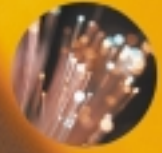


Forfás Annual Report 2000



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, 2000.

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, 2000, 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 comhactaí 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 teicneolaíochta, na margaíochta 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, technology, marketing and human resources in the State;
- encourage the establishment and development in the State of industrial undertakings from outside the State; and
- advise and co-ordinate Enterprise Ireland and IDA Ireland in relation to their functions.

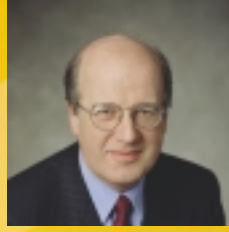
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Board Members



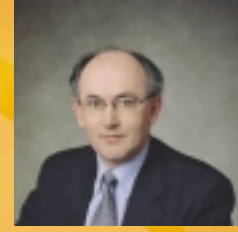
Peter Cassells, Chairman



Sean Dorgan
Chief Executive
IDA Ireland



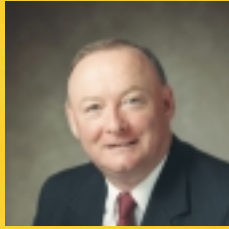
Dan Flinter
Chief Executive
Enterprise Ireland



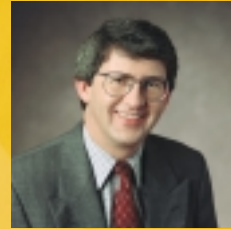
Paul Haran
Secretary General
Department of Enterprise,
Trade & Employment



Professor Michael Hillery
Chair of Manufacturing Engineering
University of Limerick



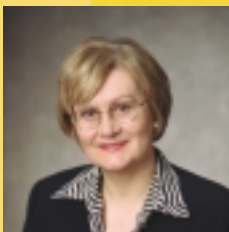
Rody Molloy*
Director General
FÁS



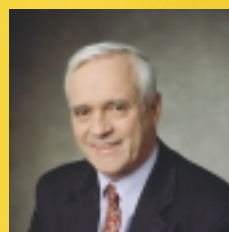
William Murphy*
Partner
Tynan Dillon & Company



Feargal O'Rourke
Partner, Taxation
PricewaterhouseCoopers



Professor Yvonne Scannell
Professor at Law
Trinity College



John Travers
Chief Executive Officer
Forfás



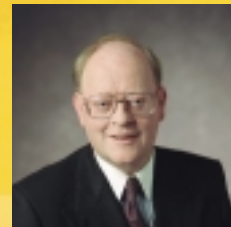
Toni Wall*
Managing Director
Wall 2 Wall Ltd



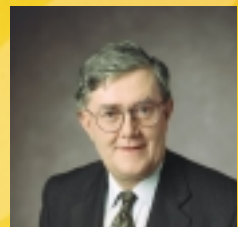
Jane Williams*
Managing Director
The Sia Group Ltd



David Lovegrove
Secretary to the Board



John Lynch
Chairman
CIE



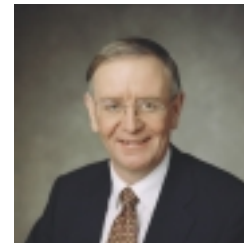
William Scally
Economist

* Rody Molloy was appointed to the Forfás Board on 23rd November 2000
William Murphy was reappointed to the Forfás Board on 26th February 2001
Toni Wall was appointed to the Forfás Board on 26th February 2001
Jane Williams was appointed to the Forfás Board on 26th February 2001

John Lynch retired as a member of the Forfás Board on 1st October 2000
William Scally retired as a member of the Forfás Board on 31st December 2000

Chairman's Statement

Peter Cassells
Chairman



Overview

The Enterprise environment in Ireland is changing. New sources of skills are becoming increasingly important. Trade is growing significantly to the United States but Ireland's trading opportunities within the eurozone remain to be fully exploited. Outward Direct Investment is becoming an important element in the growth strategy of Irish-owned companies. At home, environmental issues such as waste management and environmentally noxious emissions are rapidly moving up the priority agenda at a national level and for individual companies and for local communities.

Employment Trends

The continuation of strong economic growth during 2000 had a favourable impact on the employment and unemployment landscape of the country. An average of around 75,000 more people were in employment in 2000 compared to the previous year, while the rate of unemployment declined from 5.6 per cent in 1999 to 4.3 per cent in 2000. At the end of 2000, the number of long-term unemployed - those unemployed for a year or more - stood at less than 25,000. This is one of the most positive, tangible outcomes of Ireland's strong economic growth and represents a remarkable transformation on the situation which pertained less than ten years before. As a result, however, the scope for further employment growth drawing on the labour resources of the unemployed is becoming more limited. Policy must, therefore, continue to remain focused on encouraging an appropriate level of growth in the labour force from other sources.

Skills

Skills and the availability of a skilled work force will be the key determinant of Ireland's success in the coming years. As the global pool of high-skilled labour in engineering, computer-related and science fields continues to shrink, it is critical for Ireland to maintain its share of these scarce resources. This will become an increasing challenge as other nations seek to increase their skills base.

Policy makers must seek to address constraints that inhibit the development of this skills pool. This will be done through up-skilling the existing work force, encouraging "non traditional"

participants in the education system and labour force to play a more active role in the country's economic life and by encouraging immigration where the domestic labour market cannot supply the economic needs.

The effort and investment in this skill development should not be left at the door of any one of the "educator" partners but should be a collaboration between government, industry and the individual to ensure that the best result is achieved for society as a whole. This collaboration should be fostered through social partnership and the benefits to all should be promoted.

Ireland's future as a high growth economy with an increasing standard of living available for all its citizens is dependent on a consistent and co-ordinated approach to the issue of skill shortages across all the sectors involved. In the past the skills of the Irish work force has been one of the main building blocks on which our economic performance has been built. In this new millennium we face an ever stiffer challenge from other countries who seek to emulate our success through the development of a productive well- educated workforce to fuel their economic success.

Trade & Investment

Exports continued their rapid climb, fuelling Irish economic and employment growth last year. According to CSO Merchandise Trade Statistics, earnings from overseas sales of merchandise goods by Irish companies grew by 24 per cent to IR£65.4 (€83) billion in 2000, up from growth of 15 per cent a year earlier. The strong export performance of industry in Ireland last year reflects a number of factors, particularly: strong competitiveness gains as a result of weakness in the value of the euro; fast productivity growth in industry; and buoyant demand conditions internationally, especially in the United States.

Indeed, Irish goods exports to the United States surged by 38 per cent in 2000 to reach IR£11.2 (€14.2) billion (17 per cent of the total). Attracted by improved communications and transport links with the United States, the low corporate tax rate, a skilled English-speaking workforce and falling tariffs on trade in industrial goods between the EU and the United States, many US multinationals are establishing in Ireland to

sell into Europe, the Middle East and other markets worldwide. Many Irish-owned industrial and service companies are also achieving remarkable success in overseas markets. The increasing competitiveness of Ireland as a base for profitable business investment has contributed greatly to a situation where the United States is evolving towards becoming Ireland's largest export market.

Far from being at the periphery of a European market, these data indicate that Ireland is at the centre of a fast-growing transatlantic market place. This has important implications for how IDA Ireland markets Ireland as a base for US industry. It also highlights the importance of a healthy and stable US-EU trade and investment relationship to Irish economic prosperity. Of course, continued fast growth in Irish exports to the United States is by no means assured. The sharp slowdown of the US economy so far in 2001 may result in a drop in US demand for Irish exports, particularly for information and communications technology goods

As with previous years, the fast growth in Irish exports in 2000 was accounted for largely by a relatively small number of high-tech, mostly foreign-owned, companies in the pharmaceutical and information and communications technology (ICT) sectors. Manufactured and food-related exports by indigenous companies grew less strongly. As well as a movement of firms from indigenous to foreign ownership, the relatively small contribution of indigenous enterprise to total export growth may reflect some substitution of export for domestic sales by Irish SMEs in order to exploit faster demand growth in the home market. It is also possible that for some indigenous industries, outward direct investment has replaced traditional exporting as the most efficient mechanism for exploiting foreign markets.

Irish exports of services also grew strongly in 2000, climbing by 19 per cent. At IR£12.9 (€16.4) billion, service exports accounted for over 16 per cent of Ireland's total foreign trade earnings in 2000, up from less than 10 per cent a decade earlier. This trend is likely to continue over the next decade. Further liberalisation of world trade in services, together with the proliferation of advanced communications and information technologies, will reinforce the "internationalisation" of global service industries over the coming years. Internationally-traded services provide highly paid employment, and over the coming years Ireland must position itself to tap into this growing global market in tradable services.

Irish imports of goods and services also grew rapidly in 2000. Imports of merchandise goods were up by 24 per cent over the previous year, while imports of services grew by 26 per cent. The surge in imports reflects fast growth in consumption and capital investment by confident Irish consumers and businesses, as well as the high import intensity of Ireland's booming manufacturing sector. Growth in goods imports from other eurozone countries rose by 29 per cent in 2000, perhaps reflecting the benefits to trade from Irish participation in Economic and Monetary Union (EMU). Still, euro countries only account for 21 per cent of total Irish goods imports. This highlights the exposure of Irish traders to fluctuations in the value of the euro against the currencies of other countries with which Ireland trades, particularly against sterling and the dollar. Barriers preventing a deepening of Irish trade relations with other eurozone countries need to be identified and addressed.

Ireland's trade performance in recent years is clearly a reflection of our success in attracting high levels of foreign direct investment (FDI) flows – a process continued in 2000. CSO data on capital account transactions indicate that FDI flows into Ireland in 2000 measured almost IR£18 (€22.9) billion, up from IR£14 (€17.8) billion a year earlier. While a significant proportion of this investment occurred in IFSC related entities, the increase in traditional "industrial" investment in the manufacturing, construction and services sectors was extremely strong. Inward FDI remains crucial to the Irish economy. The availability of foreign capital, technology and world-class management techniques helps Ireland to attain the growth in productivity and employment that underpins improved living standards and public services.

While the importance of inward direct investment to the economy is well documented, outward direct investment by Irish companies is also becoming an increasingly important link between the Irish economy and foreign markets, technologies and production inputs. After almost continuous growth in the last decade, outward direct investment by Irish companies fell in 2000, to IR£2.3 (€2.9) billion from IR£4.0 (€5.1) billion a year earlier. It seems likely, however, that the fall in 2000 is a blip in a longer-term trend. As Irish firms become more sophisticated, more and more will make overseas investments, perhaps relocating certain operations from Ireland to more cost competitive locations. Far from being symptomatic of economic decline, growing levels of outward direct investment by Irish companies reflect a restructuring of Irish-owned industry into higher-value added activities that will form the basis of long-term growth in competitiveness, exports and employment.

Environment

Planning

The scale of infrastructure investment envisaged by the *National Development Plan (NDP) 2000-2006* has once again drawn attention to the importance of an efficient planning process. In this context, an important constraint on the ability of the economy to increase its stock of economic infrastructure is the time required to design, plan and execute capital projects in a manner which complies with environmental regulations and respects the rights of citizens and property owners. In turn, these requirements are supplemented by a complex delivery process, which involves numerous institutional and administrative procedures. The net effect has been one where investing in new or improved infrastructure is an extremely time-consuming endeavour. For example, the planning process for certain kinds of engineering projects, such as roads, can take over five years from conception to start-up on site. As such, there is an unacceptably long delay between identifying the need for infrastructure and its actual provision on the ground.

There is general agreement that this gap could be substantially reduced if we engaged in more extensive strategic planning that tried to anticipate the needs of the economy, rather than reacting to them. However, the efficient and timely delivery of infrastructure will also require institutional changes, a willingness to speed up decision-making, and, most important of all, identification and elimination of unnecessary barriers to implementation.

During 2000, a new *Planning and Development Act* came into operation. It includes provisions to speed up decisions on compulsory purchase orders and road schemes and to establish a special division of the High Court to preside over judicial reviews of infrastructure projects. The new Act includes a special provision in respect of the designation of *Strategic Development Zones*; specially identified sites for industrial, commercial or residential developments deemed to be of national and strategic importance. Given the significance of this and the other provisions in the Act, Forfás is working with the development agencies, to use the provisions of the Act to enable investment projects to be put in place more quickly and efficiently.

Environmentally Noxious Emissions

Climate change and resulting warming by greenhouse gas emissions is acknowledged as the most serious threat in global environmental terms. Discussions continue at international level in regard to an agreement proposed at a meeting at Kyoto, Japan. It is expected that, in co-operation with our European Community partners, Ireland will make its response and implement measures to achieve the targets agreed.

The Forfás Board, in recognition of the seriousness of this issue and the consequent implications of reaching the targets set down in the Government's '*National Climate Change Strategy*', has identified climate change as a priority for Forfás in 2001. Forfás is undertaking a series of studies to provide well-grounded advice to Government as to how best to implement the strategy while maintaining business and enterprise competitiveness.

Waste Management

A strong consensus exists that the waste management arrangements that prevail in Ireland are becoming a serious infrastructure constraint. Local community opposition to particular elements of regional waste management plans and to specific proposals for waste treatment are a measure of the public's concern. Meeting the legitimate concerns of local communities on these matters and the provision of a waste management system which meets the needs of a modern industrial economy is one of the major public policy issues at the present time

Landfill, traditionally by far the most dominant means of dealing with waste, is becoming less of an option and alternative approaches such as waste reduction, recycling and energy recovery are assuming more importance. Achieving the right balance between the range of waste management measures available is at the core of the issues involved.

Recognising the concern that waste management is a critical environmental as well as an economic issue, a Forfás Task Force, chaired by a Board member, Professor Michael Hillery, is at present examining how the gap that exists between policy, plans and their implementation can best be addressed.

Acknowledgements

During 2000, Forfás received significant support from the Taoiseach, Mr Bertie Ahern, T.D., from the Tánaiste and Minister for Enterprise, Trade & Employment, Ms Mary Harney, T.D., from the Minister for Science, Technology & Commerce, Mr Noel Treacy, T.D., from the Department of Enterprise, Trade & 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 content of a range of Government policies and publications aimed at the further development of the enterprise sector in Ireland.

In 2000, our sister Enterprise Development agencies, namely Enterprise Ireland, IDA Ireland, FÁS, Shannon Development and Údarás na Gaeltachta, all achieved 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. This was essential to the achievement of the results of the development agencies and the pro-enterprise policies put in place across a range of Government Departments.

As Chairman, I would like to express my thanks and appreciation to my fellow Board Members. During the course of 2000, Mr John Lynch retired as a Board Member and at the end of 2000 Mr William Scally also retired. Both members retired after a number of years of distinguished contribution to the work of Forfás. I, the Chief Executive Officer of Forfás, John Travers, and other Board Members greatly appreciate and acknowledge their contribution.

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

- the National Accreditation Board (NAB), chaired by Dr Máire 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.

In the launch of *Science Foundation Ireland* last year Forfás received assistance and advice from experts in a number of research funding organisations. In particular, I would like to thank experts from the National Science Foundation (USA), the European Molecular Biology Organisation, the Medical Research Council (UK) and ERCIM (European Research Consortium for Informatics and Mathematics).

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

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

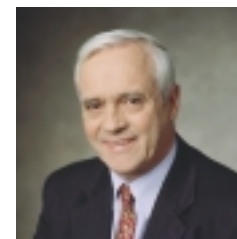
Peter Cassells

Chairman

June 2001

Chief Executive's Report

John Travers
Chief Executive



Overview of Progress 1990-2000

Economic

As Ireland moves into the 21st century, it faces many challenges in the field of enterprise and economic development. Most of these are the challenges of success. Ireland's economic achievements over the past decade have, by any measure, been spectacular. Full employment, rising living standards and wages, an increasingly educated workforce, and a society with legitimately higher expectations on the quality of life it wishes to experience are some of the outcomes of this success. The objective of sustaining the policies which have helped to underpin this success represents a welcome but, nonetheless, formidable challenge.

The year 2000 was the seventh year of strong economic growth in Ireland. Buoyed by export growth and domestic demand, real GDP grew by 10.5 per cent. Growth performance in the last two years has been amongst the strongest in Ireland's seven year period of exceptionally high economic growth, despite expectations of a slowdown. It has brought unemployment to the historically low rate of 3.6 per cent at the year-end – a remarkable achievement.

This sustained period of economic growth has, however, brought with it the inevitable consequences of emerging resource constraints, especially in the areas of the labour market, the environment and economic infrastructure. Labour supply indicators have begun to indicate sharp falls in the availability of labour with consequent signs of wage inflation. Substantial increases in employment and corresponding reductions in unemployment are leading to problems of labour and skills availability. Even though there were a number of exceptional underlying factors, the average inflation rate for the year 2000 increased sharply to the unsustainable level of 5.6 per cent. Cost competitiveness is also under threat from inadequate economic infrastructure, especially in transportation and housing.

As a small, open economy Ireland has benefited during the 1990s from the longest period of post war growth in the USA – the main driver economy of international economic growth. However, the country may now be more exposed than most

economies to changes in the international environment, including a potential recession in the US, uncertainty in the technology markets, and a potential slowing of growth in Europe. To date strong domestic demand, low interest rates and the weak euro have shielded the economy from the full effects of these factors. The weakness of the euro against the main non-euro trading nations including the UK has boosted Irish competitiveness considerably, but, in doing so, has masked the impact of rising domestic cost pressures. In an environment where many economic variables are set externally, increases in costs have important implications for international competitiveness. It is, therefore, essential that every trading business avoids any complacency engendered by the competitive edge provided by a relatively low euro exchange rate in 2000 and at present against sterling and the US dollar. The firms that will best provide sustainable, well-paid employment for their workers and a competitive return for their shareholders are those that build structural flexibility into their management and labour practices and continually strive to improve value-added and productivity. It is important also that the pattern of exports and imports by Irish-based firms adjusts more strongly to Ireland's membership of the eurozone, in order to maximise the benefits of diversification and stability that this offers.

Industrial

The enterprise sector which is the focus of the promotional work undertaken by Forfás and the development agencies continues to play a leading role in the development of the economy. The latest Forfás *Irish Economy Expenditure Survey* shows that firms in the manufacturing and internationally-traded services sectors spent over IR£25.3 (€32.2) billion in the economy in 1999 (latest year surveyed), an increase of over nine per cent in real terms over 1998. Firms in these sectors have also contributed significantly to the level of corporation tax payments accruing to the Exchequer. In 2000, total corporation tax revenues amounted to over IR£3,062 (€3,888) million, a rise of 587 per cent in real terms since 1988 (equivalent to average growth of 17.5 per cent per annum). Some 43 per cent of total corporation tax revenues in 2000 is estimated to come from manufacturing, internationally-traded and international financial services companies.

Client firms of the development agencies employed a record 316,000 full-time by the end of 2000, an increase of 7.8 per cent on 1999. There are encouraging signs that the drive towards bringing about an improved regional spread of new employment is bearing fruit. In 2000, 20.8 per cent of jobs created in companies supported by the enterprise development agencies were located in the Objective One (or Border Midland and West or BMW) region. This compares to a figure of 18.0 per cent in 1999. IDA Ireland announced that 50 per cent of all jobs negotiated during 2000 in greenfield projects were secured for the Objective One region. These jobs will come on stream over the next few years and will contribute towards the policy goal of balanced regional development.

Investment and Trade

Ireland was a major participant in the accelerating "globalisation" of economic activity in the 1990s, as evidenced by the fast growth in flows of goods, services and direct investment between Ireland and the rest of the world. Between 1990 and 2000, the value of Irish merchandise exports increased from just IR£14.3 (€18.1) billion to an estimated IR£62 (€78.7) billion. Altogether, the value of international trade in goods and services between Ireland and the rest of the world as a proportion of Gross Domestic Product (GDP) jumped from 112 per cent in 1990 to an estimated 165 per cent in 2000, making Ireland one of the most open economies in the world. There are now few businesses in Ireland of a significant size that do not trade in goods and services with foreign customers or suppliers. Moreover, with the exception of Luxembourg, no other country in Europe exports as much per capita as Ireland, and Ireland's surplus in merchandise trade, is estimated at 25 per cent of GDP for 2000.

As both a source and destination economy for mobile foreign direct investment (FDI) flows, Ireland has also been a major beneficiary of the general global reduction in barriers to the movement of capital and also the moves by multinational companies to rationalise their activities on a global scale. On the inward investment side, during the 1990s, Ireland secured a share of global mobile direct investment flows out of all proportion to its economic size – investment flows that underpinned a radical restructuring of Ireland's industrial base and led to rapid growth in output, exports and employment. Of all EU countries, only Sweden received higher flows of FDI per capita during the 1990s. Ireland's success in attracting high levels of inward direct investment, particularly into the manufacturing sector, over the last decade has been well

documented. The flow of direct investment has not, however, been all in one direction. Although still well below inward flows, outward flows of FDI by Irish-owned companies also rose significantly during the 1990s, reflecting the emergence of a growing cohort of Irish multinational enterprises building global business from an Irish base. An acceleration of this trend is a natural evolution of industrial development in Ireland.

Forfás Work in 2000 – Overview of Key Areas

During 2000, Forfás worked in close co-operation with Government Departments and agencies on the development and implementation of a range of policy issues relating to the support of enterprise, trade, science, technology and innovation in Ireland. It also provided the support for a number of bodies which operate under the aegis of Forfás including the National Competitiveness Council (NCC), which reports to the Taoiseach; the Irish Council for Science, Technology and Innovation (ICSTI), which reports to the Minister for Science, Technology & Commerce and to the Tánaiste and Minister for Enterprise, Trade & Employment; and the Expert Group on Future Skills Needs¹ which reports to the Tánaiste and Minister for Enterprise, Trade & Employment and the Minister for Education & Science. These activities contributed to a range of positive public policy decisions and actions taken in a number of key areas in relation to the development of the enterprise sector.

Forfás also continued to discharge its statutory role of advising the Minister for Enterprise, Trade & Employment on matters relating to the development of industry and science and technology. This was achieved through close working arrangements with the Department of Enterprise, Trade & Employment and other Government Departments and State Agencies, the preparation of a series of reports and submissions, both published and unpublished, and direct participation in policy analysis and development with Government Departments.

Reports published by Forfás in 2000 included:

- Enterprise 2010 – A New Strategy for the Development of Enterprise in Ireland in the 21st Century
- International Trade & Investment Report, 2000
- The 4th Framework Programme in Ireland
- The Dynamics of the Retail Sector in Ireland
- Survey of Research & Development in the Business Sector

¹ In conjunction with the Higher Education Authority.

- Management Development in the Republic of Ireland: Patterns and Trends
- State Expenditure on Science & Technology, 1999
- Annual Survey of Irish Economy Expenditures, 1998
- Survey of Research in the Higher Education Sector
- Telecommunications for e-Business: A User's Guide (jointly with IBEC, Department of Public Enterprise and CBI and IRTU in Northern Ireland)
- Annual Employment Survey 1999

In conjunction with the Irish Council for Science, Technology & Innovation (ICSTI):

- Benchmarking Science, Technology & Mathematics Education in Ireland Against International Good Practice
- Commercialisation of Publicly Funded Research

In conjunction with the National Competitiveness Council (NCC):

- Proposals on Transport Infrastructure, the Planning Process and Public Transport
- Annual Competitiveness Report 2000
- The Competitiveness Challenge 2000
- Statement on Telecommunications, e-Business and the Information Society
- Statement on Regulatory Reform
- Statement on Labour Supply & Skills

In conjunction with the Expert Group on Future Skills Needs:

- The Second Report of the Expert Group on Future Skills Needs
- Report on e-Business Skills
- Report on In-Company Training
- Business Education & Training Partnership – 2nd Forum.

A key priority for Forfás in 2000 was the establishment, under Forfás legislation, of *Science Foundation Ireland: the National Foundation for Excellence in Scientific Research* to administer the Technology Foresight Fund through which the Government is set to provide up to IR£560 (€711) million over the seven year period of the National Development Plan (2000-2006).

Two senior advisory panels, one in biotechnology and one in ICT, were established to advise on strategies for the new Foundation and following the First Call for Proposals, a rigorous peer review process was put in place using international assessment committees, comprising people of high achievement and reputation in scientific research and associated activities assisted by postal reviewers and citation analysis.

In 2000 Forfás continued its role of coordinating the work of the development agencies – Enterprise Ireland, IDA Ireland, FÁS and Shannon Development – through a series of formal and informal working arrangements. The National Accreditation Board (NAB), which operates as a division of Forfás, effectively discharged a wide range of executive functions involved in the accreditation of laboratories and certification bodies.

The Forfás *Annual Employment Survey* shows that half of the net increase in permanent full-time employment of 100,000 jobs in the client-base of the development agencies over the period 1991/2000 occurred in internationally-traded and international financial services, which reflects the increased importance of higher value-added and knowledge-based activities in the Irish economy. Employment in manufacturing also continued to grow, increasing by 4.6 per cent in 2000 and by 24.7 per cent in the period 1991-2000. This is one of the highest growth rates worldwide and represents an excellent performance by both Irish-owned and foreign-owned manufacturing industry.

Economic/Industrial Prospects

Short-term

The sharp economic slowdown in the United States has potentially serious and negative implications for the Irish economy in 2001, as well as for other countries strongly linked to the United States through trade and investment flows. Many of these are also important trading partners for Ireland so that the US economic slowdown has both a direct and indirect impact on economic prospects in Ireland. Irish exports to the USA, and to other destinations particularly of Information and Communications (ICT) goods, will be affected. The number of US FDI projects attracted to Ireland is likely to be down on previous years, and job losses in US-owned operations are also likely to show an increase for the year – particularly in the ICT sector.

Another significant danger posed by the US slowdown is to the euro/sterling exchange rate. A significant drop in the value of the dollar as a result of an extended US downturn would likely be accompanied by a rise in the value of the euro against sterling, threatening the relative competitiveness of Irish firms competing against UK firms in the UK, in Ireland and in other markets. This could seriously affect traditional labour-intensive sectors of industry. Together with the impact of restrictions to prevent the spread of foot and mouth disease, the US downturn seems likely to slow Irish GDP growth from an estimated 10.5 per cent in 2000 to perhaps 6.5 per cent in 2001.

On the whole, a temporary slowdown in the US economy should have a moderating influence rather than a major negative impact on Irish employment or GDP growth in 2001. Indeed, by curbing fast demand growth, the current slowdown may even be beneficial by reducing inflationary pressures. A more sustained and deeper slump in the US economy would, however, have more serious implications. A prolonged weakness of the dollar and sterling against the euro, together with a drying up of US investment flows, would require a re-evaluation of Irish economic and enterprise policies. Either way, the current US downturn strongly reinforces the need to maintain a supportive and cost competitive environment for the traded goods and services sector in Ireland and further emphasises the essential competitive requirement to achieve progress on a number of critical issues, including infrastructure deficiencies, wage moderation, skills shortages and de-regulation.

Medium-Term

Irish economic growth during the 1990s has been employment-intensive, and was made possible by rapid growth in the Irish labour force over this period. Fast growth in the working age population was supplemented by falling unemployment, net immigration and rising participation in work by those formerly outside the formal economy, particularly women.

Ireland's changed demographic profile over the coming decade will, however, require a new approach to enterprise policy. With the unemployment rate now below four per cent of the labour force, the economy is already effectively at full employment. Moreover, female participation in the labour force has risen above average EU levels, and the natural rate of growth in the working age population is set to level off. In the face of a smaller natural increase in the population, and as the limitations of further increases in labour force participation

are reached, a well-structured and administered immigration policy has become essential for continued economic expansion.

Even with higher immigration, annual growth in the Irish labour force will average at most two per cent over the next decade, down from almost five per cent in 1995-2000. As labour force growth slows, raising living standards will increasingly depend on improving the productivity of those already at work, rather than increasing employment. This will require higher levels of investment in education, training and upgrading of skills, as well as policies designed to increase competition and innovation in the domestic market. The focus of Irish enterprise policy must shift from simply generating additional jobs towards improving the capabilities of firms operating in Ireland and towards restructuring Irish industry towards higher-value-added activities. With the necessary policies in place, average Irish productivity growth of three per cent per annum is achievable in the 2000-2010 period. Together with growth in employment, this would allow annual average growth in Irish GNP of around five per cent per annum over the next decade.

Of course, the Irish economy's potential to enjoy continued strong growth over the coming decade will only be achieved through sound management of the economy and a constant focus on our competitive position vis-à-vis the rest of the world. Key to this will be reducing the current rate of price and wage inflation, which is making goods and services produced in Ireland less competitive on world markets. Through our participation in EMU, Ireland no longer has influence over our external exchange rate. However, enterprises in Ireland now operate in a single market formed by the eurozone, with almost 300 million consumers and 15 million other enterprises. A new focus is, therefore, needed to take advantage of the opportunities this offers. With infrastructure congestion now a significant competitive threat to industry, the implementation of the *National Development Plan 2000-2006* according to schedule will be another pre-requisite to the further expansion of the Irish economy and an improvement in Irish living standards.

The Determinants of Economic Success

The competitiveness of both business and the system of public administration by reference to international best practice is widely recognised as a major policy issue for both developed and developing countries. Competitiveness policy is a significant component of widely defined industrial policy in a world where the interaction of open markets and technological change provides both opportunities and threats. Economic success means that firms have to grow and thrive in economies where the environment for business must continually be measured against that in other countries. Policy, therefore, has to have two fundamental characteristics: it has to be comprehensive, recognising the broad range of factors that affect competitiveness, and it has to be timely, responding quickly to changes, national and international. The changes can be in technology, in fashion, in markets, in relative prices and, indeed, in policy itself. These changes are only partly predictable and they come more and more frequently.

The main components of success, therefore, for both business and a national economy encompass a wide range of factors, the implications of which can be far-reaching in the case of each individual component. They include costs, but also innovation: it is not enough to produce goods and services at a price the market will bear; it is also necessary to improve existing goods and services and to develop new ones. Costs include not only labour costs, but also those of bought-in goods and services: the efficiency of markets and the availability of a good choice of imported materials and services on the Irish market can affect the competitiveness of Irish exporters. In 2000, general inflation as measured in the Consumer Price Index began to create pressures on Irish competitiveness through increased labour and other input costs. International trends, such as increases in the price of oil and the decline of the euro, increased costs for all enterprises. A tightening labour market, not only in high-tech sectors but in other areas such as construction and domestic services also contributed directly to business costs and through higher consumer costs, created upward pressure on wages. Growing traffic congestion, especially in the Dublin region, added significantly to business costs.

Productivity improvements will continue to be required in the economy, in order to deliver better standards of living for all members of our society and to meet the challenge of an increasingly competitive international economy. Skills upgrading and improved innovation are the principal means

by which this can be achieved. The continued development of appropriate education and training systems in this light, together with a strong focus on measures to encourage entrepreneurship, can help to sustain and deepen the dynamism shown in the Irish economy in recent years.

In this environment, policy requires to adapt quickly in order to achieve the rapid provision of efficient, high-quality infrastructure, a re-orientation of the education system to better provide its graduates at all levels with the knowledge and intellectual capacity to achieve full individual potential in a changing world, improved market functioning through regulatory reform, wider consumer choice through increased competition and the lowering of barriers to entry, more flexibility in the labour force through improved skills upgrading, more investment through improved macroeconomic conditions, and more innovation through improving the rewards for risk-taking and expanding the R&D base.

A critical feature, therefore, will be the interaction between the social partners, so that when the need for policy change is recognised its implications can be rapidly analysed and the necessary measures to re-adapt policy quickly taken. In a small country such as Ireland the necessary information flow between the partners can be quicker and more responsive and, thereby, confer a national competitive advantage. Social partnership, seen in this light, can deliver policy change that improves both business success and the quality of life for all members of our society.

The Importance of R&D Investment

Over the past decade Ireland has very successfully pursued a policy of export-led growth initiated in earlier decades. Merchandise exports have grown from IR£15 (€19) billion in 1991 to IR£65 (€82.5) billion by 2000. Manufactured goods accounted for 75 per cent of the 2000 total and traded services for a further 13 per cent. A sizeable portion of these exports arises from industries heavily dependent on science and technology – pharmaceuticals, electronics, telecommunications, computer hardware and software, to cite just a few.

For a country with an industrial structure that has a significant high technology component, it is important that there should be a relatively high business sector investment in R&D. The increasing pace of innovation in the high technology industries reflects their major investment in R&D. However,

relatively little of that research is currently performed in Ireland. Less than one in four of the top-exporting firms are involved to a significant extent in R&D in Ireland. To encourage such research investment in Ireland, national industrial policy has now moved strongly to developing an environment where it is more attractive for enterprise to carry out higher level functions such as R&D.

It is not only industrial R&D which is important for the knowledge-based economy, but also R&D across a full range of intellectual endeavour. It is important to invest in the development of highly skilled researchers capable of generating new knowledge, both in public research organisations and in the research laboratories of the business sector. Modern industry relies increasingly on close links with the research expertise and capability in high quality public research organisations including those in third level institutions. Increasing the quality and level of research activity in the third-level sector facilitates and enhances the quality of its faculty and graduates to the great benefit of Irish business and society. Such research activity is also a potentially rich source of invention with commercial and direct job and wealth creating potential in Ireland. To fully exploit this potential, however, requires a further strong evolution of industrial policy and the work of the industrial development agencies, as well as that of the third level system itself.

To enhance the research environment and to underpin industrial development, the Government announced in 2000 a major new investment of IR£560 (€711) million to make Ireland a centre of world-class research excellence in niche areas of Information and Communications Technology and in Biotechnology. This investment is being managed by Science Foundation Ireland, which has been set up under Forfás as explained earlier.

Issues of Spatial/Regional Planning: The Role of the Enterprise Sector

For both social and economic reasons a balance in the distribution of economic activities between different parts of the country is essential. Social equity requires that the opportunities for well-paid employment are widely available to communities across the country. Economic efficiency requires the optimal use of the social and economic infrastructure and facilities available in different parts of the country. It also requires that economies of scale in the

provision of social and economic infrastructure and other facilities in large urban concentrations are not taken to a point where they are more than off-set by spill-over diseconomies of scale, congestion costs, and inflationary pressures in these centres and the under-utilisation of available resources in other locations. The rapid urbanisation of the Greater Dublin Area over the past 25 years and more, in both scale and format, has given rise to a situation where the congestion costs, poor environmental quality for communities and inflationary pressures in many parts of the conurbation place serious question-marks over the continuation of the underlying development trends.

It is, therefore, essential, as a number of Forfás publications have recommended over the past five to six years, to have in place a national spatial strategy which provides a broad framework within which the distribution of population, economic activities and the social and physical infrastructure for a modern, developed economy can be planned and provided in a coherent way. The *National Spatial Strategy* (NSS) being developed by the Government will provide such a framework. It presents a major opportunity to achieve a more balanced geographical distribution of economic activity across the country.

While significant progress has been achieved in a number of regions, wide disparities remain in income levels, productivity levels and potential for future growth. In part, this is as a consequence of differences in resource endowments, infrastructure capacities, skills levels of the labour forces and the dynamics of innovation and knowledge development systems as between regions. Forfás has strongly supported the research and analysis undertaken to formulate the NSS during 2000. This work will remain a key priority in 2001.

The enterprise sector has a major role to play in the formulation and implementation of the *National Spatial Strategy* and in ensuring that the Strategy enhances the competitiveness of the sector. The Strategy can do this by ensuring that clear and transparent provision is made for the land-use, infrastructure, communications and associated regulatory requirements of a modern industrial economy. If these are in place in well-planned urban centres across the regions, they will provide the essential raw-material which the development agencies can use to help shape the locational decisions of individual investors. Without them, the prospects of achieving the desirable improvements in the regional balance of economic activity and opportunity will be greatly diminished.

Identifying the barriers that exist to the quick and effective provision of infrastructure in the regions and devising the appropriate actions required to deal with them is, accordingly, a priority issue for both national and regional development. These barriers take a variety of forms including: insufficient local demand, inadequate private investment, short-sighted local opposition and vexatious planning objections, inadequate communications between development agencies and providers of infrastructure and local communities and other regulatory and institutional impediments. The *National Spatial Strategy* can make an essential contribution to overcoming these barriers by articulating a clear spatial framework for future development and the associated necessary set of clear, consistent, transparent and time-efficient principles of development control which are applied in a timely, efficient and consistent way in all parts of the country.

Helping to address barriers to the improved provision of adequate telecommunications, electricity, gas and other physical and social infrastructure in the regions to meet the needs of enterprises are priority issues for Forfás. For this reason it has compiled a detailed database of the social and physical infrastructure for 123 towns with a population of 1,500 or more across the regions in conjunction with local authorities, infrastructural providers, development agencies and Government departments. It is envisaged that this information will be put on a web-site to facilitate general access and the data is being validated at present with source agencies for this purpose.

Effective implementation of the *National Development Plan (NDP) 2000-2006* will have a very strong influence on the provision of necessary infrastructure. Positive initiatives with respect to implementation already include the creation of a special Cabinet Sub-Committee on Infrastructure and Public Private Partnerships and the publication of best practice guidelines for project delivery. Two reports from a Cross-Departmental team which supports the Cabinet Sub-Committee has documented good progress in commencing key NDP projects. In the coming year, Forfás will continue to strongly support the implementation of the NDP and, especially, those projects most likely to impact on enterprise development. In addition, it will also continue to help identify barriers to implementation and recommend appropriate solutions through its participation on relevant Committees and Working Groups and as part of its work with the

Department of Enterprise, Trade & Employment, the industrial development agencies and other bodies under the aegis of Forfás including the National Competitiveness Council (NCC), the Expert Group on Future Skills Needs, the Irish Council for Science Technology & Innovation (ICSTI) and *Science Foundation Ireland*.

John Travers
Chief Executive Officer
June 2001

Overview of 2000



The Irish economy continued to witness exceptionally high rates of growth in 2000 with GDP increasing by 10.5 per cent in real terms and GNP growth reaching a historical high of 9.8 per cent². Based on preliminary figures, GDP surpassed IR£80 billion in 2000 (or over €100 billion), driven in large part by a continued surge in exports of 19 per cent in real terms to over IR£75 (€96.3) billion. Imports increased at a similar rate (18.4 per cent) to over IR£64 (€81.6) billion. Inflation in consumer prices averaged 5.6 per cent in 2000 and the unemployment rate stood at 3.6 per cent at the end of the year.

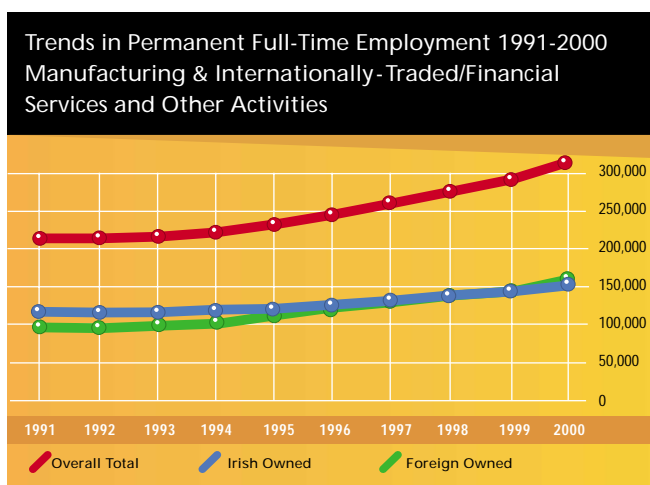
Employment

In companies under the remit of Enterprise Ireland, IDA Ireland, Shannon Development and Údarás na Gaeltachta, permanent full-time employment reached 316,000 by the end of 2000, a net increase of 22,900 (7.8 per cent) on 1999 levels. Foreign-owned companies accounted for 16,200 (71 per cent) of the increase, while Irish-owned companies accounted for the remaining 6,700 (29 per cent).

Half of the net increase in employment over this period (1991/2000) occurred in the internationally-traded and financial services sectors. Manufacturing accounted for the rest of the increase, a satisfactory performance, given that manufacturing employment is in decline in many OECD countries.

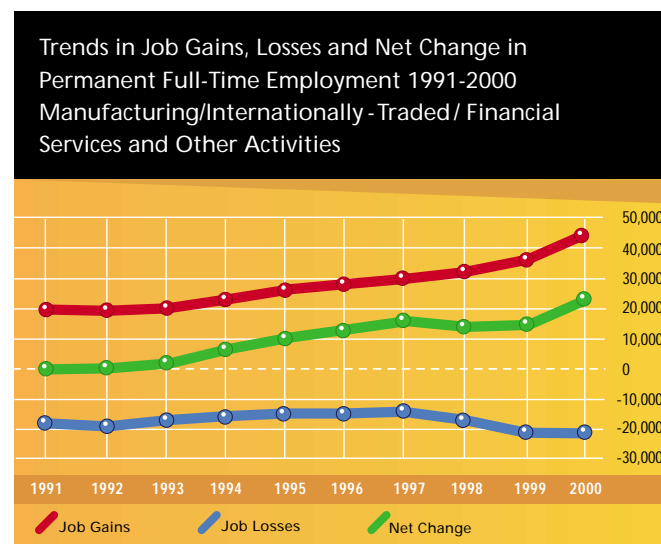
In gross terms, there were 44,000 new permanent full-time jobs created in agency-assisted companies in 2000, the highest level of growth achieved in the past ten years. Irish-owned companies accounted for 18,200 (41 per cent) of the jobs created. Alongside this strong job creation, there has also been an increasing number of jobs lost in recent years. This position improved in 2000, as the number of permanent full-time jobs lost declined marginally to 21,100, representing just over seven per cent of the employment base. These losses reflect the gradual re-orientation of industry towards higher value-added sectors, and restructuring in the indigenous and foreign-owned industrial base in response to intense competition in both domestic and export markets.

Figure 1



Source: Forfás Annual Employment Survey.

Figure 2



Source: Forfás Annual Employment Survey.

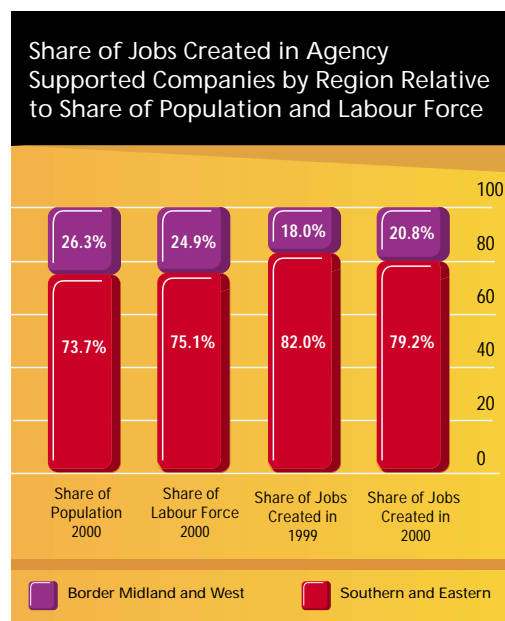
2 ESRI Quarterly Economic Commentary, March 2001.

Regional Distribution of Employment Creation

Mirroring the distribution of the population, the labour force and larger urban centres generally, most of the jobs created in agency-supported companies in recent years have been located in the Southern and Eastern region. It is an aim of industrial policy to achieve a greater regional dispersal in new jobs created and the share of jobs created in the BMW region in 2000 (20.8 per cent) was substantially ahead of the 1999 figure (18.0 per cent).

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 region³.

Figure 3



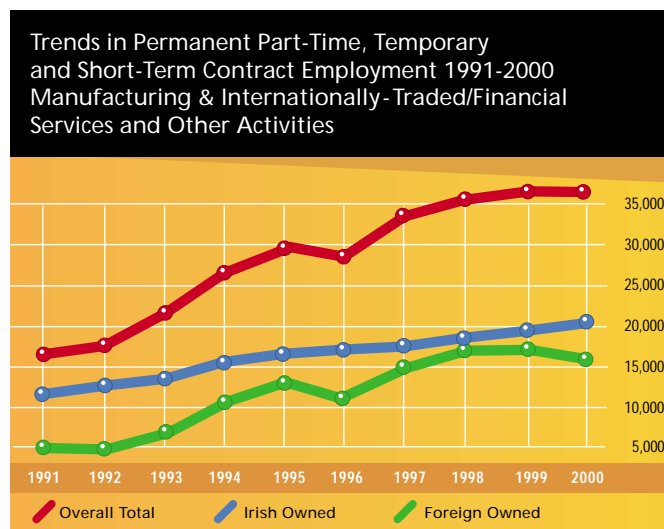
Source: Forfás Employment Survey, CSO Census of Population and Quarterly National Household Survey.

Part-Time, Temporary and Short-Term Contract Employment

In addition to the 316,000 persons employed full-time in manufacturing and internationally-traded services, 33,500 persons were also employed in part-time, temporary and short-term contract positions in 2000. Employment in this category has grown steadily over the last decade accounting for almost 10 per cent of all jobs in agency-assisted companies in 2000, compared with six per cent of all jobs in 1991.

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 228,000 in 1991.

Figure 4



*Excludes companies under the remit of Shannon Development.

Source: Forfás Annual Employment Survey.

Expenditure

Firms in manufacturing and internationally-traded services have continued to increase their spending in the Irish economy to further boost indirect employment growth. The latest Forfás *Irish Economy Expenditure (IEE) Survey* shows that manufacturing and internationally-traded services companies spent over IR£25 (€32) billion in the economy in 1999 (latest year surveyed), up IR£2.2 (€2.8) billion (9.5 per cent) on 1998 in real terms.

This spending is contributing significantly to the high levels of growth in the economy. Both Irish-owned (IR£12.8/€16.2 billion) and foreign-owned (IR£12.5/€15.9 billion) firms in the manufacturing and internationally-traded services sectors increased their spending on wages and salaries, Irish raw materials and Irish services in 1999.

3 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.

Figure 5

Estimated Irish Economy Expenditure (IEE) of Manufacturing and Internationally-Traded Services Industry - Constant Prices

	1999						% change over 1998
	Irish Owned		Foreign Owned		Total		
	IR£m	€m	IR£m	€m	IR£m	€m	%
Total Sales	17,009	21,597	40,624	51,582	57,633	73,179	21.9
Total Irish Economy Expenditures	12,790	16,240	15,533	15,914	25,323	32,154	9.5
Of which: Wages & Salaries	2,981	3,785	3,349	4,252	6,330	8,037	11.8
Irish Raw Materials	6,678	8,479	4,283	5,438	10,961	13,918	10.9
Irish Services	2,048	2,600	4,045	5,136	6,093	7,736	2.8
Profits - all Irish Industry profits and corporation tax paid by overseas firms	1,083	1,375	856	1,087	1,939	2,462	13.2
IEE % Sales	75.2		30.9		44.0		

Source: Forfás Irish Economy Expenditure Survey.

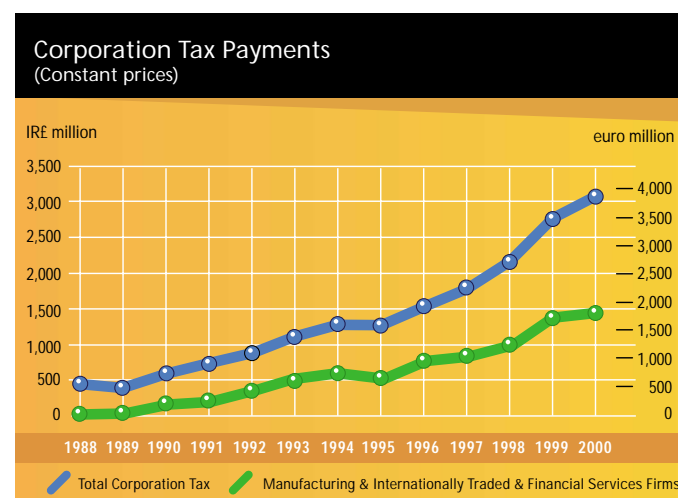
Corporation Tax Payments

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

- the total corporation tax take amounted to IR£3,062 (€3,888) million in 2000⁴. This represents a rise of 587 per cent in real terms in the period 1988 to 2000 (17.5 per cent per annum). The Exchequer Statement published by the Department of Finance for the first five months of 2001, shows total corporation tax receipts 29 per cent ahead of the corresponding period in 2000;
- 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 IR£1,426 (€1,811) million in 2000, or 46.6 per cent of total corporation tax receipts. This is equivalent to a rise of 48 per cent per annum since 1988;
- the standard rate of corporation tax on trading income has now been reduced to 20 per cent, and a rate of 12.5 per cent applies to companies with trading income not exceeding IR£200,000 (€254,000). However, the figures below show that lower corporation tax rates have helped to maximise the tax yield.

4 Source: End December 2000 Exchequer Returns.

Figure 6



Source: Forfás Corporation Tax Survey.

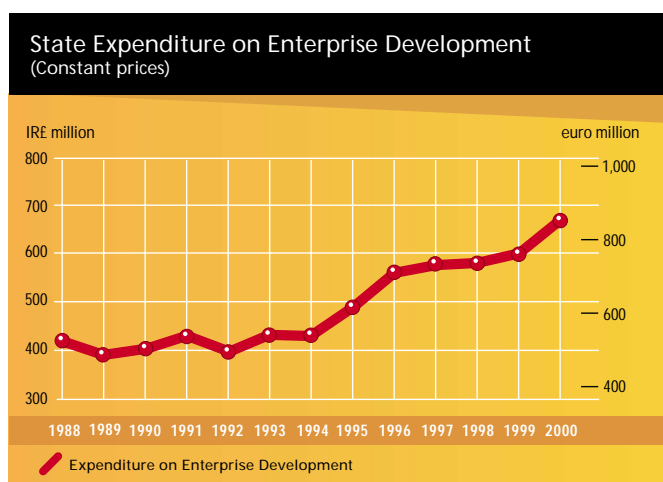
Increased Investment on Enterprise Development

Forfás undertakes an annual analysis of State investment to promote the development of the enterprise sector and create employment in Ireland. The latest analysis indicates that:

- the gross cost in real terms of support to the enterprise sector in the form of direct expenditure (all costs of operating the development agencies, financial supports etc.) was approximately IR£599 (€761) million in 1999, and is estimated at IR£669 (€849) million for 2000. This represents a rise of 59 per cent in real terms over the period 1988-2000, which is significantly below the growth recorded in gross Government expenditure for this period;

- over the same period, 1988 to 2000, growth in gross Government expenditure (current plus capital) of 86 per cent real terms was recorded. The growth in GNP in real terms over this period was 140 per cent;
- there has been a swing from fixed-asset related supports to other forms of support such as R&D, equity investment, employment grants and supports aimed at upgrading the business capability of firms. In 1988 fixed asset supports accounted for 46.5 per cent of total direct expenditure. By 2000 the percentage had fallen to 35 per cent.

Figure 7

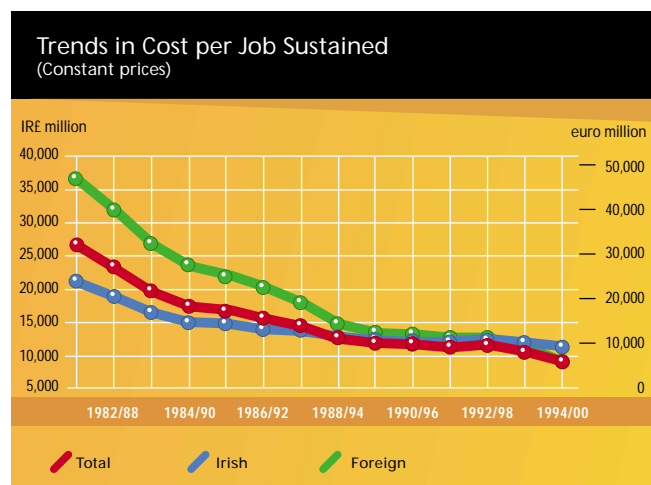


Source: Forfás: *Financial Support by Government for the Development of Enterprise in Ireland.*

Cost Per Job Sustained

The average cost of each job sustained over a seven year period in agency supported companies⁵ amounted to approximately IR£9,100 (€11,555) in 2000, the lowest level recorded to date. The trend is shown in Figure 8 below. This reflects the improved value-for-money approach pursued, the overall improvement in the economic environment for enterprise development and the rapid growth in internationally-traded services projects, where the investment costs are generally lower than in manufacturing projects.

Figure 8



Source: Forfás Annual Employment Survey.

Science and Technology

The Forfás annual publication *State Expenditure on Science and Technology* shows that Government allocations to scientific and technological activities in 2000 amounted to IR£1,100 (€1,397) million, an increase of IR£187.4 (€238) million or 20.5 per cent over the 1999 level.

All of the increase is accounted for by public funds (Exchequer + EU), which rose from IR£749 (€951) million in 1999 to an allocation of IR£934 (€1,186) million in 2000; the balance of IR£166 (€211) million arises from income earned from the activities of the departments and agencies.

Figure 9 gives a breakdown of public expenditure on Science and Technology by Government Department. Almost four fifths of the expenditure occurs in two areas - Education & Science (63 per cent) and Enterprise, Trade & Employment (16 per cent).

5 Data exclude companies under the remit of Shannon Development and Údarás na Gaeltachta. Only jobs created during, and sustained to the end of each 7 year period, are credited in the calculations.

Figure 9

State Expenditure on Science and Technology - 2000 (Exchequer + CSF)

Government Department	Total Public Allocation		% Total
	IR£'000	€'000	
Taoiseach	470	597	0.05
Finance	3,373	4,282	0.36
Environment and Local Government	11,628	14,765	1.24
Education and Science	591,250	750,733	63.30
Marine and Natural Resources	19,771	25,104	2.12
Arts, Heritage, Gaeltacht and the Islands	3,910	4,965	0.42
Agriculture and Food	72,228	91,711	7.73
Enterprise, Trade & Employment	145,723	185,029	15.60
Public Enterprise	15,085	19,154	1.61
Social, Community and Family Affairs	12,148	15,425	1.30
Health and Children	18,981	24,101	2.03
Government Offices	39,501	50,156	4.23
Grand Total	934,067*	1,186,021*	100.00

* These figures do not include 'earned income' (such as fees for technical services) which amounted to IR£166 million (€211 million) in 2000. The inclusion of earned income brings the total to IR£1,100 million (€1,397 million).

Source: Forfás - State Expenditure on Science & Technology, 2000 Survey.

Research and Development

For the first time this year's *State Expenditure on Science and Technology* includes a separate volume on research and development. Altogether R&D represents about a quarter of public science and technology expenditure, and the 2000 budget allocation amounted to IR£233 (€296) million. This represents a very significant increase over the actual expenditure in 1999 of IR£148 (€188) million.

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

In terms of public *funding*, the Departments and their agencies allocated IR£233 (€296) million to R&D in 2000, up from IR£148 (€188) million in 1999. The major increases are in allocations by the Department of Education & Science via the Higher Education Authority (IR£30 (€38.1) million) for research in the third level institutions, to the new Technology Foresight Fund (IR£25 (€31.7) million) introduced by the Department of Enterprise, Trade & Employment (DETE) to establish Ireland as a leading research player in

biotechnology and information and communications technologies, and to extra funding by the Department of Enterprise, Trade & Employment via Enterprise Ireland (IR£14 (€17.8) million) for R&D grants to industry.

The allocation for *performance* of R&D in 2000 was IR£53.9 (€68) million, up from IR£50.3 (€64) million in 1999. This figure includes IR£11.4 (€14) million which is earned income so that the public funds invested in R&D performed in the public sector amounted to IR£42 million (€53 million) in 2000.

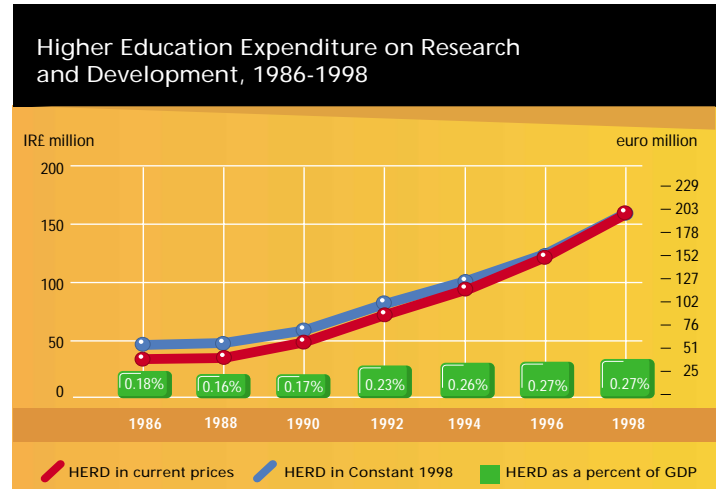
Survey of Research & Development in the Higher Education Sector

The Forfás *Survey of Research in the Higher Education Sector* shows that expenditure on research amounted to IR£160 (€203) million in 1998 up from IR£121 (€154) million in 1996 and IR£73 (€93) million in 1992. The sector is defined as the universities and the institutes of technology, including the Programmes in Advanced Technologies (in the universities) and the Technology Centres in the Institutes of Technology. This survey came too early to identify changes associated with major new funding initiatives for Irish research, namely the Programme for Research in Third Level Institutions and the Technology Foresight Fund.

Figure 10

Among the major findings of the survey were the following:

- expenditure on research in the higher education sector (HERD) amounted to 0.27 per cent of GDP in 1998 (0.31 per cent of GNP), compared to the OECD average of 0.37 per cent of GDP;
- although all fields of science experienced real increases in expenditure in the six-year period to 1998, there were significant developments in the natural sciences and the social sciences. Expenditure on research in the natural sciences increased in real terms by IR£24.1 (€30.6) million between 1992 and 1998 and social sciences research increased by IR£20.7 (€26.3) million over the six-year period;
- research in the Institutes of Technology doubled between 1996 and 1998, to IR£10.6 (€13.5) million but still accounts for less than seven per cent of HERD;
- the total number of HE researchers (full-time equivalent) was 2,425 in 1998, or 1.5 per thousand of the labour force compared to an EU average figure of 1.8. This compares with a total of 1,886 researchers or 1.37 per thousand of labour force in 1992, and 2,066 researchers or 1.4 per thousand of labour force in 1996;
- the major source of funding for HE research is from public funding which accounts for 66 per cent of the total funding. This is made up of the research component of the block grant to the colleges for their current and capital expenditure (43 per cent of total) and direct government grants administered by various Government Departments and agencies (23 per cent of total);
- other major sources of funding are EU programmes (16 per cent), Irish business (seven per cent) and foreign sources (three per cent). The contribution of Irish business to HE research remains around seven per cent of total funding. Internationally comparable data indicate that Ireland is slightly above average in this measure.



Source: Forfás Survey of Research in the Higher Education Sector 1998.

Activities in 2000

Introduction

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

- advises the Minister for Enterprise, Trade & Employment on the development of State policies designed to stimulate enterprise and employment, science, technology and innovation, marketing and human resources;
- coordinates key aspects of the activities of the industrial promotion agencies; and
- evaluates and monitors programmes which promote enterprise development, science and technology.

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

In 2000, *Science Foundation Ireland*, the National Foundation for Excellence in Scientific Research, was established under the Forfás legislation, to administer the IR£560 (€711) million fund established in response to the ICSTI recommendations arising from Technology Foresight.

Policy

Introduction

During 2000, Forfás developed 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 developed in conjunction with bodies established by Government, including the National Competitiveness Council (NCC), the Irish Council for Science, Technology & Innovation (ICSTI) and the Expert Group on Future Skills Needs; for each of which Forfás provides the secretariat. A short overview of some of Forfás' activities in 2000 are set out below under the following headings:

- Enterprise Development
- Competitiveness
- Competition & Regulation



Anne Gibson, Accounts Department; Catherine Courage and Lorcan O'Raghallaigh, Enterprise & Trade Policy Division; Derek Orr, Accounts Department and Andrew McDowell, Enterprise & Trade Policy Division.

- Science Foundation Ireland
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Enterprise Development

In January 2000, Forfás published its long-term strategy for the development of the enterprise sector, *Enterprise 2010 – A New Strategy for the Promotion of Enterprise in Ireland in the 21st Century*. The report states that while Ireland is unlikely to be able to sustain the exceptional economic performance of the past five years, annual economic growth rates of five per cent are achievable over the next decade. However, with labour force and employment growth likely to slow to two per cent per annum over the next decade, productivity growth of three per cent each year will be required to sustain a GNP growth rate of five per cent per annum over the period.

Productivity growth (output per person employed) must be achieved both by shifts in employment towards higher value-added activity and by increasing the productivity of existing employees in all sectors of the economy. While employment growth will continue to be an important objective for the development agencies over the next decade, more importantly, the agencies will need to target a sustained increase in productivity growth in the internationally-traded sector over the period to 2010.

If the overall national target of three per cent productivity growth is to be achieved, this will require productivity growth of approximately seven per cent per annum in the internationally-traded sector which is in line with recent performance, and productivity growth of approximately two per cent per year in local services and public administration, which is double recent performance.

The report advocates that the enterprise sector must remain the main engine of economic growth over the next decade. Achieving the objectives in *Enterprise 2010* will require the following:

- acceleration of the shift towards high-growth, high-tech, high-productivity activities and a shift from production-type activities to services-type activities;
- a gradual shift in employment to higher value-added sectors;
- an increase in labour productivity in existing companies;
- a deepening of the base of companies performing research and development;
- reversing the trend of economic activity to concentrate around a restricted number of major urban centres in favour of a more balanced spatial and regional development;
- a shift in development agency assistance from “capacity” support such as support for buildings and equipment to “capability” support in areas such as human resource development, R&D, marketing and market development.

The report notes that future public policies will need to focus on upgrading the environment for business development and on supporting productivity growth as the operating environment for the enterprise sector changes over the next

decade. Tight domestic labour market conditions, reduced Structural Fund support and increasing global competition are producing new challenges. Institutions, policies and physical infrastructure need to provide a coherent and comprehensive support framework for enterprise so as to develop a high-productivity, high value-added economy based on world class skills, technology and production systems.

Measures required to create the right environment for enterprise to flourish include:

- a comprehensive programme of regulatory reform, including the areas of business services and public transport;
- an improvement in the funding opportunities available to small and medium-sized enterprises by encouraging greater competition in the banking market;
- continued control of Government expenditure to keep the burden of taxation as low as possible;
- alternative forms of remuneration, such as profit-sharing and share option schemes, to assist enterprises in the attraction and retention of high-skilled employees;
- provision of greater commitment to research, development and technological innovation by firms;
- accelerated investment in high-quality, efficient infrastructure requires to be sustained over the period of the next (post 2006) *National Development Plan*;
- institutional reform of the planning process to ensure effective implementation of infrastructure projects.

Turning to the promotion of enterprise development in Ireland over the next decade, Forfás made the following recommendations:

- the national budget for expenditure on enterprise development requires to be reduced in line with EU State Aid Guidelines, with a reduced level of promotional activity as full employment is achieved and with improvements in the business environment;

- the proportion of financial support for promotional purposes allocated to improving business “capabilities” of firms in indigenous industry should be increased from 40 per cent in 1998 to 65 per cent in 2003;
- to achieve a greater spatial balance in the location of FDI projects over the next decade, 50 per cent of all new greenfield foreign direct investment employment should be located in the Objective One region;
- business expenditure on R&D needs to be increased as a percentage of GDP from 1.11 per cent at present to two per cent by 2010, with a doubling of the number of firms which undertake significant R&D activity over the period;
- training expenditure for all enterprises as a proportion of labour costs needs to be increased to the best international practice of three per cent to five per cent by 2010.

Competitiveness

The National Competitiveness Council (NCC), for which Forfás functions as secretariat, 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 to sustain and progress Ireland’s competitiveness.

The third *Annual Competitiveness Report (ACR) 2000* was published in May 2000. This report comprehensively evaluated Ireland’s competitive position by benchmarking its performance against other countries using 166 statistical indicators divided in accordance with seven competitiveness priorities. These priorities, identified by the NCC are Social Partnership, People, Costs, Infrastructure, Telecommunications and e-Business, Competition and Regulation, and Science and Technology. In tandem with the release of the *ACR 2000*, a *Competitive Challenge 2000* document was published highlighting particular actions needed to enhance Ireland’s competitiveness.

Other policy statements were released over the year that sought to address major competitiveness challenges in a number of areas:

- *Proposals on Transport Infrastructure, the Planning Process and Public Transport* centres on removing barriers to the successful and timely implementation of the *National Development Plan* and on revised institutional structures

for the planning and management of transport services in the greater Dublin area;

- *A Statement on Telecommunications, e-Business and the Information Society*, published in July 2000, sets out 25 priority recommendations to improve Ireland’s competitiveness in telecommunications, to accelerate the implementation of e-government, and to assist the rapid adoption of e-business, such that the objectives of making Ireland a leader in broadband telecommunications services and an international hub for e-business can be achieved;
- *A Statement on Regulatory Reform* was published in July 2000. The document outlined Council recommendations on steps required in the field of regulatory reform and highlighted areas where there is need for prompt action;
- *A Statement on Labour Supply and Skills* released in September 2000, examined methods by which labour supply might be increased, through, for example, increased immigration, enhanced female participation and strengthening of the skills base of the economy.

A study was initiated on Small and Medium Sized Enterprises, in order to benchmark Ireland’s performance and support measures against those in other countries. The study distinguishes between manufacturing and services enterprises, between those trading internationally and domestically, and between very small enterprises (<10 employees) and other categories. In compiling the report, consultations were held with a number of bodies and enterprises with regard to competitiveness issues as seen from their perspective. A review was also initiated of existing studies of entrepreneurship in Ireland to highlight general conclusions, especially with regard to policies and institutional support, which could form the basis of recommendations with regard to the development of entrepreneurship in Ireland.

Studies on the world of work and on the sustainability of development were completed. A study of a US state (North Carolina) was concluded, providing comparative information about competitiveness policies. Other papers prepared for the Council dealing with agriculture, electricity needs, inflation, and with EU benchmarking projects, were issued as NCC discussion papers.

A group of six Assistant Secretaries, all advisors to the National Competitiveness Council, has been convened under the Chairmanship of the Department of An Taoiseach to monitor

the implementation of Council recommendations. The other Departments represented are Finance; Enterprise, Trade & Employment; Public Enterprise; Environment & Local Government and Education & Science. The secretariat for this group is provided by Forfás.

Regulatory Reform

The concept of regulatory reform includes both the role of regulation in encouraging efficient and competitive markets and also the way in which the process of regulation itself takes place, including institutional and decision-making processes. In 2000 Forfás continued to progress the regulatory reform agenda, focusing in particular on bringing regulatory reform issues into public debate. Recommendations on policy change were included in the *Enterprise 2010* study, highlighting the importance of the issue as a key component of enterprise policy. Based on previous studies related to comparative regulatory institutional frameworks, together with the transport and business services sectors, proposals for change were drawn up that were embodied in an NCC *Statement on Regulatory Reform*, published in July 2000. In addition, the OECD country review of regulatory reform requirements in Ireland began. Forfás had originally proposed this and had been active in ensuring Government approval for its initiation. In the course of the OECD work, Forfás participated in an Academic Seminar that took place at the start of the OECD mission to Ireland, and in the Irish delegations to inter-governmental committees to review drafts of the report, and also participated actively in the Steering Group for the OECD review established by the Department of An Taoiseach.

Science Foundation Ireland

In February 2000, in a response to the recommendations of the ICSTI Technology Foresight Report, the Government established a Technology Foresight Fund. The Fund is intended to make Ireland an internationally recognised centre of research excellence, particularly in areas of Information and Communications Technology (ICT) and Biotechnology, to drive economic competitiveness in the longer term. Financing for the Fund is coming from the *National Development Plan* (2000-2006) in which up to IR£560 (€711) million has been allocated over the seven year period.

Science Foundation Ireland, the National Foundation for Excellence in Scientific Research, was subsequently established under the Forfás legislation, to administer the Fund.



Tony Ferguson, Facilities Department and Jacqueline Allan, Science, Technology and Innovation Division.

Two senior advisory panels were set up to advise on strategies for the new Foundation. The ICT panel is chaired by Mr Eoin O Driscoll, Managing Director, Vice President International Operations of Lucent Technologies. The Biotechnology Panel is chaired by Prof. Frank Gannon, Executive Director of the European Molecular Biology Organisation.

The Foundation launched a First Call for Proposals for Principal Investigators to the national and international research community. The objective of the Call was to fund a small number of outstanding researchers, who are recognised internationally as being amongst the few leaders in their fields. The programme of work proposed must demonstrate the potential to make a major contribution in the chosen field. Successful applicants could secure up to IR£5 (€6.35) million over five years to support their research in a Public Research Organisation in Ireland.

The Foundation has put in place a rigorous peer review process using high calibre international assessment committees, assisted by postal reviewers and citation analysis. The process required contacting over 2,000 research experts worldwide. Following on this there were negotiations with the successful Principal Investigators and the Research Organisation. In excess of 80 proposals were received from researchers from Ireland and abroad.

The First Call was aimed at establishing an international reputation for Ireland in research areas that are fundamental to the advancement of science in Biotechnology and ICT.

A baseline study on publicly supported research in Ireland in ICT and Biotechnology is being carried out. This will facilitate a future evaluation of the contribution made by SFI.

Skills

Forfás continued to support the Expert Group on Future Skills Needs (“Expert Group”) in 2000.

The *Second Report of the Expert Group on Future Skills Needs* was published in March 2000. Given changes in the labour market and in overall demand for skills, this report was broader in scope than the *First Report of the Expert Group on Future Skills Needs* in 1998. It underlined the importance of education and training to Ireland’s continued growth and competitiveness. It covered both the availability of labour and the needs of lower skill occupations. Given the importance of key sectors to the economy, the severity of labour and skills shortages prevalent in the sectors and the need for longer term planning within the educational and training system, it focused on the high-level skills needs in the following sectors:

- Chemical and Biological Sciences;
- Researchers;
- The main craft areas of the Construction Industry; and
- Information Technology.

The Expert Group on Future Skills Needs established a number of sub-groups to review and prepare forecasts of skills needs in the four key sectors identified in the *Second Report*, to analyse developments in the labour market and to address specific issues concerning e-Business and In-Company Training. In addition, it commissioned the ESRI to carry out a Vacancy Study, the findings of which informed the analysis undertaken in specific sectors and on the labour market as a whole.

E-Business Skills Needs

This report followed through on the recommendation of the Forfás policy document *Report on E-Commerce: The Policy Requirements* that the Expert Group should “examine the multi-disciplinary and e-commerce skills needs of major sectors”. It presented the results of research into e-Business skills needs and education and training measures that are required to ensure an adequate supply of high-quality skilled employees in the future.

The report recognised that a shortage of skills is the greatest obstacle to the move into e-Business by firms. The critical need is for employees that have a mix of skills in business, creative and technical areas. The report also found that, in

general, managers need to fully understand the business implications of e-Business; the skills of technical staff need to be updated and there is a major increase in the demand for designers to work on web design.

In responding to these findings, the report recommended in particular that:

- Forfás, the Department of Education & Science and the Higher Education Authority (HEA), should develop an e-Business Skills Partnership to encourage interaction between third level institutions and business;
- business schools should increasingly focus their programmes on information technology and e-Business related content; and
- FÁS should adopt a high profile in promoting e-Business awareness to service industries.

In-Company Training

This report focused on companies employing less than 250 people in the traditional manufacturing and construction sectors. This focus was based on the particular changes that face these companies and have implications for training. The recommendations include that:

- a national register of approved trainers should be drawn up;
- the Department of Education & Science, IBEC and ICTU should develop a literacy and numeracy initiative suitable for delivery in the workplace; and
- the scale of education and technological training undertaken by operative and craft level staff should be increased.

National Vacancy Survey

Forfás and FÁS commissioned the ESRI to carry out a Vacancy Survey covering the period 1999/2000. It found that the vacancy rate had increased by 20 per cent over the previous year to reach 6.5 per cent of total labour requirements. The main findings of the survey were as follows:

- the greatest growth in vacancies and the highest vacancy rate, at 11 per cent, was in the construction sector;

- five broad occupational categories accounted for two-thirds of all vacancies. These were Skilled Maintenance and Production Operatives; Personal Services, Clerical and Secretarial; Production Operatives and Sales Personnel;
- there was a significant increase (of seven percentage points) in “Difficult to Fill” vacancies in the year preceding the survey. A total of 33 per cent of respondents reported this experience;
- a substantial proportion of firms (55 per cent – 11 percentage points higher than the previous year) indicated the existence of labour shortages was forcing them to offer wage and salary levels higher than are the norm;
- in aggregate terms, the incidence of vacancies between Dublin and the rest of the country narrowed somewhat over the period 1998/1999 to 1999/2000, in all sectors except construction. This was due to the increase in vacancy rates outside the Dublin area.

These findings were taken into account in the consideration of skills needs in specific sectors and in sub-group discussions on how to address them.

In March 2000, the Group also published a *Report on the Second Forum of the Business Education and Training Partnership*. The Forum, organised in partnership with the Higher Education Authority was opened by Mr Noel Treacy, T.D., Minister for Science, Technology & Commerce. Mr Micheál Martin, T.D., Minister for Education & Science addressed the Forum which had an attendance of over 240 people, representing both the private and the public sectors.

Trade

The first *International Trade & Investment Report* was published by Forfás in December 2000. The purpose of the report, produced at the request of the Department of Enterprise, Trade & Employment, was to monitor trends in Ireland’s overseas trade and direct investment patterns, to place these developments in an international context, and to raise policy issues that require consideration. It is intended that the report will be undertaken annually and will, over time, become an important reference tool for business organisations, academics and policy makers involved in trade and direct investment issues.

A growing share of Irish trade is conducted with countries outside the Single European Market, and is governed by multilateral agreements under the auspices of the World Trade Organisation (WTO). Upcoming trade negotiations at the WTO will, potentially, have a significant impact on the Irish economy. Forfás continued to monitor developments at the WTO from the perspective of Irish industry. WTO position papers were presented to the Board and to the Department on a number of issues, including e-Business and Trade. Forfás also continued to advise the Department of Enterprise, Trade & Employment on all WTO-related disputes that potentially affect industry in Ireland, particularly the US-EU dispute over “Foreign Sales Corporations”.

Reducing Ireland’s trade dependence on traditional export markets is an important goal of Irish trade policy – a goal reflected in Forfás activities in 2000. Over the course of the year, studies were completed on Ireland’s trade and investment links with Central and Eastern Europe, China and Latin America. The reports on Latin America and Central and Eastern Europe were considered by the Foreign Earnings Committee with a view to considering the appropriateness of Ireland’s existing export promotional arrangements in these regions.

Import market share is the proportion of a country’s total imports accounted for by a particular trading partner. For the trading partner in question, import market share is an indicator of national competitiveness and demonstrates the results of efficient production and trade delivery mechanisms. Specifically, import market share analysis can help explain whether a country’s export growth is the result of growing aggregate import demand among its trading partners, or improved competitiveness and export penetration in overseas markets. In October, a paper was prepared to examine Ireland’s share of imports into four key markets (Germany, UK, Spain and Sweden) across six key export sectors (Food & Live Animals, Beverages & Tobacco, Chemicals, Manufactured Goods, Machinery & Transport Equipment and Misc. Manufactured Articles). This showed that Ireland’s import market share increased significantly during the 1990s for manufactured products, particularly chemicals and office machinery, although there has been a fall in market share in some markets for more traditional exports, such as food and beverages.

In early 2000, Forfás began a project to examine the nature and scale of Outward Direct Investment flows from Ireland, as well as the impact of these flows on the domestic economy.

This study revealed that outward direct investment (ODI) flows in 1999 were almost as large as inward non-IFSC related direct investment into Ireland. A report by UK consultants PACEC, commissioned by Forfás, showed that ODI by Irish companies is largely beneficial to the Irish economy across a range of indicators, including: export performance and diversification; employment and pay levels; company profitability and growth; access to skilled labour; the availability of globally minded management teams; and dissemination of best practise and know-how. Following a consultation process with the Department of Enterprise, Trade & Employment and the development agencies, Forfás prepared a broad set of policy guidelines on ODI for the Department and the development agencies. This recommended that the Government adopt a positive attitude towards ODI and facilitate outward investment by Irish companies through an extension of Ireland's network of Double Taxation Treaties, as well as through non-financial assistance for ODI from the enterprise development agencies.

In mid-2000, Forfás completed a study on latest developments in the internationalisation of the Irish services industry. Following on from the *Enterprise 2010* and *ITS 2007*⁶ reports, this study looked at the export performance of the Irish service sector and the quality and reliability of service-sector statistics. The study highlighted the growing importance of services exports to the balance of payments, and the need for more detailed statistics on trade in services.

Infrastructure Priorities in the Regions

Economic and social infrastructure remains an important focus for policy as inadequacies in the scale and quality of economic infrastructures have begun to impinge on the effective working of the economy. The pace and extent of economic growth over the last seven years has seriously exceeded the capacity of most existing infrastructures, especially those related to transportation and energy. In response, the Government has committed over €13.6 billion in the *National Development Plan (NDP)* for investment in roads, public transport and environmental infrastructures.

Regions and centres that do not possess an adequate volume and quality of supporting infrastructure such as roads, telecommunications, electricity, water and housing will inevitably experience difficulties in expanding their enterprise base. During 2000, Forfás continued work that examines the infrastructure priorities required for enterprise development in the regions. This involved extensive consultation with the

development agencies and business representatives in the regions to identify the key investments required in their infrastructure. Access infrastructures such as roads and telecommunications which impact on the exchange of goods, services and information emerged as the major priorities for regional businesses.

Significantly, electricity also emerged as a key regional infrastructure priority. To meet growth demands, many locations, especially in the BMW region, require a substantially upgraded electricity transmission infrastructure in order to support long-term enterprise development. Forfás worked with the ESB, EirGrid, the Department of Public Enterprise (DPE) and the development agencies to identify the affected locations and make recommendations for appropriate responses. The importance of electricity is also linked to the development of gas supplies and gas transmission infrastructure. Modern electricity stations use gas for power generation and so the availability of gas in the regions to support both energy producers and industry emerged as an important concern. A submission on these issues was prepared for the Cabinet Committee on Infrastructure.

The year's activities also included monitoring expenditure commitments on regional infrastructures under the Operational Programmes (OPs) of the *National Development Plan*, private sector investments especially in telecommunications and changes in the regulatory and legislative environment likely to impact on the provision of infrastructure.

Regional Database of Infrastructure

Balanced geographical development ensures that economic prosperity is more widely distributed and addresses some of the spatially related social and political dimensions of economic development. National and regional efficiency is also served by taking steps to prevent congested development in a single or small number of regions. In order to facilitate a more efficient spatial distribution of the enterprise sector, the Tánaiste requested Forfás to construct a database of the physical and social infrastructures in the regions. This is intended to help identify the developmental capacity/potential of various locations and regions and pinpoint areas in need of improvement. The project is based on the premise that such infrastructure provides the framework conditions for economic growth, localised development and social progress. A pilot electronic database has been constructed and incorporates several categories of social and physical

6 *ITS 2007: Opportunities for Ireland's High-Technology Internationally Traded Services (ITS) Sector to 2007*, published by Enterprise Ireland.

infrastructure, together with appropriate indicators of their capacity and quality. Extensive contacts have been established with local authorities/urban district councils and providers/operators of key network infrastructure such as roads, telecommunications, electricity and gas, all of whom are providing data to populate the database.

Forfás commenced work on the design of an internet-based system which would give users immediate access to any piece of data, and to have it graphically presented using GIS mapping techniques.

A pilot project (Phase 1) to gather data for five selected centres (Galway, Ballinasloe, Castlebar, Ballina and Tuam) in the West region was completed. The project is now being rolled out to 123 towns with population greater than 1,500 throughout the country, including IDA Ireland's "Gateway Towns", Enterprise Ireland's "Webworks Towns" and other towns of emphasis.

The database is contributing to the preparation of the National Spatial Strategy which is being undertaken by the Department of the Environment & Local Government, and consultations have taken place with officials in the Spatial Planning Unit in that Department on the construction of the database and the use to which it can be put.

Forfás is also working with the development agencies to coordinate and ensure consistency in their regional development strategies.

Science, Technology and Innovation

In the area of Science, Technology and Innovation, Forfás is advised by the Irish Council for Science, Technology and Innovation (ICSTI). The major issues arising from the work of the Council during the year were as follows:

Council Task Forces

The Council implements its work programme through the mechanism of Task Forces to deal with agreed priority topics. In the period 1999/2000 Task Forces were established to deal with the following issues:

1. *Biotechnology* (Rapporteur: Professor Emer Colleran, National University of Ireland, Galway, former ICSTI Member).

Biotechnology is a pervasive and enabling technology with applications in many areas of business and medicine that



Martin Kerrigan, Systems Department and Denise Cash, Personnel Department.

are important to Irish economic growth and the well-being of Irish society. As with all new technologies, the emergence of biotechnology has raised many questions of enormous public interest. New discoveries in biotechnology now have large implications for society precisely because the tools of biotechnology can be used to turn so many of the new discoveries to some useful purpose. Concerns about biotechnology have coincided with considerable international unease about the impact of science and technology in general.

Although extensive documentation exists on the development and application of traditional and modern biotechnology, ICSTI considered that there was a lack of independently validated and readable information for the general public. Consequently, the general public is not given the opportunity to gain an understanding of, and make informed decisions on, the enormously wide range of applications of traditional and modern biotechnology in the agricultural, industrial and healthcare sectors.

The Task Force report will identify, in a scientifically credible, clear and balanced way, some of the main public concerns about modern biotechnology, while highlighting the potential benefits and risks of its application.

2. *Commercialisation of Publicly-Funded Research* (Chaired by Dr. Alva DeVoy, Member of ICSTI and KBC Asset Management Ltd.).

The resources currently devoted to commercialisation of publicly-funded research are inadequate relative to the opportunities which exist. In order to develop a positive environment for commercialisation, both a supportive framework and incentives are required.



Emer Dwan, CEO's Office; Martin Hynes and Emma Hyland, Science, Technology & Innovation Division.

The report makes recommendations aimed at improving the means, circumstances and conditions for the transfer and commercialisation of publicly-funded research activities and outcomes in higher education and public research institutions.

The Council has identified a need for Government Departments and agencies to support commercialisation, and for research institutions to give it management backing. The adequate resourcing of industrial liaison offices is essential. Training and awareness for researchers of the opportunities available are central if these opportunities are to be taken. There are funding issues which need to be addressed, particularly for the early stages of commercialisation.

3. *Sixth EU Framework Programme of Research and Technological Development (RTD) and Demonstration (FP6): Preparation of a National Position* (Chaired by Prof. Jim Browne, former Member of ICSTI and Director of CIMRU, National University of Ireland, Galway).

The EU Framework Programmes set out the priorities for EU research activities, usually for a period of five years. The research priorities within each programme seek to support industrial competitiveness and to positively contribute to the quality of life of the EU citizen. The ICSTI Task Force established to assist the Department of Enterprise Trade & Employment in the preparation of a national position in respect of FP6 identified a number of priority research areas where the Framework Programme could contribute to the national objective of developing a knowledge-based economy. These included RTD activities related to the competitiveness of materials, advanced manufacturing and services; strategic technology areas for both the chemical and pharmaceuticals sectors; research topics within the food areas of genomics, bio-materials

and nano-materials and key technologies for the sustainable use of energy resources and the protection of the environment.

The ICSTI Report was submitted to the Office of Science & Technology in December 2000 and it formed the basis of the National Position submitted to the EU Commission in January 2001.

4. *Public Awareness of Science, Technology and Innovation* (Chaired by Mr. Colum MacDonnell, (former member of ICSTI and formerly Irish Exporters' Association).

This Task Force was established to make recommendations on policies to improve the public perception of science, technology and innovation and to help meet the needs of industry for people with science and engineering skills. At a time when science and engineering are increasingly impacting on all aspects of life, it is important that all sections of the population should have at least a minimal appreciation of the reasons for this influence. This could help to contribute towards a better understanding of some of the science-related issues which arise from time to time.

At the request of An Tánaiste, the Task Force was asked to bring forward a proposal for the establishment of a Science Centre in Ireland. The Task Force completed this work with a report to Council in July. This proposal, which was subsequently presented to the Tánaiste, recommends that the Government establish a Science Centre in Ireland comprising one major facility in Dublin and two smaller centres, one in Galway and one in Cork. The regional centres are recommended as complementary facilities, reflecting their local context, as well as the universal principles of scientific endeavour, and not scaled-down versions of the Dublin centre.

A recurring theme in the discussions around the public's awareness of science and technology has been the issue of a Centre for the Teaching of Science. In considering this issue, the Task Force recognised that individual colleges have introduced programmes to address the issue of science education. With this in mind, the Task Force is undertaking a survey with a view to building a map of Ireland's resource pool in relation to science education.

Additional Work of ICSTI

During the year, ICSTI explored ways to enhance a new alliance between the arts and the sciences. These interactions were carried out under the aegis of a Steering Group established in Spring 1999, consisting of two members nominated by the Arts Council and two members nominated by ICSTI, assisted by members of the executive of both Councils. The Arts Council was represented by Mr. Seamus O'Conneide and Ms. Siobhán Ni Eanaigh/Ms. Jane O'Leary and ICSTI was represented by Ms. Ann Riordan, Microsoft Ltd. and Mr. Brian Trench, Dublin City University.

European Research Area

In the last year, the European Research Area has become the reference framework for research policy issues in Europe. Proposed by the EU Commission in January 2000, this project was endorsed by the Lisbon European Council in March 2000 as a central component of the process of developing a knowledge-based economy and society in the EU to promote innovation, competitiveness and employment, sustainable economic growth and social cohesion.

The European Research Area is about creating a climate of top research throughout Europe based on common approaches and objectives. As party to the Lisbon Summit Conclusions, Ireland, represented by Forfás, will be 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 and the impact of RTD on economic competitiveness and employment.

Energy

During 2000, a significant amount of work was initiated on energy issues and in particular electricity and gas. Dramatic growth in the economy over the last decade has been accompanied by increasing demand for energy. Demand for electricity between 1994 and 1999 grew, by around 6.5 per cent per annum, compared with an annual average of around three per cent over the previous ten years.

This dramatic growth in demand has resulted in concerns over the adequacy of the country's electricity generation, transmission and distribution systems. To assess these concerns, Forfás held a series of consultations with the ESB, the new Transmission System Operator (EirGrid) and the

Department of Public Enterprise. The review confirmed a tightening of the margin between total available supply of electricity and total demand and increasing pressures on the transmission system.

To examine the impact of capacity problems in the electricity system on enterprise development, Forfás and the Department of Public Enterprise commissioned a report to assess the effects of the introduction of new Internet Data Centres (IDCs) on the electricity system. This report confirmed the following:

- there will be an increasingly small surplus (margin) of reserve generating capacity, relative to both present and projected demand, leading to a reduction in the security and reliability of power supply;
- the prospect of a critical gap between demand and supply of electricity in the Winter of 2001/2002, in the absence of additional generating capacity;
- the transmission network (which comprises the lines that transmit bulk power from generating stations to local substations), that is inadequate and over-loaded in many parts of the country. The Border, Midlands and West (BMW) region, in particular, does not have the high capacity transmission networks needed to support enterprise promotion and major deficiencies in transmission and distribution occur even in larger centres of population such as Dublin and Cork;
- nationally, few parts of the transmission network will remain within acceptable transmission standards over the next three to five years, leading to increased risk of over-loading and power outages;
- the distribution system (which comprises lines from substations to customer premises) has serious deficiencies. The national distribution network requires immediate and accelerated refurbishment and enhancement;
- there is widespread public opposition on planning and environmental grounds to putting in place the infrastructure needed to remedy the deficiencies in transmission and distribution;
- deficiencies in the electricity system are posing increasing constraints for promoting enterprise in Ireland at national, regional and sectoral levels;

- the structure and operation of the electricity market, together with existing institutional arrangements, require modification to support the necessary improvements of the electricity system.

On the basis of these findings, Forfás, with the support of the development agencies, submitted a policy paper and appropriate recommendations to the National Competitiveness Council (NCC), to the Cabinet Committee on Infrastructure & Public Private Partnerships and the Department of An Taoiseach. As a result, addressing the deficiencies in the electricity system is now a Government priority to ensure that the economy has an adequate and high quality supply of electric power to meet its long-term requirements.

While work on energy issues for enterprise development was initially dominated by electricity, natural gas supply also emerged as an equally significant issue. This stemmed from the fact that most of the country's electricity generating stations use gas-fired turbines. Revised gas supply-demand forecasts produced by the ESRI and the Department of Public Enterprise (DPE) projected a shortfall (11 per cent) in gas supply to the Irish economy in the winter of 2002/2003. This raised serious concerns over security of gas supply. The Tánaiste and Minister for Enterprise, Trade & Employment requested Forfás to conduct a review of the gas-supply forecasts and a proposal to construct a second gas interconnector between Scotland and Ireland. A paper addressing these issues resulted in a special review and ultimately approval of the second interconnector. Provision of this piece of strategic infrastructure will substantially improve the economy's overall energy security and provide sufficient gas for electricity generation and use by industry.

Telecommunications

During 2000 Forfás continued to benchmark the competitiveness of the telecommunications market in Ireland and to work with other Government Departments on the implementation of a number of key initiatives. Forfás also prepared and published a *Statement on Telecommunications, e-Business and the Information Society* under the auspices of the National Competitiveness Council. The Forfás quarterly *Telecommunications Benchmarking Report* has noted that, while the telecommunications environment in Ireland has improved significantly during 2000, key weaknesses remain. Achieving a rapid increase in Ireland's international

telecommunications connectivity has been a major priority for the industrial development agencies over the last two years. The Global Crossing project, which Forfás strongly promoted and was a member of the Implementation Steering Group, has ensured that Ireland now has sufficient international connectivity to make it attractive to large scale e-businesses such as data centres and co-location facilities, while liberalisation has improved Ireland's position in terms of improved telecommunications infrastructure, services and lower tariffs. Ireland also now has its own telehouse/peering⁷ facilities for the direct exchange of both national and international Internet traffic.

HEAnet Ltd., which is the communications and computing network management division of the Higher Education Authority, has also been allocated capacity on the Global Crossing cable to develop high-speed international connections from Irish universities and third-level institutes to Next Generation Internet research networks in Europe and the US, for education and research purposes.

Progress is being made in developing telecommunications infrastructures in areas where the market is not meeting the needs of businesses quickly enough. Following a review of regional broadband infrastructure needs by Forfás and the Department of Public Enterprise, the *National Development Plan* allocated a further €190 million investment to regional broadband networks. This public funding should leverage an additional investment of over €400 million during the next three to four years.

The second edition of *Telecommunications for e-Business: A User's Guide*, first published in 1999 by Forfás and IBEC, included up-to-date maps of the existing international and regional telecommunications infrastructures North and South and extensions planned during 2001. It also explained how advanced telecommunications services can be exploited by business firms. The editorial team was expanded for the 2000 edition to include IDA Ireland, the Department of Public Enterprise, the Confederation of British Industry (CBI, Northern Ireland) and the Industrial Research and Technology Unit (IRTU) in Northern Ireland.

In 2000, Forfás continued to highlight the significant benefits that local loop unbundling⁸ (ULL) is likely to have for business firms and society. A submission on the issues involved was prepared for the Oireachtas Committee on European Affairs.

7 Peering is the most common model of connection between Internet backbone providers. In a peering arrangement, a backbone provider agrees to exchange traffic that originates with customers on its network and terminates with customers on the network of its peering partner.

8 Local Loop Unbundling (ULL) is a regulatory measure, which is intended to release the incumbent operator's exclusive control over the local loop, for use by other operators.

The effect of ULL in the market will be dependent on ensuring that a pro-competitive regulatory framework is in place in which new entrants, investors and the incumbent can have confidence and that the pricing framework is designed in such a way as to ensure reasonable incentives to both Eircom and new entrants. Local Loop Unbundling, effectively implemented, should ensure widespread access to broadband services and increase innovation and customer choice. It will have long term economic benefits for balanced regional development, for increasing the widespread adoption of e-business and for the promotion of the Information Society in Ireland, ensuring that the potential for improved living standards which the digital economy provides is fully realised.

Mobile Commerce

Third Generation Mobile Services (3G) will become a pervasive technology in the near future. 3G represents a major evolution in mobile communications, bringing the full power of the Internet, with high quality audio, video and graphics, to people on the move. Data rates up to 200 times more than existing mobile phones will enable large files to be transmitted almost instantaneously and new applications for the enterprise sector to be developed.

The introduction of 3rd Generation mobile services will be a key driver for the development of the information society and e-business/m-commerce in Ireland. The key requirement from an enterprise perspective is to develop a fully competitive third generation mobile market, providing the best quality advanced services at the lowest costs in Europe. This is not currently the case, as mobile tariffs (second generation) remain amongst the highest in the EU. The more competitive and innovative the range of telecommunications services available in Ireland, the more competitive the country will be as a location for inward investment and the business environment will be to support the development of Irish businesses in international markets. Forfás has been closely involved in the ODTR's consultation process on the introduction of third generation licences in Ireland, and responded to ODTR calls for views in May and July 2000. These consultation documents addressed a number of technical, commercial, economic and regulatory issues relating to the introduction of 3rd generation (3G) mobile services in Ireland. Overall, the introduction of 3rd Generation Mobile Services should be guided by the desire to achieve agreed economic and social policy objectives. The principles of policy should include:

- ensuring the four licences are utilised to encourage greatest

competition in the marketplace in the future;

- ensuring a rapid roll-out of new services;
- encouraging innovation and investment in the communications sector in Ireland;
- promoting enterprise and inward investment in new and emerging sectors in the UMTS environment, including 3G content creation and distribution, value-added service providers and hardware and software suppliers;
- ensuring the highest possible level of services and coverage at costs that are benchmarked to the lowest in leading countries;
- widespread social inclusion in the Information Society in both economic and geographic terms; and,
- ensuring a fair return on the State's assets, i.e., radio spectrum.

It is now essential that the licences be awarded as soon as possible to further develop Ireland's telecommunications market in order to provide a conducive environment for the development of mobile commerce by indigenous and overseas companies located in Ireland.

E-Business

Forfás initiated 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*⁹. These benchmarking reports monitor the policy requirements and actions necessary to improve the competitiveness of the 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;
- the relative competitiveness of the 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.

⁹ Report on e-Commerce: The Policy Requirements prepared at the request of the Tánaiste and Minister for Enterprise, Trade & Employment and published in July 1999.



Henry Whitston, Systems Department; Aubrey Condon, Secretariat and Vicki Smith, Personnel Department.

The report noted that the Government has acted quickly in a number of policy areas to speed progress including:

- the passage of the *e-Commerce Act 2000* and the *Copyright Act 2000*;
- formulation of the plans for e-Government (Public Services e-Broker) and the establishment of the REACH team, with the allocation of IR£100 (€127) million over the next three years for Information Society and e-Business enabling projects in the public sector;
- establishment of MIT Media Lab Europe and *Science Foundation Ireland* with a fund of IR£560 (€711) million for basic research in ICT and biotechnology areas;
- significant growth in Support Services such as web hosting/servers.

However, significant challenges remain, including:

- further progress must be made in the actual adoption of ICT by Government (e-Government), despite the successful implementation of a number of projects, such as Revenue On Line;
- Ireland lags behind leader countries in overall ICT adoption, as Irish consumers are less likely to own PCs, use the Internet, and to shop on-line than those in comparator countries.

The report also noted that:

- a large variation exists in the adoption of e-Business across the key sectors of the economy; and

- a two-tiered approach is apparent in the adoption of e-Business by enterprises operating in Ireland. Multinationals and the larger and/or more technologically literate enterprises are moving to adopt e-Business but the majority of SMEs significantly lag their larger counterparts. The issues and challenges faced by both are different.

VAT on e-Business

Forfás has been actively involved in the development of a VAT regime favourable to the promotion of e-business. Under current VAT rules, digital services supplied by companies based outside the EU, to personal consumers in the EU are not subject to VAT. However, digital services supplied by EU-based companies are liable to VAT at the rate applicable in the country of supply. This puts EU-based companies at a competitive disadvantage. Irish-based companies would be at a particular disadvantage as the standard rate of VAT in Ireland was 21 per cent (reduced to 20 per cent from 1 January 2001), compared with other EU countries such as Germany and Spain (16 per cent) and the UK (17.5 per cent).

Proposals to amend the 6th VAT Directive dealing with the supply of electronically delivered services were considered by the EU Commission in June 2000. The Commission proposals encompassed the establishment of a single place of VAT registration for non-EU suppliers to private consumers in the EU. However, VAT would continue to be levied at the rate applicable in the country of supply. Supplies of digital services to customers outside the EU, whether business or consumer, would not be subject to VAT. This would benefit Irish-based suppliers who currently have to pay VAT on these supplies.

A study on the issues involved was undertaken by Forfás and the agencies (IDA Ireland and Enterprise Ireland). Forfás recommended that Ireland should support the early introduction of a VAT Directive on electronic services, but should seek support for a favourable change in the place of supply rules to having VAT levied at the point of consumption. There are indications of a change in this direction. Some European Governments are concerned that the proposed Directive could deprive them of tax revenues and have put forward a compromise proposal. This would involve non-EU companies registering for VAT in only one EU country (as proposed by the Commission), but charging VAT at the point of consumption. The VAT revenue would then be shared across Member States. Forfás would like to see this proposal extended to cover EU companies.

This idea is similar to the concept of a 'digital distribution centre' previously proposed by Forfás. This concept entails a single place of VAT registration in the EU with VAT being centrally accounted for, on a country-by-country basis, by the digital distribution centre (on behalf of companies) at the VAT rate applicable on sales in the country of consumption. VAT revenues would be subsequently re-distributed by the digital distribution centre to the relevant EU Exchequers. Forfás will continue to monitor developments in this area.

It was also recommended that, in the context of a wider review of tax strategy by Government, a reduction in the standard rate of VAT would greatly benefit the development of the B2C digital distributed content and applications sector. The standard rate of VAT was reduced to 20 per cent in Budget 2001 partly in response to this recommendation.

Coordination

Introduction

Coordination 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 & 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;
- Forfás also operates a number of cross-agency working groups on specific policy areas and works closely with individual agencies to help achieve operational consistency.

The coordination function during 2000 was carried out effectively in the fora mentioned above. There are also a number of other areas involving coordination by Forfás.

Awareness Programmes

EMU Business Awareness Campaign



The EMU Business Awareness Campaign, which is managed by Forfás and forms an integral part of the Government's National Information Programme on the euro, continued to produce and disseminate information on issues relating to EMU and the changeover to the euro by Irish businesses throughout 2000.

The range of publications which relates to conversion issues and is made available to businesses was significantly updated during the year. A new stand-alone case study brochure *Changeover to the Euro – Four Company Case Studies* illustrated how the Campaign's planning tools could be utilised in practice to determine the various strategic and functional aspects of the changeover. The Case Studies also formed part of the Campaign's Information Pack. Three new documents exploring the strategic options available to Irish companies, in particular SMEs, in order to take advantage of the opportunities offered by the introduction of the euro and the formation of the eurozone were also prepared for inclusion in the Pack. A more comprehensive guide on the issues entitled *Strategies for Competing in the Eurozone: A Guide for Irish Business*, which elaborated on the new inserts for the Information Pack was also prepared. In addition, *Ireland's Cash Changeover Plan for 2002* was added, bringing the number of documents in the Pack to 32.

The Forfás EMU Business Awareness Campaign continued to distribute information to the business community through the established channels. Overall, the Campaign circulated 3,304 Information Packs (bringing the overall total to 63,928); 4,447 SME brochures (bringing the total to 112,405); 1,586 retail brochures (bringing the total to 123,895); 787 copies of the IT guide (overall total 49,500); 1,128 copies of the Cross-border document (overall total to 29,152); 3,660 copies of the case study brochures and 1,847 copies of the Strategies Guide which was printed in May 2000. In addition, a total of 90,000 copies of the April issue, 75,000 copies of the June/July issue and 85,000 copies of the September/October issue of the Campaign newsletter *EuroChange* were printed and distributed.

The Campaign continued to promote its key messages to the enterprise sector using the medium of advertising. The dedicated print advertising campaign that ran during 1999 was extended into 2000. In addition, a national campaign using both print and national radio ran for a four-week period during October.

The Campaign also continued with a wide range of other information initiatives, including stands at exhibitions and conferences, presentations at meetings and seminars, as well as handling a large number of queries on the Campaign's help-line for business. In excess of 1,700 telephone, e-mail, fax and postal queries were handled by the Campaign during 2000. Copies of the Campaign newsletter were distributed as an insert in a number of relevant business publications during the year. The "EuroFocus" feature, in conjunction with *Running Your Business* magazine, was continued. The feature profiled an SME company and outlined the preparations it had made for the changeover and its experience to date in dealing with the euro.

One survey to assess the levels of preparation for EMU and the changeover to the euro was conducted during 2000. The main messages emerging from this survey were that although there seemed to be some advancement among the firms surveyed in terms of their overall levels of preparedness for the euro, there was no sense of urgency among companies with regard to their preparations.

The *Loughrea Euro Town Project*, which was a demonstration exercise in which 30 businesses in Loughrea changed over to the euro on an accelerated basis, continued during 2000. The businesses participating in the project progressed with their changeover plans and information on the progress of the participants was posted on the project website at regular intervals.

In response to the Second Report of the Joint Oireachtas Committee on European Affairs, material was submitted to the Committee detailing the Campaign's activities and views in relation to specific questions raised by the Committee in the areas of software, sectoral co-ordination and support to SMEs. Forfás staff appeared before the Committee in this connection. Material was also supplied to the Rapporteur of the Committee in connection with the implications for Ireland for EMU, focusing on the changed economic environment for Irish business, together with issues of enterprise strategy and of functional aspects of the changeover.

SCIENCE, TECHNOLOGY & INNOVATION AWARENESS PROGRAMME



The Science, Technology and Innovation (STI) Awareness Programme continued through 2000. Its key message is that science, technology and innovation encourage leading edge industry and skilled jobs, exciting career opportunities and creativity in our children. This message was delivered to young people and their parents, to industry and to opinion leaders through a sustained range of activities such as:

- Science Week Ireland;
- The National Innovation Awards; and
- The National Science & Technology Journalism Awards

In 2000, a number of exciting new activities emerged. Firstly, two major quiz competitions were launched. *Junior Scientist* runs fortnightly in the RTE Guide for 11 to 14 year olds and asks a range of science and technology teasers. Also a major RTE Family Science Quiz was run on the Pat Kenny Radio Show over two weeks in May and challenged the whole family to win an amazing sci-fi holiday to USA.

www.science.ie the new interactive STI Website, aims to popularise and spreads the key messages more effectively. In addition to the Programme activities, features include competitions, e-bulletins, links to other relevant sites worldwide and up-to-date information on careers and role models.

Forfás continued to work with the media to achieve increased coverage of science and technology issues. An example of the success of this is the extensive science schedule RTE Radio One produced for *Science Week Ireland* 2000.

Attitudes to Science and Technology are continuously monitored and in 2000 a national opinion poll of three separate audiences – adults, business people and transition year students was commissioned. The survey included

questions in a number of categories including media coverage, respect for the professions, attitudes to innovation and development, the Internet and working from home.

The Science, Technology and Innovation Awareness Programme is managed by Forfás on behalf of the Office of Science & Technology at the Department of Enterprise, Trade & Employment.

NATIONAL SKILLS AWARENESS CAMPAIGN



National Skills Awareness Campaign

The National Skills Awareness Campaign is a sub-committee of the Expert Group on Future Skills Needs. The focus of the campaign is to generate interest in, and raise awareness of, career opportunities in the four technology sectors of software, electronic technicians, shared services and teleservices.

The Campaign, which is managed by Forfás, is co-ordinated by a Management Committee composed of representatives of IDA Ireland, Enterprise Ireland, FÁS the education sector and private industry.

During 2000, the Campaign continued to develop its theme of job opportunities in these key sectors for suitably qualified people. Amongst the activities undertaken during the year were:

- exhibiting at the major career exhibitions and career conferences including FÁS Opportunities 2000 and the Irish Times Higher Options Conference 2000;
- developing and sponsoring careers articles in a major magazine, aimed particularly at encouraging young women to consider wider career options;
- continuous contribution of articles to national newspapers, supplements and magazines, throughout the year;
- syndicating a series of Radio Interviews to key local radio stations throughout the country;
- organising an “Attitude with Aptitude” questionnaire which was distributed and discussed with young people;
- providing speakers for schools interested in career talks in conjunction with Career Guidance Councillors.

Plans for the future include extending the existing campaign to cover additional industry sectors. During the year work commenced on the development of an eight-page supplement which subsequently appeared in a national newspaper in February 2001. The supplement covered the key skills areas, Electronics, Software, Shared Services and Teleservices, as well as the work of the Expert Group on Future Skills Needs. Planning is underway to further develop a skills website which will be linked with other relevant sites and it is also planned to produce a series for television illustrating career opportunities available in Ireland.

The Campaign Committee will continue to work in conjunction with the Science, Technology & Innovation Programme, the Institute of Engineers “STEPS” programme and the relevant Government departments and agencies.

Enterprise Area Scheme

The Enterprise Area Scheme 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) to Rosslare Harbour and to 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 & Employment, after consulting with the Minister for Finance, on the recommendation of Forfás in consultation with Enterprise Ireland/IDA Ireland. To date, 72 certificates have been issued to projects with the potential to create over 8,500 jobs in the various Enterprise Areas.

Ask Ireland

Ask Ireland was launched in March 1999 by Mr. Tom Kitt, T.D., Minister for Labour, Trade & Consumer Affairs. The site, which is located at www.askireland.com concentrates on providing a one stop portal to all information of use to people interested in investing in or visiting Ireland, buying Irish goods or services or researching any aspect of Ireland. Its key distinguishing feature is that it enables Internet users to quickly access thousands of pages of information about Ireland. The emphasis is on economic and business information but there is also a wide range of facts and features on Irish food, travel, and the Irish lifestyle.

Ask Ireland was developed in partnership with the Foreign Earnings Committee¹⁰ with the primary objective of developing a consolidated Internet presence to boost access to information about Ireland as a tourist destination, investment location and source of goods and services. This is achieved by organising the individual web sites of selected Agencies and Departments to deliver comprehensive messages about Ireland through the Internet.

The philosophy of Ask Ireland is to consolidate the Government's promotional efforts on the World Wide Web by developing a Virtual Ireland House, which would facilitate in particular, ease of access to tourism, investment or trade-related information. This is in keeping with the key element of the Government's Information Society initiative and contributes to the Government's decision to ensure transparency in the services provided by public institutions.

The Ask Ireland Management Group, based in Forfás, continues to seek new ideas to expand the scope of the web site. During 2000 Ask Ireland was restructured to ensure maximum complementarity between existing web sites of the state agencies and Government departments. Future plans include continued promotion internationally and a joint project with Enterprise Ireland to make the site more relevant to the business sector.

Monitoring & Review

The following were reviewed by Forfás in 2000:

- The Research, Technology and Innovation (RTI) Initiative; and
- Irish Participation in "Eureka"

Evaluation of the Research, Technology and Innovation (RTI) Initiative

The RTI Initiative is operated by Enterprise Ireland, on behalf of the Office of Science & Technology, and provides grant assistance to Irish companies for product or process innovation through research and development or technology acquisition. The initiative was launched in November 1997 and final approvals were made in November 1999. Total allocations over this period amounted to almost IR£40 (€50.8) million. Financial support for RTI is provided from EU Structural Funds. The evaluation found that the RTI scheme has made a substantial and positive contribution to product and process development in the business sector. Particularly encouraging was the performance of indigenous firms in initiating R&D projects for the first time, although the same response was not reported from foreign-owned business.

Evaluation of Irish Participation in "Eureka"

Eureka is an international programme involving 26 European countries aimed at strengthening the competitiveness of companies by fostering close-to-market collaborative R&D projects. It does not provide any funding to participants – this is a matter for national authorities. In Ireland, participating companies are eligible for funding from the industry R&D support schemes.

The evaluation covered the period 1994 to 1999, during which time IR£1.39 (€1.76) million was awarded to Irish participants. It found that Eureka is a worthwhile initiative for companies to become involved in, but only when they have reached a suitable stage in their technological development, and that there is scope for enhancing the benefits to Ireland by actions to increase the current level of participation.

¹⁰ The Foreign Earnings Committee operates under the aegis of the Department of Enterprise, Trade & Employment and is composed of representatives of Government Departments and agencies whose remit includes the overseas promotion of Irish goods or services. Current membership of the group is Bord Bia, Bord Iascaigh Mhara, Bord Fáilte, Enterprise Ireland, Forfás, IDA Ireland, Department of Agriculture & Food, Department of Enterprise, Trade & Employment, Department of Foreign Affairs, Department of Marine & Natural Resources, Department of Tourism, Sport & Recreation and Shannon Development.

The Irish National Accreditation Board

The National Accreditation Board (NAB) is the Irish 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.

Through its membership of international multilateral agreements, the Irish accreditation status is recognised internationally. The main benefits of accreditation is that it plays a key role in guaranteeing the access of Irish products and services to the EU market and greatly reduces 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

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

Laboratory Accreditation

Laboratory accreditation granted by the NAB is commonly referred to as "ILAB" accreditation. This is a formal recognition of the competence of the laboratory to perform specific tests.

During 2000 NAB accredited eight laboratories, bringing the total to 118. There were 64 enquiries and 13 applications in hand at year-end.

During the year, NAB carried out 93 surveillance inspections on accredited laboratories in the laboratory accreditation programme.

Accreditation of Certification Bodies

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.



Catherine McEnri and Mary Toolan, National Accreditation Board.

At end of 2000 NAB had two certification bodies accredited for Quality Management Certification, one certification body was accredited for Product Certification and two certification bodies were 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.

EMAS Eco-Management and Audit Scheme

(i) Accreditation of Environmental Verifiers

NAB accredits environmental verifiers who meet the requirements of EMAS, Council Regulation (EEC) No. 1836/93 of 29 June 1993. At the end of 2000 NAB had accredited one organisation as an Environmental Verifier under this Regulation.

(ii) Registration for sites participating in EMAS

Sites participating in EMAS have been independently audited by EMAS Verifiers and found to comply with the Council Regulation (EEC) No. 1836/93. NAB has been designated the "Competent Body" in Ireland for the registration of sites participating in EMAS. During 2000 two sites were registered, bringing the total to nine.

Accreditation of Attestors and Attestation Bodies

Attestation is the examination of the conditions under which tenders are sought for large contracts offered by the water, energy, transport or telecommunications sectors (utilities). The accreditation criteria are in accordance with the European Standard EN 45503 and NAB regulations. At the end of 2000 one body was accredited to this standard.

Accreditation of Inspection bodies

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 2000.

Good Laboratory Practice

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 2000 six test facilities held GLP Compliance Statements under this programme.

During 2000 NAB implemented a pilot scheme for e-commerce accreditation and developed a new accreditation scheme in support of the EU Directive on e-commerce.

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

In accordance with the Ethics in Public Office Act, 1995, Forfás Board Members have furnished a statement of interest to the Secretary and a copy has been provided to the Public Office Commission.

In addition, Forfás staff holding designated positions have completed statements of interest in compliance with the provisions of the Act.

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 2000 Forfás put all necessary procedures and systems in place to deal effectively with anticipated FOI matters.

Personnel

Equality

Forfás is committed to a policy of equal opportunity and adopts a positive approach to equality in the organisation. Forfás operates a number of schemes which provide 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 that there are measures in place to protect the dignity of each individual at work.

Worker Participation (State Enterprises) Act, 1988

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

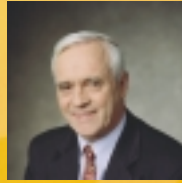
Safety, Health and Welfare Act, 1989

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

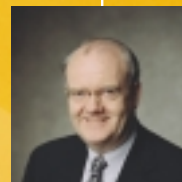
Clients' Charter

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

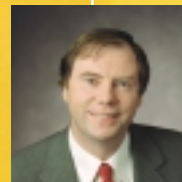
Management Structure



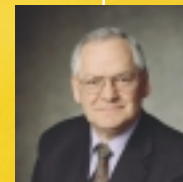
John Travers
Chief Executive Officer



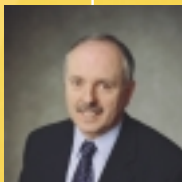
Colm Regan
Executive Director



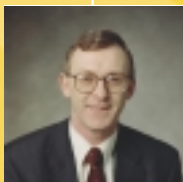
Jim Bourke
*Enterprise &
Trade Policy
Division*



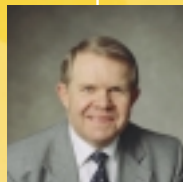
Killian Halpin
*Science Technology
& Innovation Division*



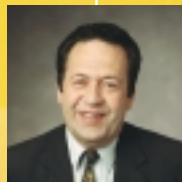
Tom Dempsey
*The National
Accreditation Board*



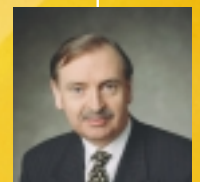
Michael O'Leary
*Personnel
Department*



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



Terry Levin
Accounts Department



Eamon Kearney
Systems Department

Dr Marie C. Walsh
Chairperson



National Accreditation Board Members

Dr Máire C. Walsh , Chairperson	State Chemist, State Laboratory
Mr Raymond Byrne	Lecturer in Law, Dublin City University
Ms Catherine Caulfield	CEO, Biolabs Europe, Ballina, Co. Mayo
Mr Tom Dempsey	Manager, National Accreditation Board
Mr Paul Kelly	Director - IBEC
Dr Fiona Kenny	Consultant Microbiologist, Sligo General Hospital
Mr Ian Maclean	Director, Environmental Protection Agency (EPA)
Mr David Moore	Department of the Environment & Local Government
Mr Eamonn Mullins	Senior Lecturer & Head of Department, Department of Statistics, Trinity College Dublin
Mr Joe Rowley	Sales & Marketing Director, AGB Scientific Ltd.
Dr Tom Teehan	Department of Agriculture, Food & Rural Development
Dr Patrick Wall	CEO, Food Safety Authority of Ireland, FSAI

The following were members of the Board up to June 2000

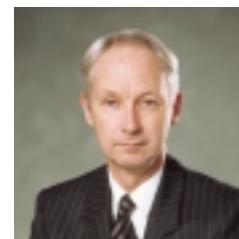
Dr Rosemary Boothman	Deputy Chief Medical Officer, Department of Health & Children
Mr Sean Conlan	CEO, Irish Quality Association
Dr William Crowe	Manager, Irish Agrément Board
Mr Martin Heraghty	Department of Agriculture, Food & Rural Development
Mr William Noone	Department of Finance
Dr Michael O'Keefe	National Food Centre

Reports Published by Forfás 2000/2001

The Dynamics of the Retail Sector in Ireland	January 2000
Enterprise 2010	January 2000
Survey of Research & Development in the Business Sector 1997	February 2000
Benchmarking Science, Technology & Mathematics Education in Ireland Against International Good Practice <i>Irish Council for Science, Technology & Innovation (ICSTI)</i>	February 2000
Proposals on Transport Infrastructure, the Planning Process and Public Transport <i>National Competitiveness Council (NCC)</i>	March 2000
The Second Report of the Expert Group on Future Skills Needs Responding to Ireland's growing skill needs	March 2000
Business Education & Training Partnership 2nd Forum, Dublin	March 2000
Management Development in the Republic of Ireland: Patterns and Trends	May 2000
Annual Competitiveness Report 2000 & The Competitiveness Challenge Report <i>National Competitiveness Council (NCC)</i>	May 2000
State Expenditure on Science & Technology, 1999	June 2000
Forfás Annual Report 1999	July 2000
Statement on Telecommunications, e-Business and the Information Society <i>National Competitiveness Council (NCC)</i>	July 2000
Statement on Regulatory Reform <i>National Competitiveness Council (NCC)</i>	July 2000
Annual Survey of Irish Economy Expenditures	August 2000
Report on e-Business Skills Report on In company Training <i>Expert Group on Future Skills Needs</i>	August 2000
Survey of Research in the Higher Education Sector 1998	September 2000
Statement on Labour Supply and Skills <i>National Competitiveness Council (NCC)</i>	September 2000
Telecommunications for e-Business: A User's Guide	November 2000
Annual Employment Survey 1999	November 2000
International Trade and Investment Report, 2000	December 2000
The 4th Framework Programme in Ireland	April 2001
Commercialisation of Publicly Funded Research <i>Irish Council for Science, Technology & Innovation (ICSTI)</i>	April 2001

Forfás Advisory Groups

Dr Edward M. Walsh
Chairman



Irish Council for Science, Technology and Innovation (ICSTI)

Dr Edward M. Walsh , Chairman	President Emeritus	University of Limerick Foundation
Dr Leonora Bishop	Managing Director	Plateomic Ltd.
Dr Alva DeVoy	Senior Investment Analyst	KBC Asset Management Ltd.
Ms Anne Downey	Senior Vice President	OSET
Prof Ted Farrell	Department of Environmental Resource Management	National University of Ireland, Dublin
Prof Jane Grimson	Centre for Health Informatics, Computer Science Department,	Trinity College Dublin
Mr Denis Hayes	General Manager of Technical Operations,	European Frozen and Chilled Food Division, H. J. Heinz Ireland Ltd.
Dr Peter Heffernan	Chief Executive Officer	Marine Institute
Ms Sharon Kennedy	Chief Executive Officer	Eirco Web Services Ltd.
Mr Pádraig Kirk	STEPS Project Manager	Institution of Engineers of Ireland
Dr Anita R. Maguire	Department of Chemistry	National University of Ireland, Cork
Prof David McConnell	Genetics Department	Trinity College Dublin
Mr Seamus McManus	Chairman	Irish Science Teachers' Association
Dr David Melody	Vice President for R&D	Loctite (Ireland) Ltd.
Dr Pat Morgan	Dean, Faculty of Science	National University of Ireland, Galway
Ms Ann Murphy	Department of Mathematics	Dublin Institute of Technology
Mr Anraí O'Toole	Chief Executive Officer	Cape Clear Software
Dr Ena Prosser	Director of Strategic Technology Analysis	Corporate Office of Technology, Elan Corporation
Mr Brian Sweeney	Chairman	Siemens Group Ireland
Dr Don Thornhill	Chairman	Higher Education Authority
Mr John Travers	Chief Executive Officer	Forfás
Mr Brian Trench	School of Communications	Dublin City University
Dr Fionnuala Walsh	Business Leader for Science & Technology	Eli Lilly SA
Mr Peter Walsh	Chief Executive Officer	Medtronic AVE
Ms Josephine Lynch	Secretary to Council	Forfás

The following members of the Council retired in 2000/to date 2001:

Prof Jim Browne (retired March 2000 and re-appointed, retired February 2001)

Prof Emer Colleran (retired March 2000)

Dr Liam Downey (retired March 2000)

Dr Brendan Goldsmith (retired March 2000)

Prof Jane Grimson (retired March 2000 and re-appointed)

Prof Michael Ryan (retired March 2000)

Mr Paul Holden (retired March 2001)

Mr Gerry Jones (retired February 2001)

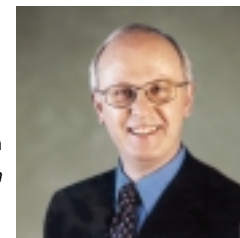
Mr Colum MacDonnell (retired March 2001)

Prof Susan McKenna Lawlor (retired March 2001)

Mr Ronan O'Caoimh (retired May 2001)

Ms Ann Riordan (retired March 2001)

Mr Brian Patterson
Chairman



National Competitiveness Council

Mr Brian Patterson , Chairman	Director	Waterford Wedgwood UK plc
Mr Rory Ardagh ¹	General Manager	Hyper-Lan Limited
Mr Kevin Bonner	Chairman	Transition Management Limited
Mr William Burgess	Managing Director & Chairman	IBM Ireland Limited
Mr Donal Byrne	Chairman	Cadbury Ireland Limited
Mr Des Geraghty	President	SIPTU
Ms Jackie Harrison	Director – Social Policy	IBEC
Ms Annette Hughes	Economist	DKM Economic Consultants
Mr Billy McCann	Company Director	Galco Steel Limited
Ms Áine Mizzoni	Chief Executive Officer	emergeSmart Limited
Ms Patricia O'Donovan ²	Former Deputy General Secretary	Irish Congress of Trade Unions
Mr Neil Ormonde	Director	Plato Ireland Limited
Mr John Travers	Chief Executive Officer	Forfás
Ms Jane Williams ³	Managing Director	The Sia Group Limited
Mr David Lovegrove , Secretary	Secretary	Forfás

1 - Council Member from 18 July 2000 2 - Council Member until 31 December 2000 3 - Council Member from 18 July 2000

Advisors to the Council

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

Secretariat

Mr Jim Bourke	Manager, Enterprise & Trade Policy Division	Forfás
Mr Eoin Gahan	Senior Economist	Forfás
Mr Diarmuid O'Conghaile	Project Manager	Forfás
Mr Colm Regan	Executive Director	Forfás

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

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 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
Mr Pat Griffin¹	Member	Chartered Institute of Management Accountants
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
Mr Ian Martin	Member	Small Firms Association
Mr Oliver McAdam	Member	ISME
Mr Tim McCormick	Senior Specialist	Irish Management Institute
Ms Deirdre McDonnell	Chairman, Euro Working Party	Institute of Certified Public Accountants in Ireland
Mr Michael McKenna²	Assistant Secretary	Department of Enterprise, Trade & Employment
Mr Ken Murphy	Director General	Law Society of Ireland
Ms Susan Noonan	Administrator	Irish Association of Corporate Treasurers
Mr John Norris	Principal	Euro Changeover Board of Ireland
Mr Paddy O'Boyle	Director, Euro & Projects	Institute of Chartered Accountants in Ireland
Mr Felix O'Regan	Manager	IBS Irish Bankers Federation
Mr Brendan O'Sullivan	Manager, Strategy	Planning Division, IDA Ireland
Ms Anne Potter³	Secretary	Irish Coalition of Service Industries
Ms Colleen Quinn	Technical Officer	Institute of Certified Public Accountants in Ireland
Ms Rosemary Sexton	Corporate Planning Division	Enterprise Ireland
Mr Frank Vaughan	European Information Office	ICTU
Mr Anthony Watters	Financial Controller	CIE Tours International
Mr John Whelan	Chief Executive	Irish Exporters Association
Mr Tony White	Divisional Director	Chartered Institute of Management Accountants

1 - Mr Pat Griffin succeeded Mr Harry Byrne as the Chartered Institute of Management Accountants representative.

2 - Mr Michael McKenna succeeded Mr Rody Molloy.

3 - Ms Anne Potter succeeded Mr Tom Martin as Secretary of the Irish Coalition of Service Industries.

Expert Group on Future Skills Needs

Dr Danny O'Hare , Chairperson	President Emeritus, Dublin City University
Mr Seamus Gallen	Enterprise Ireland, (National Informaties 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)	FAS
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

Alternates

Mr Ned Costello (Alternate to Mr Seamus O'Moráin)	Department of Enterprise, Trade & Employment
Mr Peter Lillis (Alternate to Mr Dick Ryan)	IDA Ireland
Mr Pat Maher (Alternate to Mr Niall O'Donnellan)	Enterprise Ireland
Ms Margo Monaghan (Alternate to Mr Michael McKernan)	Department of Enterprise, Trade & Employment
Mr Sean O'Foghlú (Alternate to Mr John Hayden)	Higher Education Authority
Mr Gerry Pyke (Alternate to Mr Roger Fox)	FAS

Management Implementation Group

Alternates

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

In Attendance:

Mr Seamus Bannon	Forfás
Ms Triona Dooney	Higher Education Authority
Mr Colm Regan	Forfás

National Skills Awareness Campaign

Mr 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.

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 2000 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 eight late payments in excess of £250 during 2000 that exceeded the due payment date by an average of 40 days. The value of these late payments was £22,218. Overall, late payments represented 0.19% of total payments made by the Agency with associated penalty interest of £266.

99.81% of all payment demands were paid within the prescribed timeframe.

There have been no material developments since 1 January 2001.

John Travers
Chief Executive Officer.
1 June 2001

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

Responsibilities of the Agency and of the Comptroller and Auditor General

The Agency 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, include the appropriate penalty interest with the payment together with the information required by Section 6
- 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, the Agency 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 the Agency 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 the Agency complied in all material respects with the provisions of the Act during the year ended 31 December 2000.

John Purcell
Comptroller and Auditor General
5 June 2001

The background is a solid yellow color. It features several overlapping, semi-transparent circles in various shades of yellow and orange. In the center, there is a faint, stylized lightbulb shape, also in a light yellow color. The overall aesthetic is clean and modern.

Financial Statements

Report of the Comptroller and Auditor General

I have audited the financial statements on pages 54 to 63

Responsibilities of Forfás and of the Comptroller and Auditor General

The accounting responsibilities of Forfás are set out in the Statement of Board Members' Responsibilities on page 53. It is my responsibility, under the Industrial Development Act, 1993, to audit the financial statements presented to me by Forfás and to report on them. As the result of my audit I form an independent opinion on the financial statements.

Basis of Audit

In the exercise of my function as Comptroller and Auditor General, I plan and perform my audit in a way which takes account of 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, consistently applied and adequately disclosed.

My audit was conducted in accordance with auditing standards which embrace the standards issued by the Auditing Practices Board and in order to provide sufficient evidence to give reasonable assurance that the financial statements are free from material misstatement whether caused by fraud or other irregularity or error. I obtained all the information and explanations that I required to enable me to fulfil my function as Comptroller and Auditor General and, in forming my opinion, I also evaluated the overall adequacy of the presentation of information in the financial statements.

Opinion

In my opinion, proper books of account have been kept by Forfás and the financial statements, which are in agreement with them, give a true and fair view of the state of affairs of Forfás at 31 December 2000 and of its income and expenditure and cash flow for the year then ended.

John Purcell

Comptroller and Auditor General

5 June 2001

Statement of Board Members' Responsibilities

For 2000 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. 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 and Employment with the consent of the Minister for Finance under the Industrial Development Act 1993. The accounts are denominated in Irish Pounds and euro. The Financial Statements are prepared on an accruals basis, except where stated below.

(2) Income Recognition

Income from Oireachtas Grants and Departmental Programmes represent 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

These costs 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 2000

	Notes	2000 IR£'000	1999 IR£'000	2000 €'000	1999 €'000
Income					
Oireachtas Grant	1	13,228	11,980	16,796	15,211
Professional Fees - National Accreditation Board	2	402	299	511	379
Other	3	865	687	1,099	872
Departmental Programmes	4	559	437	710	555
		15,054	13,403	19,116	17,017
Expenditure					
Administration and General Expenses	5	9,216	8,193	11,702	10,403
Pension Costs	6	4,554	4,626	5,782	5,873
Depreciation	7	365	355	463	451
Departmental Programmes	4	554	431	703	547
		14,689	13,605	18,650	17,274
Net Movement for Year		365	(202)	466	(257)
Contribution to Exchequer	3	(272)	-	(346)	-
Balance at beginning of Year		1,129	1,159	1,434	1,472
Transfer from Capital Account	8	61	172	76	219
Balance at end of Year		1,283	1,129	1,630	1,434

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 15 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 2000

	Notes	2000 IR£'000	1999 IR£'000	2000 €'000	1999 €'000
Fixed Assets					
Tangible Fixed Assets	7	394	455	501	577
Total Fixed Assets		394	455	501	577
Current Assets					
Accounts Receivable	9	1,861	4,313	2,364	5,476
Bank		12	24	15	31
		1,873	4,337	2,379	5,507
Accounts Payable	10	590	3,208	749	4,073
Net Current Assets		1,283	1,129	1,630	1,434
Net Assets		1,677	1,584	2,131	2,011
Represented By:					
Capital Account	8	394	455	501	577
Income and Expenditure Account		1,283	1,129	1,630	1,434
		1,677	1,584	2,131	2,011

The Accounting Policies, Cash Flow Statement and Notes 1 to 15 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 2000

	Notes	2000 IR£'000	1999 IR£'000	2000 €'000	1999 €'000
Reconciliation of Net Movement for Year to Net Cash Flow from Operations					
Net Movement for Year		365	(202)	466	(257)
Bank Interest		(22)	(6)	(28)	(8)
Profit on Disposal of Assets		(9)	-	(11)	-
Depreciation Charge:					
- Tangible Fixed Assets	7	365	355	463	451
Decrease/(Increase) in Accounts Receivable		2,452	(2,964)	3,112	(3,763)
(Decrease)/Increase in Accounts Payable		(2,618)	2,985	(3,324)	3,790
Net Cash Flow from Operations		533	168	678	213
CASH FLOW STATEMENT					
Net Cash Flow from Operations		533	168	678	213
Returns on Investment and Servicing of Finance					
Bank Interest		22	6	28	8
Cash Flow before Capital Expenditure		555	174	706	221
Capital Funding					
Sale of Tangible Fixed Assets		16	2	20	3
Purchase of Tangible Fixed Assets	7	(311)	(185)	(396)	(235)
Cash Flow after Capital Expenditure		260	(9)	330	(11)
Contribution to Exchequer	3	(272)	-	(346)	-
(Decrease) in Cash		(12)	(9)	(16)	(11)
Reconciliation of Decrease in Cash to Cash at Bank					
Movement in Cash at Bank for the Year		(12)	(9)	(16)	(11)
Cash at Bank at 1 January		24	33	31	42
Cash at Bank at 31 December		12	24	15	31

Notes to the Accounts

Year Ended 31 December 2000

(1) Oireachtas Grant	2000	1999	2000	1999
	IR£'000	IR£'000	€'000	€'000
Grant for Administration and General Expenses	12,828	11,980	16,288	15,211
Grant for Technology Foresight	400	-	508	-
Oireachtas Grant	13,228	11,980	16,796	15,211

(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 IR£1,500,000,000 (€1,904,607,118). At 31 December, 2000 the aggregate amount so provided was IR£1,191,584,051 (€1,512,999,643).

(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 IR£125,000,000 (€158,717,260). At 31 December, 2000 the aggregate amount so provided was IR£10,669,296 (€13,547,211).

(2) Professional Fees - National Accreditation Board

The National Accreditation Board (NAB) is the national body responsible for accreditation 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	2000	1999	2000	1999
	IR£'000	IR£'000	€'000	€'000
Rental Income	547	361	695	458
Sundry Income *	296	36	376	46
Bank Interest	22	6	28	8
Business Information System Development **	-	41	-	52
EMU Business Awareness Campaign ***	-	33	-	41
Enterprise Ireland ****	-	210	-	267
	865	687	1,099	872

* This includes £272,000/€346,000 passed to the Department of Enterprise, Trade & Employment as a Contribution to the Exchequer.

** Contribution from Department of Enterprise, Trade & Employment.

*** Contribution from Department of Finance.

**** Contribution from Enterprise Ireland. This funded the cost of the Trade & EU Policy Unit that transferred to Forfás during the year.

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), the Foreign Earnings Committee (FEC) of the Department of Enterprise, Trade and Employment and the Information Society Fund (ISF) of the Department of Finance.

	Income IRE'000	Expenditure IRE'000	Net Out-turn IRE'000
Science & Technology Innovation Awareness Campaign (OST)	350	345	5
Ask Ireland (FEC)	107	107	-
E Commerce Development (ISF)	57	57	-
E Commerce Accreditation (ISF)	45	45	-
Total	559	554	5

	€'000	€'000	€'000
Science & Technology Innovation Awareness Campaign (OST)	445	438	7
Ask Ireland (FEC)	136	136	-
E Commerce Development (ISF)	72	72	-
E Commerce Accreditation (ISF)	57	57	-
Total	710	703	7

(5) Administration and General Expenses

	2000 IRE'000	1999 IRE'000	2000 €'000	1999 €'000
Board Members Remuneration and Expenses	147	148	187	188
Pay Costs	4,162	3,807	5,284	4,834
Other Personnel Costs	330	263	420	333
Travelling Expenses	454	269	576	341
Specialised and Professional Services	448	458	569	582
Consultancy and Studies	735	699	933	888
Rents, Rates, Repairs and Maintenance	1,323	902	1,680	1,145
Other Operating Expenses	1,069	1,138	1,357	1,445
EMU Business Awareness Campaign	542	503	688	639
Audit Fee	6	6	8	8
Total	9,216	8,193	11,702	10,403

Pay Costs comprise:

Wages and Salaries	3,872	3,569	4,916	4,531
Social Welfare Costs	176	138	223	175
Superannuation Costs	114	100	145	128
Total	4,162	3,807	5,284	4,834

Technology Foresight costs included in above expenditure:

	2000 IRE'000	1999 IRE'000	2000 €'000	1999 €'000
Pay Costs	13	-	17	-
Other Personnel Costs	83	-	105	-
Travelling Expenses	141	-	179	-
Specialised and Professional Services	33	-	42	-
Consultancy and Studies	30	-	38	-
Other Operating Expenses	122	-	155	-
Total	422	-	536	-

Notes to the Accounts (cont'd)

(6) Superannuation

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

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 Childrens Schemes.

Notes to the Accounts (cont'd)

(7) Tangible Fixed Assets

	Computer Equipment	Motor Vehicles	Fixtures & Fittings	Total
	IRE'000	IRE'000	IRE'000	IRE'000
COST				
At 1 January 2000	692	27	3,720	4,439
Additions	205	48	58	311
Disposals	(66)	(27)	(23)	(116)
At 31 December 2000	831	48	3,755	4,634

DEPRECIATION				
At 1 January 2000	536	20	3,428	3,984
Charge for Year	169	12	184	365
Disposals	(66)	(20)	(23)	(109)
At 31 December 2000	639	12	3,589	4,240

NET BOOK AMOUNT				
At 1 January 2000	156	7	292	455
Net Movement for Year	36	29	(126)	(61)
At 31 December 2000	192	36	166	394

	€'000	€'000	€'000	€'000
COST				
At 1 January 2000	879	34	4,723	5,636
Additions	261	61	74	396
Disposals	(83)	(34)	(30)	(147)
At 31 December 2000	1,057	61	4,767	5,885

DEPRECIATION				
At 1 January 2000	681	25	4,353	5,059
Charge for Year	214	15	234	463
Disposals	(83)	(25)	(30)	(138)
At 31 December 2000	812	15	4,557	5,384

NET BOOK AMOUNT				
At 1 January 2000	198	9	370	577
Net Movement for Year	47	37	(160)	(76)
At 31 December 2000	245	46	210	501

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) Capital Account

	IRE'000	€'000
At 1 January 2000	455	577
Net Movement on:		
- Tangible Fixed Assets / Transfer to Income and Expenditure Account	(61)	(76)
At 31 December 2000	394	501

(9) Accounts Receivable

	2000 IRE'000	1999 IRE'000	2000 €'000	1999 €'000
General Debtors and Prepayments	1,680	3,845	2,134	4,882
Inter Agency Balances	181	468	230	594
	1,861	4,313	2,364	5,476

General Debtors & Prepayments include Nil (1999 IRE2,515,771/€3,194,370) VAT recoverable by Forfás on behalf of the Forfás VAT Group (Forfás, IDA Ireland & Enterprise Ireland).

(10) Accounts Payable

	2000 IRE'000	1999 IRE'000	2000 €'000	1999 €'000
General Creditors and Accruals	590	3,195	749	4,056
Inter Agency Balances	-	13	-	17
	590	3,208	749	4,073

General Creditors and Accruals include £14,444/€18,340 (1999 IRE2,510,521/€3,187,704) payable to members of the Forfás VAT Group (IDA Ireland & Enterprise Ireland).

(11) Commitments under Operating Leases

A net total of IRE1,041,000 /€1,322,000 (1999 IRE492,000/€625,000) has been charged in respect of operating leases on buildings in the accounts of Forfás. Forfás has commitments of IRE4,418,000 (€5,608,000) to pay during 2001 in respect of leases expiring as follows:

	IRE'000	€'000
(i) 2001	43	54
(ii) 2002 - 2005	47	59
(iii) 2006 Onwards	4,328	5,495

Costs arising out of these commitments in 2001 will be shared between Forfás and its Agencies in proportion to office space occupied. The Forfás share of these costs in 2001 is anticipated to be approximately £914,000/€1,161,000.

(12) 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.

Notes to the Accounts (cont'd)

(13) 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 2000, payments amounting to £63,498/€80,626 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.

(14) Contingencies and Legal Actions

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

(15) Approval of Financial Statements

The Financial Statements were approved by the Board on 22nd May, 2001.



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