.	Dublin Institute of Technology
<b>Dr Ena Prosser</b>	Director of Strategic Technology Analysis	Corporate Office of Technology, Elan Corporation
<b>Dr William J Reville</b>	Associate Professor in Biochemistry	National University of Ireland, Cork
<b>Mr Brian Sweeney</b> (Deputy Chairman)	Chairman	Siemens Limited Ireland
<b>Dr Don Thornhill</b>	Chairman	Higher Education Authority
<b>Mr Brian Trench</b>	School of Communications	Dublin City University
<b>Dr Fionnuala Walsh</b>	Business Leader for Science & Technology	Eli Lilly SA

### The following members of the Council retired in 2001:

Prof. Jim Browne (retired Feb 2001)

Prof. Jane Grimson (retired September 2001)

Mr Denis Hayes (retired April 2002)

Mr Gerry Jones (retired February 2001)

Mr Colum MacDonnell (retired March 2001)

Prof. Susan McKenna Lawlor (retired March 2001)

Mr Seamus McManus (retired March 2002)

Mr Ronan O’Caoimh (retired May 2001)

Mr Anraí O’Toole (retired March 2002)

Ms Ann Riordan (retired January 2001)

Mr John Travers (retired April 2002)

Mr Peter Walsh (retired October 2001)



### Members of the National Competitiveness Council

William Burgess (Chairman)	Managing Director & Chairman	IBM Ireland Ltd
Rory Ardagh	Director	Leap Broadband Limited
Kevin Bonner	Chairman	Transition Management Limited
Donal Byrne	Chairman	Cadbury Ireland Ltd
Bernard Collins	Chief Executive Officer	Lifemed Consulting Limited
Martin Cronin	Chief Executive Designate	Forfás
Des Geraghty	President	SIPTU
Joan Carmichael	Deputy General Secretary	ICTU
Jackie Harrison	Director – Social Policy	IBEC
David Lovegrove (Secretary)	Secretary	Forfás
Annette Hughes	Economist	DKM Economic Consultants
Billy McCann	Company Director	Galco Steel Limited
Aine Mizzoni	Chief Executive Officer	emerge-Smart Limited
Neil Ormonde	Director	Plato Ireland Limited
Prof. Ferdinand von Prondzinski	President	Dublin City University
John Travers	Chief Executive	Forfás
Jane Williams	Managing Director	The Sia Group Limited

### Advisors to the Council

Seamus O'Morain	Assistant Secretary	Department of Enterprise, Trade & Employment
Mary Doyle	Assistant Secretary	Department of An Taoiseach
John Fearon	Assistant Secretary	Department of Transport
Jim O'Brien	Assistant Secretary	Department of Finance
Paddy McDonagh	Assistant Secretary	Department of Education & Science
Mary Moylan	Assistant Secretary	Department of the Environment & Local Government

### Observers to the Council

Liam Nellis	Chief Executive	InterTrade Ireland
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### Secretariat

Colm Regan	Executive Director	Forfás
Jim Bourke	Manager, Enterprise & Trade Policy Division	Forfás
Diarmuid Ó Conghaile	Project Manager	Forfás

Brian Patterson retired as Chairman of the National Competitiveness Council on 31 May 2002.



### EMU Management Committee\*

Mr John Travers (Chairman)	Chief Executive Officer	Forfás
Mr Jim Bourke	Manager, Enterprise Policy & Planning Division	Forfás
Mr Peter Fisher	Head of Consultancy Unit	Department of Enterprise, Trade & Employment
Mr Eoin Gahan	Senior Economist	Forfás
Mr John Kelly	European Monetary Affairs Department	The Central Bank
Mr Michael McKenna**	Assistant Secretary	Department of Enterprise, Trade & Employment
Mr Gerard Moran	Corporate Management Division	Revenue Commissioners
Mr John Norris	Principal	Euro Changeover Board of Ireland
Mr Paddy O'Boyle	Director, Euro & Projects	Institute of Chartered Accountants in Ireland
Ms Anne Valentine	Manager, Euro Branch Business Transformation	AIB Group
Mr John Whelan	Chief Executive	Irish Exporters Association

\*\* Mr McKenna succeeded Mr Rody Molloy as the Assistant Secretary of the Department of Enterprise, Trade & Employment.

### EMU Consultative Committee\*

Mr John Travers (Chairman)	Chief Executive Officer	Forfás
Mr Sean Barron	European Affairs Manager	Shannon Development
Mr Remy Benoit	Member	ISME
Mr Noel Bolger	Manager, Research & EU Affairs	Údarás na Gaeltachta
Mr Jim Bourke	Manager, Enterprise Policy & Planning Division	Forfás
Mr Pat Griffin	Member	Chartered Institute of Management Accountants
Mr Aidan Clifford	Technical Officer	ACCA
Mr David Croughan	Chief Economist	IBEC
Mr Pat Delaney	Director	Small Firms Association
Mr Joe Doherty	Senior Economist, Legal Affairs	Central Bank
Mr Shane Dolan	Financial Controller	Irish Co-Operative Organisation Society
Mr Peter Fisher	Head of Consultancy Unit	Department of Enterprise, Trade & Employment
Ms Ailish Forde	Director General	RGDATA
Mr Eoin Gahan	Senior Economist	Forfás
Ms Adrienne Harten	Project Executive	Chamber of Commerce of Ireland
Mr George Hennessy	Director Economic Affairs	Construction Industry Federation
Mr Jack Hickey	Accountant	CERT
Mr Muiris Kennedy	Director of Client Services	Bord Bia
Mr Jim Keogh	Industry Specialist	FÁS
Mr Brendan Leahy	Chief Executive	Irish Tourist Industry Confederation
Ms Elaine Mannix	International Relations	Central Bank
Ms Anne Potter	Secretary	Irish Coalition of Service Industries

\* The EMU Management and Consultative Committees completed their work on the changeover to the euro in January 2002.

<b>Me Ian Martin</b>	Member	Small Firms Association
<b>Mr Oliver McAdam</b>	Member	ISME
<b>Mr Tim McCormick</b>	Senior Specialist	Irish Management Institute
<b>Ms Deirdre McDonnell</b>	Chairman, Euro Working Party	Institute of Certified Public Accountants in Ireland
<b>Mr Michael McKenna</b>	Assistant Secretary	Department of Enterprise, Trade & Employment
<b>Mr Ken Murphy</b>	Director General	Law Society of Ireland
<b>Ms Susan Noonan</b>	Administrator	Irish Association of Corporate Treasurers
<b>Mr John Norris</b>	Principal	Euro Changeover Board of Ireland
<b>Mr Paddy O'Boyle</b>	Director, Euro & Projects	Institute of Chartered Accountants in Ireland
<b>Mr Felix O'Regan</b>	Manager IBS	Irish Bankers Federation
<b>Mr Brendan O'Sullivan</b>	Manager – Strategy, Planning Division	IDA Ireland
<b>Ms Colleen Quinn</b>	Technical Officer	Institute of Certified Public Accountants in Ireland
<b>Ms Rosemary Sexton</b>	Corporate Planning Division	Enterprise Ireland
<b>Mr Frank Vaughan</b>	European Information Office	ICTU
<b>Mr Anthony Watters</b>	Financial Controller	CIE Tours International
<b>Mr John Whelan</b>	Chief Executive	Irish Exporters Association
<b>Mr Tony White</b>	Divisional Director	Chartered Institute of Management Accountants

### Expert Group on Future Skills Needs

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Dr Danny O'Hare (Chairperson)	President Emeritus, Dublin City University
Mr Seamus Gallen	Enterprise Ireland (National Informatics Directorate)
Ms Una Halligan	Hewlett Packard/IBEC
Mr John Hayden	Higher Education Authority
Mr David Lowe	Goodbody Stockbrokers
Mr Joe McCarthy	Arkaon
Mr Paddy McDonagh	Department of Education & Science
Dr Sean McDonagh	Skills Initiative Unit
Mr Michael McGrath	Conference of Heads of Irish Universities
Mr Michael McKenna	Department of Enterprise, Trade & Employment
Mr Niall O'Donnellan	Enterprise Ireland
Mr Seamus Ó Moráin	Department of Enterprise, Trade & Employment
Mr Eugene O'Sullivan	Department of Finance
Mr Colm Regan	Forfás
Mr Peter Rigney	Irish Congress of Trade Unions
Prof Frances Ruane	Trinity College Dublin
Mr Dick Ryan	IDA Ireland
Mr Roger Fox (Joint Secretary)	FÁS
Mr Lorcan Ó Raghallaigh (Joint Secretary)	Forfás

#### *In Attendance:*

Mr Seamus Bannon	Forfás
Dr Noel Gillatt	Forfás
Ms Kay Hallahan	Forfás
Dr Anna Murphy	Forfás

### Management Implementation Group

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Dr Danny O'Hare (Chairperson)	President Emeritus, Dublin City University
Mr Paul Haran	Department of Enterprise, Trade & Employment
Mr Jim McCaffrey	Department of Finance
Mr Paddy McDonagh	Department of Education & Science
Dr Don Thornhill	Higher Education Authority
Mr John Travers	Forfás
Mr Seamus Bannon (Secretary)	Forfás

### National Skills Awareness Campaign

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Me Seamus Gallen	Enterprise Ireland (National Informatics Directorate)
Ms Una Halligan	Hewlett Packard / IBEC
Dr Sean McDonagh	Skills Initiative Unit
Mr Lorcan O'Raghallaigh	Forfás
Mr Brendan O'Sullivan	IDA Ireland
Ms Mary Sweeney	AGCSI
Ms Beverly Talbot	FÁS
Mr Frank Turpin	Intel Ireland Ltd

### Expert Group Membership From November 2001

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Dr Danny O'Hare (Chairperson)	President Emeritus, Dublin City University
Mr David Barry	Department of Enterprise, Trade & Employment
Mr Enda Connolly	IDA Ireland
Mr Roger Fox	FÁS
Mr Jack Golden	CRH/IEI
Ms Una Halligan	Hewlett Packard/IBEC
Mr John Hayden	Higher Education Authority
Mr David Lowe	Goodbody Stockbrokers
Mr Joe McCarthy	Arkaon
Ms Mary McGarry	Department of Education & Science
Dr Sean McDonagh	Skills Initiative Unit
Mr Eugene O'Sullivan	Department of Finance
Mr Colm Regan	Forfás
Mr Peter Rigney	Irish Congress of Trade Unions
Ms Catherine Courage (Acting Secretary)	Forfás

#### *In Attendance:*

Mr Seamus Bannon	Forfás
Dr Catherine Kavanagh	Forfás

## Prompt Payment of Accounts Act, 1997

The Prompt Payment of Accounts Act 1997 (the Act) came into operation on 2 January 1998. Forfás comes under the remit of the Act. The payment practices of Forfás are reported on below for the year ended 31 December 2001 in accordance with section 12 of the Act.

- (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 were four late payments in excess of €317 (IR£250) during 2001 that exceeded the due payment date by an average of 10 days. The value of these late payments was €29,265 (IR£23,048). Overall, late payments represented 0.15% of total payments made by the Agency with associated penalty interest of €86 (IR£68).

99.85% of all payment demands were paid within the prescribed timeframe.

There have been no material developments since 1 January 2002.

**John Travers**  
*Chief Executive Officer.*  
9 July 2002

## Report of the Comptroller and Auditor General Pursuant to Section 13 of the Prompt Payment of Accounts Act, 1997

### Responsibilities of Forfás and of the Comptroller and Auditor General

Forfás is obliged to comply with the Act and, in particular, is required

- to pay its suppliers by the appropriate payment date
- if payment to a supplier is late, to include the appropriate penalty interest with the payment together with the information required by Section 6
- to disclose its payment practices in the year in the appropriate way.

Under Section 13 of the Act, it is my responsibility, as auditor of Forfás, to report on whether, in all material respects, Forfás has complied with the provisions of the Act.

### Basis of Opinion

My examination included a review of the payment systems and procedures in place and checking, on a test basis, evidence relating to the operation of the Act by Forfás during the year.

I obtained all the information and explanations which I considered necessary for the exercise of my function under Section 13 of the Act.

### Opinion

As a result of my examination, it is my opinion that Forfás complied in all material respects with the provisions of the Act during the year ended 31 December 2001.

**John Purcell**  
*Comptroller and Auditor General*  
12 July 2002





# Financial Statements

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

I have audited the financial statements on pages 58 to 67 in accordance with 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 57. 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.

## 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.

## Pension Costs

Without qualifying my opinion I draw attention to Note 6 to the financial statements which explains why Forfás has not complied with the disclosure requirements of Financial Reporting Standard 17.

## 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 2001 and of its income and expenditure and cash flow for the year then ended.

**John Purcell**

*Comptroller and Auditor General*

12 July 2002

# Statement of Board Members' Responsibilities

## For 2001 Annual Financial Statements

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 judgments 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:

**Peter Cassells**

*Chairman*

**John Travers**

*Chief Executive Officer*

# Accounting Policies

## Industrial Development Acts 1993, 1995 and 1998

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. 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 and certain former agencies, under the Industrial Development Acts 1993 and 1998, 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 & Employment with the consent of the Minister for Finance under the Industrial Development Act 1993. The accounts are denominated in euro and Irish Pounds. The Financial Statements are prepared on an accruals basis, except where stated below.

### (2) Income Recognition

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

### (3) Fixed Assets

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 funds utilised for the acquisition of Fixed Assets and is written down in line with depreciation and revaluation policies for these 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.

# Income and Expenditure Account

Year Ended 31 December 2001

	Notes	2001 €'000	2000 €'000	2001 IR£'000	2000 IR£'000
<b>Income</b>					
Oireachtas Grant	1	21,128	16,288	16,640	12,828
Oireachtas Grant - Technology Foresight	1	11,111	508	8,751	400
Professional Fees - National Accreditation Board	2	541	511	426	402
Other	3	1,236	1,099	974	865
Departmental Programmes	4	1,186	710	935	559
		<b>35,202</b>	<b>19,116</b>	<b>27,726</b>	<b>15,054</b>
<b>Expenditure</b>					
Administration and General Expenses	5	14,673	11,166	11,557	8,794
Pension Costs	6	6,848	5,782	5,393	4,554
Depreciation	7	451	463	355	365
Departmental Programmes	4	1,200	703	946	554
Technology Foresight	8	11,083	536	8,728	422
		<b>34,255</b>	<b>18,650</b>	<b>26,979</b>	<b>14,689</b>
Net Movement for Year		<b>947</b>	466	<b>747</b>	365
Contribution to Exchequer	3	<b>(492)</b>	(346)	<b>(387)</b>	(272)
Balance at beginning of Year		<b>1,630</b>	1,434	<b>1,283</b>	1,129
Transfer (to)/from Capital Account	9	<b>(23)</b>	76	<b>(19)</b>	61
Balance at end of Year		<b>2,062</b>	1,630	<b>1,624</b>	1,283

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:

**Peter Cassells**

*Chairman*

**John Travers**

*Chief Executive Officer*



# Balance Sheet

As at 31 December 2001

	Notes	2001 €'000	2000 €'000	2001 IR€'000	2000 IR€'000
<b>Fixed Assets</b>					
Tangible Fixed Assets	7	524	501	413	394
<b>Total Fixed Assets</b>		<b>524</b>	<b>501</b>	<b>413</b>	<b>394</b>
<b>Current Assets</b>					
Accounts Receivable	10	7,561	2,364	5,955	1,861
Bank		24	15	19	12
		<b>7,585</b>	<b>2,379</b>	<b>5,974</b>	<b>1,873</b>
Accounts Payable	11	5,523	749	4,350	590
<b>Net Current Assets</b>		<b>2,062</b>	<b>1,630</b>	<b>1,624</b>	<b>1,283</b>
<b>Net Assets</b>		<b>2,586</b>	<b>2,131</b>	<b>2,037</b>	<b>1,677</b>
<b>Represented By:</b>					
Capital Account	9	524	501	413	394
Income and Expenditure Account		2,062	1,630	1,624	1,283
		<b>2,586</b>	<b>2,131</b>	<b>2,037</b>	<b>1,677</b>

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

On behalf of the Board:

**Peter Cassells**

*Chairman*

**John Travers**

*Chief Executive Officer*

# Cash Flow Statement

Year Ended 31 December 2001

	Notes	2001 €'000	2000 €'000	2001 IR£'000	2000 IR£'000
<b>Reconciliation of Net Movement for Year to Net Cash Flow from Operations</b>					
<b>Net Movement for Year</b>		<b>947</b>	466	<b>747</b>	365
Bank Interest		(30)	(28)	(24)	(22)
Profit on Disposal of Assets		-	(11)	-	(9)
Depreciation Charge:					
- Tangible Fixed Assets	7	451	463	355	365
(Increase)/Decrease in Accounts Receivable		(5,197)	3,112	(4,094)	2,452
Increase/(Decrease) in Accounts Payable		4,774	(3,324)	3,760	(2,618)
<b>Net Cash Flow from Operations</b>		<b>945</b>	678	<b>744</b>	533
<b>Cash Flow Statement</b>					
<b>Net Cash Flow from Operations</b>		<b>945</b>	678	<b>744</b>	533
<b>Returns on Investment and Servicing of Finance</b>					
Bank Interest		30	28	24	22
<b>Cash Flow before Capital Expenditure</b>		<b>975</b>	706	<b>768</b>	555
<b>Capital Funding</b>					
Sale of Tangible Fixed Assets		-	20	-	16
Purchase of Tangible Fixed Assets	7	(474)	(396)	(374)	(311)
<b>Cash Flow after Capital Expenditure</b>		<b>501</b>	330	<b>394</b>	260
Contribution to Exchequer	3	(492)	(346)	(387)	(272)
<b>Increase/(Decrease) in Cash</b>		<b>9</b>	(16)	<b>7</b>	(12)
<b>Reconciliation of Increase/(Decrease) in Cash to Cash at Bank</b>					
<b>Movement in Cash for the Year</b>		<b>9</b>	(16)	<b>7</b>	(12)
<b>Cash at Bank at 1 January</b>		<b>15</b>	31	<b>12</b>	24
<b>Cash at Bank at 31 December</b>		<b>24</b>	15	<b>19</b>	12

# Notes to the Accounts

Year Ended 31 December 2001

## (1) Oireachtas Grant

	2001 €'000	2000 €'000	2001 IR£'000	2000 IR£'000
Forfás				
- Administration and General Expenses	21,128	16,288	16,640	12,828
Technology Foresight				
- Administration and General Expenses	2,343	508	1,846	400
- Capital	8,768	-	6,905	-

(a) Under Section 33(2) of the Industrial Development (Enterprise Ireland) Act, 1998, 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 €1,904,607,118 (IR£1,500,000,000). At 31 December, 2001 the aggregate amount so provided was €1,692,041,485 (IR£1,332,590,960).

(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 (IR£125,000,000). At 31 December, 2001 the aggregate amount so provided was €13,547,211 (IR£10,669,296).

## (2) Professional Fees - National Accreditation Board

The National Accreditation Board (NAB) 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

	2001 €'000	2000 €'000	2001 IR£'000	2000 IR£'000
Rental Income	711	695	560	547
Sundry Income *	495	376	390	296
Bank Interest	30	28	24	22
	1,236	1,099	974	865

\* This includes €492,000/IR£387,000 (2000: €346,000/IR£272,000) passed to the Department of Enterprise, Trade & Employment as a Contribution to the Exchequer.

## Notes to the Accounts (cont'd)

### (4) Departmental Programmes

These Programmes are administered by Forfás, on behalf of the Office of Science and Technology (OST)<sup>1</sup>, the Foreign Earnings Committee (FEC)<sup>2</sup> of the Department of Enterprise, Trade and Employment and the Information Society Fund (ISF)<sup>3</sup> of the Department of Finance.

		2001 Income €'000	2001 Expenditure €'000	2001 Income IR£'000	2001 Expenditure IR£'000
Science & Technology Innovation Awareness	1	714	728	562	573
Ask Ireland	2	119	119	94	94
Online Regional Database	3	245	245	193	193
E Commerce Development	3	69	69	55	55
E Commerce Accreditation	3	39	39	31	31
<b>Total</b>		<b>1,186</b>	<b>1,200</b>	<b>935</b>	<b>946</b>

### (5) Administration and General Expenses

	2001 €'000	2000 €'000	2001 IR£'000	2000 IR£'000
Board Members' Remuneration and Expenses	243	187	191	147
Pay Costs	6,061	5,268	4,773	4,149
Other Personnel Costs	299	314	236	247
Travelling Expenses	623	397	491	313
Specialised and Professional Services	786	527	619	415
Consultancy and Studies	1,044	895	823	705
Rents, Rates, Repairs and Maintenance*	1,139	1,680	897	1,323
Other Operating Expenses	1,595	1,202	1,256	947
EMU Business Awareness Campaign	2,872	688	2,262	542
Audit Fee	11	8	9	6
<b>Total</b>	<b>14,673</b>	<b>11,166</b>	<b>11,557</b>	<b>8,794</b>
Pay Costs comprise:				
Wages and Salaries	5,630	4,900	4,434	3,859
Social Welfare Insurance Costs	303	223	239	176
Superannuation Costs	128	145	100	114
<b>Total</b>	<b>6,061</b>	<b>5,268</b>	<b>4,773</b>	<b>4,149</b>

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

# Notes to the Accounts (cont'd)

## (6) Superannuation

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

Scheme	Staff Covered	Type
<b>Forfás</b>	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 Síochána Superannuation Scheme, (d) a small number of staff previously covered by the FÁS/AnCO Schemes.	Contributory, Defined Benefit, Unfunded. A small number of those in category (b) are included on a non contributory basis.
<b>Former Industrial Development Authority</b>	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.
<b>Former Eolas</b>	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.
<b>Former National Board for Science and Technology</b>	A small number of staff of the former NBST serving on 31 December 1987.	Contributory, Defined Benefit, Unfunded.
<b>Former Irish Goods Council</b>	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.
<b>Former An Bord Tráchtála</b>	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.

Forfás meets the full costs arising under the unfunded Schemes.

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

(b) As above, Forfás operates defined benefit superannuation schemes for staff of Forfás, IDA Ireland, Enterprise Ireland and certain former agencies, under the Industrial Development Acts 1993 and 1998. Superannuation entitlements arising under the schemes are paid out of current income and are accounted for as they fall due. No provision is made in the financial statements in respect of future benefits.

The above accounting treatment is not in accordance with the requirements of Financial Reporting Standard 17 (FRS 17). For accounting periods ending on or after 22 June 2003, the Standard 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. In the accounts for the year ended 31 December 2001, Forfás was not in a position to comply with the requirements of the standard as it did not obtain an actuarial valuation of scheme liabilities. Forfás has taken steps to ensure that it will be able to comply with the requirements of the Standard for accounting periods ending on or after 22 June 2003.



## Notes to the Accounts (cont'd)

### (7) Tangible Fixed Assets

	Computer Equipment €'000	Motor Vehicles €'000	Fixtures & Fittings €'000	Total €'000
<b>Cost</b>				
At 1 January 2001	1,057	61	4,767	5,885
Additions	351	-	123	474
Disposals	(103)	-	(44)	(147)
At 31 December 2001	1,305	61	4,846	6,212
<b>Depreciation</b>				
At 1 January 2001	812	15	4,557	5,384
Charge for Year	275	15	161	451
Disposals	(103)	-	(44)	(147)
At 31 December 2001	984	30	4,674	5,688
<b>Net Book Amount</b>				
At 1 January 2001	245	46	210	501
Net Movement for Year	76	(15)	(38)	23
At 31 December 2001	321	31	172	524

	IRE'000	IRE'000	IRE'000	IRE'000
<b>Cost</b>				
At 1 January 2001	831	48	3,755	4,634
Additions	277	-	97	374
Disposals	(81)	-	(35)	(116)
At 31 December 2001	1,027	48	3,817	4,892
<b>Depreciation</b>				
At 1 January 2001	639	12	3,589	4,240
Charge for Year	216	12	127	355
Disposals	(81)	-	(35)	(116)
At 31 December 2001	774	24	3,681	4,479
<b>Net Book Amount</b>				
At 1 January 2001	192	36	166	394
Net Movement for Year	61	(12)	(30)	19
At 31 December 2001	253	24	136	413

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 |

## Notes to the Accounts (cont'd)

### (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), which currently operates as a committee of Forfás, was established as the mechanism for the management, allocation, disbursement and evaluation of this Technology Foresight Fund. The Agreed Programme for Government published in June 2002 sets out the objective of setting up SFI as a separate legal entity.

	2001 €'000	2000 €'000	2001 IR£'000	2000 IR£'000
<b>Administration and General Expenses</b>				
Pay Costs	321	17	253	13
Other Personnel Costs	161	105	127	83
Travelling Expenses	340	179	267	141
Specialised and Professional Services	405	42	319	33
Consultancy and Studies	385	38	303	30
Accommodation Costs	283	-	223	-
Other Operating Expenses	420	155	331	122
<b>Total Administration and General Expenses</b>	<b>2,315</b>	<b>536</b>	<b>1,823</b>	<b>422</b>
<b>Grants</b>	<b>8,768</b>	<b>-</b>	<b>6,905</b>	<b>-</b>
	<b>11,083</b>	<b>536</b>	<b>8,728</b>	<b>422</b>

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

	€'000	IR£'000
At 1 January 2001	501	394
Net Movement for Year:		
- Tangible Fixed Assets (Note 7)/ Transfer from Income and Expenditure Account	23	19
At 31 December 2001	524	413

### (10) Accounts Receivable

	2001 €'000	2000 €'000	2001 IR£'000	2000 IR£'000
General Debtors and Prepayments	6,564	2,134	5,170	1,680
Inter Agency Balances	997	230	785	181
	<b>7,561</b>	<b>2,364</b>	<b>5,955</b>	<b>1,861</b>

General Debtors & Prepayments include €3,880,680/IR£3,056,284 (2000 Nil) VAT recoverable by Forfás on behalf of the Forfás VAT Group (Forfás, IDA Ireland & Enterprise Ireland).

## Notes to the Accounts (cont'd)

(11) Accounts Payable	2001	2000	2001	2000
	€'000	€'000	IR£'000	IR£'000
General Creditors and Accruals	1,263	731	995	576
Inter Agency Balances	4,260	18	3,355	14
	<b>5,523</b>	<b>749</b>	<b>4,350</b>	<b>590</b>

### (12) Commitments under Operating Leases

A net total of €537,000/IR£423,000 (2000 €1,322,000/IR£1,041,000) has been charged in respect of operating leases on buildings in the accounts of Forfás. Forfás has commitments of €5,677,000 (IR£4,471,000) to pay during 2002 in respect of leases expiring as follows:

	€'000	IR£'000
(i) 2002	182	143
(ii) 2003 - 2006	-	-
(iii) 2007 Onwards	5,495	4,328

Costs arising out of these commitments in 2002 will be shared between Forfás and its Agencies in proportion to office space occupied. The Forfás share of these costs in 2002 is anticipated to be approximately €1,280,000/IR£1,008,000

### (13) Taxation

Section 227 of the Taxes Consolidation Act, 1997, exempts Forfás from further taxation on its interest and 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 2001, payments amounting to €106,019/IR£83,497 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 18 June, 2002.

