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Forfás Annual Report 1998

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FORFÁS ANNUAL REPORT 1998

To the Minister for Enterprise & Employment

Pursuant to the Industrial Development Act, 1993, Forfás herewith presents its report and accounts for the year ended December 31, 1998

Do Aire Fiontar & Fostaóchta

De bhun an Achta um Fhorbairt Tionscail, 1993, tá a thuarscáil agus a chuntais don bhliain dar chríoch 31 Nollaig, 1998, a dtíolacadh leis seo ag Forfás.

Tom Toner
Chairman

John Travers
Chief Executive

BOARD MEMBERS



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Chairman
Forfas



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General Secretary
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Institute



Jim O'Mahony
Executive Chairman
Shannon Circuit
Technology



Oliver Tatten
Chief Executive
Voluntary Health
Insurance Board

- Sean O Dorgan was appointed a Board Member on 1 January, 1999.
- Kieran McGowan retired as a member of the Board on 31 December, 1998.
- Jim O'Mahony retired as a member of the Board on 31 December, 1998.
- Fergal O'Rourke was appointed a Board Member on 23 September, 1998.
- Yvonne Scannel was appointed a Board Member on , 1 January 1998.
- Oliver Tatten retired as a member of the Board on 1 September, 1998.

CHAIRMAN'S STATEMENT



Introduction

As one of the most open economies in the world, in the international economy and as a location for investment - both Irish-owned and foreign-owned – Ireland has to measure up against competitors from all parts of the globe. As 1999 progresses, the world economy continues to suffer uncertainties. Asian recovery is beginning but time will be needed for a full resumption of growth. There are also hopeful signs of the containment of the difficult economic situation in many Latin American countries. The United States economy continues to grow rapidly and to provide a stimulus to the world economy as a whole though doubts remain as to whether the United States can continue for much longer as the main engine of international economic growth. In spite of the successful launch of the euro, on 1 January 1999, growth in the EU economy is modest and unemployment remains high so that the value of the euro has declined relative to sterling and the \$US.

By contrast, Ireland's economy continues to out-perform the rest of the EU and, indeed, most other countries in the world. Strong export growth has been a key component of the rise in employment and real incomes.

However, recent success cannot be sustained unless full account is taken of the key competitiveness factors for the future. Investment in Ireland, whether by Irish-owned or foreign-owned firms, will continue only as long as the right policies, institutions and infrastructure are in place to support enterprise success in a fiercely competitive world. There are signs of overheating and of infrastructural and labour-force constraints emerging in the Irish economy – in many ways a consequence of the success achieved. The relative strength of sterling, which has been of major benefit to Irish-owned enterprises in particular, will not continue indefinitely. The focus of enterprise policy, therefore, must be based on a recognition that many of the factors that have supported the successful development of Ireland's economy in recent years are now in a state of transition to a less favourable position.

EMU and Competitiveness

On 1 January 1999 the euro became a reality. For Ireland, this represents a profound change. We are now part of the European economic and monetary union, sharing a common currency with 10 other EU member states. The changes already underway as a consequence are significant. Government departments and public bodies (including Forfás) are ready to do business in euro with their suppliers and customers. Many of our large firms are similarly poised to take full advantage of the new currency in doing business across Europe. In this, they reflect a pattern that will expand and grow. Many large European multinationals are making the euro their internal currency from the outset. This will determine the way they do business, not only in Europe, but across the world. On world financial markets, the euro is evolving, not only as a trading instrument, but as a reference point for other currencies and as a pricing mechanism for goods and services originating in other parts of the world.

The economic impact of the euro will have an important role in determining the future prospects for Irish business. Transparency of prices across Europe will lead to greater trade among EMU members, as companies seek out new markets and new sources of supply. Irish enterprises, accordingly, have to face up to these challenges, and to be ready to profit from the opportunities and to withstand the increased competition – both on domestic and overseas markets – that will result and that has already started. Transparency of prices applies to assets as well as to traded goods and services also; mergers and acquisitions in

Europe can be expected as a result of EMU, as firms seek to achieve the benefits of scale in order to reduce costs and achieve increased market share.

These trends provide new opportunities for Irish firms, including the prospect of building new partnerships across Europe to exploit the potential of the single market that EMU provides.

The euro is managed by the European Central Bank, and Ireland is represented in its decision-making and control of the currency. However, some traditional instruments of macro-economic policy at national level - the interest rate and the exchange rate - are no longer available. This means that any decline in competitiveness of Irish enterprises relative to those in other countries cannot be compensated for by a devaluation. This, in turn, means that other instruments to improve competitiveness at a national level become all the more important. We have to focus particularly on all the possible ways in which national policy can improve the productivity and innovative capability of our enterprises. The policy focus has to be on a wide competitiveness agenda. While it is individual enterprises that compete against one another, it is national policy, in the areas of education, skills development, infrastructure, R&D, environment, regulation and competition and the quality of public administration, that determine, to a large extent, the capacity of enterprises to compete successfully and to grow and thrive.

It is also essential, in considering competitiveness, to realise that policy cannot be set in stone. The pace of change in the world economy is accelerating. New technologies continue to emerge and product lifecycles continue to shorten. The growth of e-commerce, in particular, is having profound effects on the way producers and consumers relate to one another, and it is playing a growing role in international trade with consequent changes in logistics. Policies and investment choices at a national level have to be monitored, reviewed, and updated continually, if competitiveness is to be sustained.

In particular, the Irish economy, if it is to continue to grow, will need to create, develop and attract firms which are research or technology-based and which can apply and trade in new technologies.

World Trade Negotiations

Ireland's external trade performance has long been the keystone of our economic success. In 1998 the growth of Irish exports over 1997 exceeded 25 per cent in value terms and the increase in the performance of locally controlled exporting companies was over 10 per cent. While this performance will be difficult to sustain in the medium to long-term, it is nonetheless remarkable in a climate where world trade is estimated to have expanded by less than four per cent.

Irish exporters have benefited greatly from the freedoms brought about by the successful conclusions of the Uruguay Round of multilateral trade negotiations in 1994 and the subsequent work of the World Trade Organisation. These developments, combined with the consolidation of the Single European Market and the emergence of a large single currency area within EMU, have served to underpin success.

A new round of multilateral negotiations - 'The Millennium Round' - is scheduled to commence in November 1999 in Seattle. This Round will have a significant impact on Irish business, both importers and exporters. As an open, trading economy a continued reduction in tariffs is generally in Ireland's interest but the balance of advantage will vary between sectors, both within Ireland and across EU countries. This is particularly the case in areas such as agriculture, textiles and some elements of financial services including insurance.

The strategic issues which Ireland will face as the negotiations unwind will be how best to influence the EU negotiators to balance Irish interests, both with those of the European Union, and those of consumers, whose voice is being increasingly heard in trade debates. Some of

the issues which will affect Irish business are related to trade and the environment, trade in services, trade and investment and market access by developing countries.

Any of these issues can have a significant impact on Irish trade and investment and, consequently, on how the Irish economy grows over the next decade and beyond.

The objective of Ireland in the WTO negotiations must, therefore, be to ensure that the outcome contributes to the success of the Irish economy.

EU Issues

In addition to the lead-up to Ireland joining EMU on 1 January 1999, the year saw significant developments at EU level in the areas of taxation, state-aids, structural funds, enlargement and Research and Development programmes which will have a major impact on enterprise development in Ireland in future years. Key developments included:

- Agreement was reached with the European Commission on the phasing out of the 10 per cent corporation tax rate for manufacturing and certain related activities and the phasing in of a 12.5 per cent corporation tax rate which will apply to all trading income from 2003.
- The new regional state-aid guidelines were published by the Commission. They will lead to a welcome downward movement in state aids throughout the Community and, while they will also lower the aid ceilings for Ireland, they will still allow the use of grant aid on a scale appropriate to the development status of the individual regions within the country.
- The decisions arising from the EU Commission's Agenda 2000 proposals were adopted at the Berlin Summit in March 1999. The decisions recognise the substantial progress made in raising living standards in Ireland in recent years and that, taking that progress into account, support for vital infrastructural and human resource development from the Structural Funds will remain in place at a substantial but reduced level for a further period.
- The immediate and long-term costs of delay in the EU enlargement schedule became clear. Delaying would be a disincentive for Eastern European governments to continue the road of reform and legal harmonisation, and public sentiment, currently in favour of enlargement, might begin to fade. This would make political decisions in the applicant countries more difficult and complicate the negotiations for the EU. Business clearly favours a set date to fully reap the benefits of enlargement.

The effect of these changes on development policies in Ireland poses a major challenge. We must be prepared to spend more of the fruits of recent economic success in eliminating key developmental bottlenecks such as inadequate infrastructure. In addition, the development agencies will have to reduce and restructure their assistance to industry in order to focus on promoting regional development and higher value-added activities.

The 5th EU Framework Programme for Research and Technology Development (1998-2002) has a budget of €14,960 (IR£11,782) million, which will be disbursed over the next four years on a competitive basis to research teams throughout Europe. The Programme enables organisations in Ireland, in partnership with organisations in Europe and beyond, to compete for funding for specific research which the European Community considers important for competitiveness and quality of life.

The Framework Programme will provide Irish companies with funding opportunities in strategic areas such as e-commerce, marine, multimedia, transport and biotechnology. A successful track record has been established by Ireland in previous programmes in the competitive process. The Programme offers not only funding opportunities, but also the possibility to establish strategic innovation networks with other companies and centres of research excellence in Europe and beyond.

National Partnership Agreement

The series of national partnership agreements between unions, employers and governments since 1987 have been a vital ingredient in the recent success of the economy. As a result of this success there is a temptation to become complacent and to forget what has been achieved and what remains to be done. The major achievement has been to staunch, and indeed reverse, the flow of our brightest young people out of the country. Today if people seek work abroad, for the most part they do so voluntarily and with the knowledge that there is the opportunity to return if they wish. We must avoid anything that would endanger this situation.

The virtuous circle, developed under social partnership, of the formulation and implementation of good public policies across the range of areas essential to a successful enterprise sector as the driving force of economic development, and anchored by wage moderation, is under some threat at present. To some extent this arises from a failure to fully recognise how transient economic success can be in a highly competitive international environment if the foundations on which it stands are undermined. It is essential that the social partners and government agree a partnership framework which enables Ireland to maintain its competitiveness and to respond flexibly to external events. While building on the achievements of the last decade it must also be consistent with the imperative of a more flexible, dynamic and competitive economy in which there is an equitable sharing of the benefits of growth so that improved living standards are achieved by all sectors of our community.

Acknowledgments

The work of Forfás in 1998 continued to receive significant support from the Tánaiste and Minister for Enterprise, Trade & Employment, from the Department of Enterprise, Trade & Employment and from other Government Departments. I wish to acknowledge this support and its tangible effects in a range of Government publications, policies and activities aimed at the further development of the enterprise sector in Ireland.

I also wish to acknowledge the exceptionally good results achieved by our sister organisations, Enterprise Ireland and IDA Ireland, in 1998 and those of FÁS, Shannon Development and Udárás na Gaeltachta. These results and the pro-enterprise development of public policies put in place across a range of Government Departments could not have been achieved without the sustained support of the third level sector, employer bodies and business organisations, trade unions and the media. This support is acknowledged and appreciated.

As Chairman, I record my thanks and appreciation to my fellow Board members and to the many organisations which contributed to the work of Forfás in 1998 and, in particular, to the National Competitiveness Council chaired by Brian Patterson, the Irish Council for Science, Technology and Innovation (ICSTI) chaired by Dr. Edward Walsh, the Expert Group on Future Skills Needs, which was chaired by Dr. Chris Horn up to April 1999 and the National Accreditation Board chaired by Dr. Marie Walsh.

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.

Tom Toner
Chairman

CHIEF EXECUTIVE'S REPORT



Introduction

The past number of years has seen unprecedented progress in employment creation. The success achieved means that the quality of jobs being created, their regional location and spatial distribution move centre stage and become a more central focus of policy.

In an increasingly volatile and competitive global investment environment, high-productivity, high value-added, knowledge-intensive jobs provide the best prospect of employment stability. This requires further development of the evaluation criteria used in assessing projects for state support. A further upgrading of the skills level of the labour-force is also required through the education and training sectors. The implications of a rapidly changing e-commerce sector for the dynamics of enterprise development must be a particular and urgent focus for policy development.

The infrastructural overload and congestion costs in the main urban centres, together with radical changes in communications technology, enhance the prospects for a more balanced regional distribution of economic activity in future years.

The achievement of such a balance in regional development, however, requires a sensible urban settlement framework which makes efficient use of the investment in physical and social capital and avoids the visual, environmental and economic costs of unplanned dispersal and sprawl.

1998 Overview

During 1998 Forfás continued to work closely with Government Departments and Agencies on the development and implementation of a wide range of policy issues supporting the development of the enterprise sector. This work supported the decisions taken by Government in a number of areas important to the development of the enterprise sector including:

- The provision of IR£75 (€95.23) million to provide an additional 5,400 third level places to increase the supply of skills in information technology;
- The liberalisation of the market for voice telecommunications ahead of schedule in December 1998;
- The provision of IR£12 (€15.2) million to support a public-private initiative to ensure adequate broadband connectivity;
- The sale of Cablelink to ensure the further promotion of competition in telecommunications-based services;
- The formal decision to introduce a single rate of Corporation Tax with effect from 1 January 2003.

ESRI, in their May 1999 Quarterly Economic Commentary, have estimated that the increase in the average level of employment for 1998 over 1997 was 77,000. The standardised unemployment rate fell from 9.8 per cent at the end of 1997 to 7.7 per cent at the end of 1998. One of the most encouraging features of the fall in unemployment has been the sustained reduction in long-term unemployment which fell from just over 90,000 in November 1997 to under 52,000 in November 1998, a decline of more than 42 per cent over the period (Source: CSO, 1999).

FORFÁS ANNUAL REPORT 1998

Ireland's increased employment and strong economic growth are strongly underpinned by the performances of manufacturing and internationally traded service companies. These companies have continued to increase their expenditure on Irish goods and services, as well as their tax payments to the Exchequer, in recent years. In 1998 the overall corporation tax take amounted to IR£2,065 (€2,622) million, compared to IR£1,700 (€2,158.55) million in 1997. Some 45 per cent came from manufacturing, internationally traded and international financial services companies subject to the 10 per cent Corporation Tax and which account for a minority of companies.

Total permanent employment in companies which fall within the actual or potential client base of IDA Ireland, Forbairt/Enterprise Ireland, Shannon Development and Údarás na Gaeltachta reached a new record level of 278,000 by year end 1998 - an increase of 5.4 per cent over the year.

Employment in manufacturing in the ten-year period 1989 to 1998 grew by over 17 per cent and by 15 per cent over the most recent five-year period. These are among the highest growth rates for any country in the world and represent an excellent performance by both Irish-owned and foreign-owned business.

During 1998 also, Forfás 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 1998 included:

- Broadband Telecommunications Investment in Ireland
- Responding to Ireland's Growing Skills Needs - First Report of the Expert Group on Future Skills Needs
- Basic Research Support in Ireland - An Evaluation of the Basic Research Grants Scheme Operated by Forbairt
- Annual Survey of Irish Economy Expenditures
- 1997 Employment Survey
- Partnership for Success : Collaboration for Innovation and Competitiveness : Report on 3rd National Forfás Innovation Conference
- State Expenditure in Science & Technology, 1998
- In conjunction with the Irish Council for Science, Technology & Innovation (ICSTI):
 - Statement on the Government's £250 Million Scientific and Technological Education (Investment) Fund
 - A Partnership Approach to Research Funding – the Need for a National Science and Engineering Research Fund
 - Statement on Science in Primary Schools
 - Mechanisms for Prioritisation of State Expenditures on Science and Technology
 - Innovation in Enterprises in Ireland
 - Statement on State Expenditure Priorities in Science & Technology for 1999
 - Investing in Research, Technology & Innovation (RTI) in the Period 2000 to 2006

- In conjunction with the National Competitiveness Council (NCC):
 - Annual Competitiveness Report 1998 - The Competitiveness Challenge
 - Statement on Telecommunications: A Key Factor in Electronic Commerce and Competitiveness
 - Statement on Skills

In 1998, Forfás continued its role of co-ordinating the work of the development agencies - FÁS, Enterprise Ireland, IDA Ireland and Shannon Development - through a series of formal and informal working arrangements and by undertaking a number of surveys and analyses of performance essential to policy formulation and development. 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 throughout the year.

Outlook and Key Issues

Although economic growth is expected to slow some what in 1999 and beyond, compared with the unprecedentedly high growth rates of recent years, it is likely to remain strong, both by historical and international standards, over the next two to three years at least.

This rate of growth, combined with the recent expansion in employment and reduction in unemployment and emerging tightness in the labour market, points to the need to review certain elements of public policy for the promotion of industry and services during 1999. Forfás is undertaking work to support such a review in conjunction with the review of national development strategy which NESC is undertaking at the request of the Taoiseach.

This review will provide a foundation for negotiations between the social partners on a possible national agreement to follow *Partnership 2000*. The focus of the Forfás work is on the adaptation of strategy for the enterprise sector to reflect the new realities of recent success, including the inroads made in dealing with the formerly endemic problem of unemployment with its consequential infrastructural and labour-force pressures. Future prospects remain positive, conditional on a reasonably favourable international economic environment and sensible domestic policies.

Technology Foresight Ireland

In the context of preparations for the National Development Plan (2000 to 2006) and the provision of advice to Government on the prioritisation of State expenditure on science and technology, the recent publication of the Technology Foresight Ireland reports by the Irish Council for Science, Technology & Innovation (ICSTI) and Forfás (March 1999) represents an important contribution to the national debate.

The fundamental basis of the rapid development of the Irish economy over the past decade and more lies in the exploitation and use of new technologies. The total value of exports of goods and services, grew from IR£18 (€22.80) billion in 1991 to IR£48 (€60.94) billion in 1998. Over 50 per cent of these exports arise from enterprises in electronics, telecommunications, healthcare, chemicals, pharmaceuticals and other high-technology sectors.

Much of the technology that underlies the success of these sectors in Ireland has been developed elsewhere and converted into traded products and services and employment in Ireland. In many cases the employment provided has been in low-skill activities. As the economy develops, the natural evolution for Ireland is to move to higher value-added production and higher-skill employment and this process is already under way. Ireland's

economy has reached a stage of development where investment in the sources of technological advance through the provision of highly-skilled people and well-focussed research activities will become increasingly important in securing competitive advantage as a location for internationally mobile investment – of both domestic and foreign origin.

The objective of the Technology Foresight work undertaken by Forfás, through ICSTI, over the past year has been to identify the likely sources of future competitive advantage for a strong traded goods and services sector firmly rooted in the Irish economy. The work was undertaken in close consultation with some 200 people deeply knowledgeable across the eight sectors covered by the exercise. Firm recommendations are made on the action required. The financial and high-skill resources needed are significant but should be seen in the context of the total value of traded goods and services, which increased from IR£40(€50.78) billion in 1997 to more than IR£48(€60.94) billion in 1998; an increase of 20%. This is in addition to the fact that exchequer revenue is highly dependent on maintaining a competitive traded goods and services sector in Ireland.

Skills

Sustaining economic growth into the future is critically dependent upon an adequate supply of suitably qualified people. The Government has established a Business Education Partnership structure to address these issues. Central to this is the work of the Expert Group on Future Skills Needs which Forfás established at the request of the Government and the Minister for Enterprise, Trade & Employment and which brings together the knowledge and expertise of the state development and training agencies, Government Departments and the Business Sector in the area of skills development. The first report of the Group, in 1998, provided a comprehensive analysis of the existing and projected supply and demand situation for skills in the information technology sector in Ireland. It made a series of detailed and practical recommendations aimed at ensuring a balance between the supply and demand of information technology related skills. It identified the need for an extra 5,400 third level places in information technology courses. In April this year the Government agreed to the allocation of IR£75 (€95.23) million to fund the required places.

The Group is now addressing the needs of the economy in relation to certain other skills including craft, life sciences and research skills which will form the basis of a second skills report to be published later in 1999. The approach of rigorous analysis and clear recommendations followed by speedy implementation has worked well with the support of Government to date and is the approach that will be maintained by Forfás in 1999 and in future years.

Regulation and Competition

The role of Government in the development of the economy and in facilitating the creation of a strong, vigorous and competitive enterprise sector is crucial. The nature of that role has changed significantly over the decades, is changing further and rapidly at present and will continue to evolve in future.

There is general agreement that a critical part of the role of Government is to create the regulatory framework within which a vigorous enterprise sector, free of restrictive practices, can itself create and maintain a traded goods and services sector which is highly innovative and competitive by international standards. For this to happen there is also widespread agreement that the level of Government regulation should be the minimum necessary to encourage and create such an outcome. In many cases this calls for less rather than more regulation. In other cases where inadequate or no regulation causes significant distortions in the efficient and effective operation of a market, the deficiency in regulation will require to be addressed. In either case the need for regulation, together with its content, scope and operation, will require to be subjected to frequent review.

It is also the case, that as the privatisation of activities, once firmly located within the domain of Government ownership, proceeds, there is a need to create clear lines of demarcation between the ownership and regulatory roles of Government.

In Ireland, as in other countries, the role of regulation has evolved quite rapidly in recent years.

The Competition Authority has played an important and seminal role in promoting an awareness of the importance of competition across wide sectors of the economy and, acting within its legislative remit, in dealing with anti-competitive practices. Because of the radical changes that are taking place in the scope and nature of telecommunications technology and its interaction with other areas of technological and business development, the role of the telecommunication regulator is critical and one where Forfás has, in a number of analytical reports, advocated a strong, statutory, pro-competitive orientation. The role of the newly appointed regulator for the electricity sector is similarly important. In the area of financial regulation the Government is currently reviewing the most appropriate arrangements for future years.

These developments are changing, in a fundamental way, the landscape within which business will be conducted in Ireland in future years. In general, developments under way point towards a more supportive environment for the development of a competitive business sector. It is widely understood that the process of promoting greater competition requires to be more widely and strongly promoted throughout all sectors of the economy, including many traditional sectors in the services sector not subject to the competitive disciplines of international trade. In the light of the developments taking place and planned there is need to establish greater clarity in relation to the principles which should govern the regulatory process in Ireland, how different regulators can work together in a way which avoids duplication and operational confusion and on the critical issue of how the regulatory process is made accountable (*Quis custodiet ipos custodes?*). Forfás has initiated work in this area during 1999.

Regional Development

The high levels of employment and population growth in recent years have raised the need for a fundamental review of regional policy and population distribution between urban centres within Ireland and including the issues of areas of significant urban deprivation that exist in cities and towns.

Ireland's strong economic growth has led to considerable pressure on infrastructure, particularly in Dublin and other major urban areas. While significant growth has occurred throughout the country, some areas are experiencing considerable development pressures, while others are operating well within infrastructural and labour-force capacities. At the same time, even in urban centres of overall high growth, there remains areas of significant deprivation.

In 1998 the issue of regional development and urban strategy within Ireland came to the fore, stimulated by the discussion on the next round of European Structural Funds. The considerable work undertaken to date by Government Departments and agencies in this area requires to be further developed into a national urban settlement distribution strategy so that the significant investment required in infrastructure and land development can be planned and provided effectively and the considerable resources required efficiently utilised.

To support this approach Forfás has undertaken considerable work on the regional dimension to enterprise sector development including:

- A review of the availability of broadband telecommunications services in the regions which found that market forces alone would not deliver the required regional coverage within an acceptable timeframe. On foot of this Forfás recommended the

provision of resources on a selective basis within the National Development Plan (NDP) currently under preparation (1999) to ensure comprehensive regional coverage of broadband telecommunications facilities;

- A review of the geographical distribution implications of the evolution of EU Structural Funds and regional aid guidelines which led to Forfás recommending a two-region approach for the National Development Plan 2000 to 2006;
- An analysis of regional infrastructure priorities completed earlier in 1999 in close consultation with the development agencies and representatives of enterprises in each region. This analysis has provided specific recommendations for infrastructure priorities in the new NDP;
- Working closely with the Department of the Environment & Local Government to ensure that the Government Bill on Planning and Development, to be published in 1999, addresses the need to provide a fast-track planning approval system.

Infrastructure

During 1998 Forfás worked closely with Government Departments, State agencies and representatives of business in developing proposals for improvements in transport infrastructure. This work included:

- The review of infrastructural priorities at regional level for enterprise development purposes;
- A major study of the requirements of the business sector for air services from Cork and Shannon;
- The launch of the National Institute for Transport & Logistics which was established following Forfás analyses and recommendations to develop a strong logistics sector in Ireland as an essential component of a highly-traded economy.

The unprecedented and unanticipated levels of employment and population growth of recent years have placed significant strains on infrastructural capacity which is, in many areas, struggling to cope with demand at the present time. While high levels of economic growth have brought GDP/capita and GNP/capita in Ireland towards EU average levels, the gap in infrastructural deficits with our more developed EU partners has not been closed to anywhere near the same extent.

The speed, efficiency and effectiveness with which this deficit is tackled will greatly determine the growth trajectory of Ireland's economy in future years – at both national and regional levels. The institutional capacity to plan and deliver a rapid output in infrastructural capacity will require to be further strengthened in line with the increased demands now arising.

It is essential that the arrangements put in place ensure good value for money from the substantive increase in resources that will be needed and that they work to keep potential inflationary pressures under control. There is undoubtedly a major role for well-organised public private partnerships in meeting the demand for infrastructure within such a framework. The recent announcements and commitment of the Minister for Finance and other Government Ministers in this area are greatly welcomed and point the way forward.

Electronic Commerce

Electronic commerce is one of the most rapidly expanding areas of business at the present time – another facet of the globalisation of business built upon the convergence of communications and computer technologies. Not only does e-commerce provide new marketing and distribution channels for existing business, but it gives rise to entirely new business opportunities and products in the creation and distribution of content, services, software and equipment. E-commerce gives a further impetus to global competition – creating greater transparency of product content, services and price across countries – not only for new business, but also for existing businesses, even in traditional sectors of consumer products and business-to-business products and services.

FORFÁS ANNUAL REPORT 1998

In Ireland many firms are already advanced in the exploitation of the opportunities which e-commerce provides e.g. in the marketing, sale and distribution of computers, computer software and technical services, administrative business-to-business services and leisure products.

It is essential that Irish business firms are well positioned to exploit the growing opportunities associated with e-commerce on both the business-to-business and business-to-consumer fields. For this to happen a number of actions are necessary:

- Good intelligence gathering by both business firms themselves and by the development agencies of the existing and emerging technical, marketing and distribution services which support e-commerce;
- Raising the level of awareness of business firms of the opportunities that e-commerce represents for both existing and new business activities and also of the threats that it poses for existing businesses that fail to adapt to the fundamental changes in competition that e-commerce brings with it;
- Ensuring that the capacity, accessibility and price of the basic infrastructure needed to exploit the opportunities of e-commerce compare favourably with what is available in other countries. This includes both international connectivity and connectivity within Ireland in telecommunications. This is an area of rapid change internationally where Ireland cannot afford to fall behind and one where Forfás has provided analyses and recommendations in recent years;
- Ensuring that the skills that facilitate a full understanding and exploitation of the opportunities which e-commerce provide are available to business firms. This is primarily the responsibility of business firms themselves but it also requires adaptation of the education system at all levels in terms of curricula, course content, resource allocations, research and the enhancement of teaching competencies;
- Providing a legal and administrative framework which promotes and supports e-commerce in areas such as electronic government, the incidence and administration of taxation and the accreditation of encryption and electronic signatures.

During 1999 Forfás is preparing an overall strategy for the development of e-commerce in Ireland under the guidance of a steering committee chaired by the Department of Enterprise, Trade & Employment with representatives of business, the trade unions and the development agencies.

John Travers
Chief Executive

AN OVERVIEW OF 1998

1. Introduction

1998 was the fifth successive year of very strong economic growth. GNP is estimated by the CSO to have increased by over 8 per cent in real terms in 1998. Growth was well balanced with significant contributions from both domestic demand and net exports. Despite strong growth, inflation remained moderate, averaging two per cent per year between 1994 and 1997 and rising to an estimated 2.4 per cent in 1998. Within the EU, Ireland's inflation level was higher than the EU average. Using the internationally comparable Harmonised Index of Consumer Prices (HICP), average annual inflation in Ireland in 1998 was 2.2 per cent, compared with an EU average of 1.3 per cent. This points to the need for close monitoring of the underlying factors that could contribute to inflationary pressures and undermine competitiveness.

2. Employment

Overall Employment and Unemployment

In their May 1999, Quarterly Economic Commentary, ESRI have estimated that the increase in the average level of employment for 1998 over 1997 was 77,000. The standardised rate of unemployment fell from 9.8 per cent at the end of 1997 to 7.7 per cent at the end of 1998. One of the most encouraging features has been the sustained reduction in long-term unemployment, which fell from 90,200 in November 1997 to 51,700 in November 1998, a decline of 42.6 per cent over this period (Source: CSO and Ireland-Stability Programme 1999 to 2001).

Figure 1
Trends in Full Time Employment 1989 - 1998
Manufacturing, Internationally Traded and International Financial Services
(IDA Ireland, Enterprise Ireland, Shannon Development and Údarás na Gaeltachta)



Source: Forfás Annual Employment Survey 1998

Manufacturing and International Traded Services

FORFÁS ANNUAL REPORT 1998

In companies under the remit of Enterprise Ireland, IDA Ireland, Shannon Development and Údarás na Gaeltachta there was a net increase of 14,300 (5.4 per cent) in permanent full-time jobs in manufacturing, internationally traded services and international financial services in 1998.

Figures contained in the Forfás Annual Employment Survey 1998 show that most of the net growth in employment has occurred in internationally traded and financial services sectors. These sectors accounted for just over 8,700 (61 per cent) of the net permanent full-time jobs created. Manufacturing accounted for 5,600 (39 per cent) of the net increase in employment, which is a very good performance by international standards.

IDA Ireland and Enterprise Ireland

Full-time employment in companies assisted by IDA Ireland and Enterprise Ireland rose by almost 13,000 (5.5 per cent) in 1998, bringing the total employed in these companies to 250,000. Job gains in permanent full-time employment amounted to over 28,000 in 1998, of which just over 24,000 were new first-time jobs, the highest level achieved over the past ten years. Irish-owned companies accounted for just under 12,200 of the total job gains. International and financial traded services showed the biggest percentage gains, increasing by 28 per cent to a total of 35,100 in 1998, following an equally substantial increase of 26 per cent in 1997.

Job losses increased by almost 21 per cent in 1998 to over 15,600, the highest level recorded since 1992, arising from the impact of international market conditions on overseas companies in particular.

For the second year in succession two sectors, metals and engineering (including electronics) and internationally traded services, accounted for over 90 per cent of the net change in employment recorded in 1998.

The East Region accounted for 56 per cent of the net increase in jobs, compared to 70 per cent in 1997.

Cost Per Job

The average cost of each job created and sustained over a seven-year period for IDA Ireland and Enterprise Ireland-backed companies was maintained at last year's level of approximately IR£10,900 (€13,840) per job. This reflects the improved value for money approach pursued, the overall improvement in the economic environment for employment growth and the growth of internationally traded services projects, where investment costs are lower than in manufacturing projects. The trend is shown in Figure 2 below.

Figure 2
Cost per job sustained at 1998 prices (IR£)



Source: Forfás

Note: The cost per job sustained is calculated by taking into account all Enterprise Ireland and IDA Ireland expenditure to all firms in the period of calculation. Only jobs created during, and sustained to the end of, each seven year period are credited in the calculation

The above graph relates to the following table. This shows values in Irish Pounds and euro equivalents. All Conversions to euro were made using the irrevocably fixed conversion rate (1 euro = 0.787564 Irish pounds).

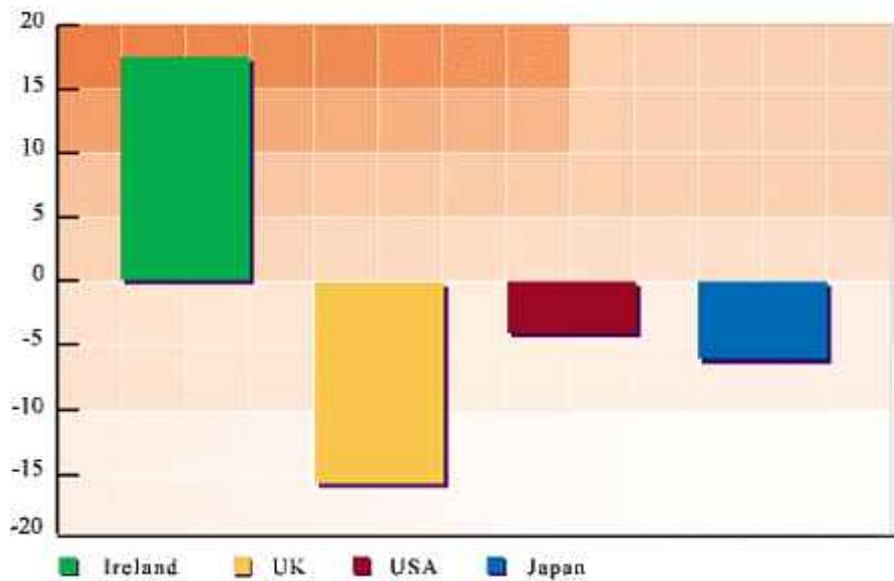
Cost Per Job Sustained at 1998 Prices

	Irish		Overseas		Overall Average	
	IR£	€	IR£	€	IR£	€
1984/1990	11,419	14,499.14	23,475	29,807.10	16,768	21,290.97
1985/1991	11,476	14,571.51	21,477	27,270.16	16,028	20,351.36
1986/1992	10,948	13,901.09	19,707	25,022.73	14,998	19,043.53
1987/1993	10,777	13,683.97	17,395	22,087.09	13,961	17,726.81
1988/1994	10,092	12,814.20	14,229	18,067.10	12,204	15,495.58
1989/1995	9,746	12,374.87	12,869	16,340.26	11,399	14,473.74
1990/1996	9,694	12,308.84	12,558	15,945.37	11,273	14,313.76
1991/1997	9,504	12,067.59	11,853	15,050.21	10,875	13,808.40
1992/1998	9,693	12,307.57	11,806	14,990.53	10,891	13,828.72

OECD figures show that many developed economies have experienced sharp declines in manufacturing employment over the ten-year period 1989/1998. For example, manufacturing employment declined by 3.7 per cent in the US since 1989 and manufacturing employment in Japan declined by 6.2 per cent since 1990. In contrast, full-time employment in manufacturing grew by 17.3 per cent in Ireland over the past decade. The growth recorded in 1998 was 2.4 per cent. See Figure 3 which contrasts the growth in manufacturing employment in Ireland with some major economies.

Figure 3

International Trends in Manufacturing Employment 1989-1998
(Employment expressed as a percentage of 1989 level)¹



Source: OECD Main Economic Indicators

¹ Except Japan where employment is expressed as a percentage of the 1990 level

Part-time, Temporary and Short-term Contract Employment

Part-time, temporary and short-term contract employment increased by 5.5 per cent to just over 33,000 in 1998. Employment in this area has grown by 152.6 per cent since 1989 with the most rapid growth being in foreign-owned companies.

Figure 4
Trends in Part-Time, Temporary and Short-Term Contract Employment 1989-1998²



Source: Forfás Annual Employment Survey

² These figures relate to IDA Ireland and Forbairt backed companies only.

Trends in Closures and Job Losses

FORFÁS ANNUAL REPORT 1998

Forfás reports annually on job losses in manufacturing and internationally traded services in all establishments on the database (Enterprise Ireland, IDA Ireland, Shannon Development and Údarás na Gaeltachta client firms). The results for 1998 can be summarised as follows:

- The rate of full-time jobs lost in 1998 amounted to 17,670, which is 20.8 per cent above the level of jobs lost in 1997.
- Seventy-five per cent of the full-time jobs were lost in firms which reduced employment (but did not close). This is an increase of 29.4 per cent on the jobs lost through contraction in 1997;
- Twenty-five per cent of the full-time jobs were lost in firms which closed down, representing a marginal increase on the jobs lost through closures in 1997;
- The fact that the majority (75 per cent) of full-time jobs lost were due to contractions is in line with experience in the EU.

Firms which contracted and reduced permanent full-time staff in 1997 by 13,329 people increased part-time, temporary and short-term contract employment by 3,833, which represents 28.8 per cent of the drop in permanent staff. This is the third highest 'replacement' rate over the six-year period, 1993/1998.

Over seventy-three per cent of all full-time job losses in 1998 arose in five sectors: Metals & Engineering, Food, Internationally Traded Services, Textiles and Clothing, Footwear and Leather. This highlights the difficulties continuing to be experienced by the labour intensive, low value-added sectors and also changing market/product conditions in, for example, the electronics industry.

Vacancy Survey

During 1998, Forfás and FÁS jointly commissioned the ESRI to conduct a second national survey of skill needs in the enterprise sector. The following sectors were surveyed: traditional manufacturing, high-technology manufacturing, construction, distributive services, finance, insurance and business services, and transport, personal and other services. The following key findings emerged from the study:

- Employment growth in 1997/1998 was especially high in finance, insurance and business services (9.5 per cent) and construction and distribution (8.75 per cent). Employment in high-tech manufacturing has displayed strong growth, increasing by almost 7.9 per cent, while employment in traditional manufacturing decreased marginally by 0.7 per cent;
- Twenty-seven per cent of firms in the surveyed sectors indicated current vacancies. The sectors most likely to be experiencing vacancies are high-technology (57.9 per cent of firms) and traditional manufacturing (52.6 per cent). In general, manufacturing firms are more likely to have current vacancies;
- High current vacancy rates are concentrated in technical areas such as engineering, computer and science occupations;
- Forty-seven per cent of firms believe that the skill levels required to ensure the day-to-day running of their businesses are rising;
- The most difficult-to-fill vacancies are in the skilled trades, clerical and retail sales occupations. The most often cited reason for these vacancies is a shortage of job applicants with relevant practical skills;
- Over 16 per cent of companies in the surveyed sectors indicated increasing difficulties in retaining staff. Most of the difficulties in retaining staff occur in the clerical and unskilled/semi-skilled staff. More than half the respondents (52.4 per cent) consider competition among employers for labour resources to be the major reason for higher staff turnover;
- Firms are responding in several ways to reduced staff retention and increased vacancies. This includes recruiting from a wider range of people (46.2 per cent), offering higher remuneration (44.5 per cent) and recruiting from abroad (13.4 per cent).

3. Expenditure

Manufacturing and Internationally Traded Services Firms

The latest Forfás Irish Economy Expenditure (IEE) Survey shows that manufacturing and internationally-traded services companies spent over IR£23 (€29.20) billion in the Irish economy in 1997, up IR£2.5 (€3.17) billion (11.8 per cent) on 1996 in real terms. This follows a 17.2 per cent rise in spending in 1996, and represents a rate of spending that does much to generate additional jobs throughout all sectors of the economy.

The services sector has benefited particularly from the increased level of spending. Purchases of Irish services have increased by 66 per cent in total over the past three years (1995/1997). In percentage terms, the highest contributors to growth in spending on Irish services have been internationally-traded services firms. This highlights the growing importance of the services sector to economic growth and development.

Estimated Irish Economy Expenditure (IEEs) of Manufacturing and Internationally Traded Services Industry-1997 Prices

	Irish owned		1997 Foreign Owned		Total		% Change over 1996
	IR£m	€m	IR£m	€m	IR£m	€m	
Constant 1997 Prices							
Total Sales	14,912	18,934.33	31,373	39,835.49	46,285	58,769.83	19.8
Total Irish Economy Expenditures	11,686	14,839.16	11,819	15,007.03	23,505	29,845.19	11.8
of which:							
Wages & salaries	2,344	2,976.27	2,830	3,593.36	5,174	6,569.62	13.1
Irish Raw Materials	6,358	8,073.99	3,421	4,343.77	9,779	12,416.77	9.1
Irish Services	2,066	2,623.26	5,032	6,389.32	7,098	9,012.60	12.5
Profits (all Irish industry profits and corporation tax paid by overseas firms	918	1,165.62	536	680.6	1,454	1,846.20	22.8
IEE % Sales	78.4		37.7		50.8		-6.8

Source: Forfás Irish Economy Expenditure Survey

State Investment on Enterprise Promotion

FORFÁS ANNUAL REPORT 1998

Forfás undertakes an annual analysis of State investment relating to all costs of operating the development agencies including financial supports and the costs of marketing, promotion, client services and administration to promote the development of the enterprise sector and create employment in Ireland. The latest analysis indicates that:

- The cost of State support to the enterprise sector in the form of direct expenditure (all costs of operating the development agencies, financial supports etc.) was approximately IR£552 (€700.89) million in constant prices in 1997, and is estimated at IR£606 (€769.46) million for 1998. This represents a rise of 50 per cent in real terms (4.1 per cent per annum) over the period 1988 to 1998.
- Over the same period, 1988 to 1998, growth in Government expenditure of 46 per cent in real terms was recorded. The growth in GNP in real terms over this period was 81 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 the upgrading of the business capability of firms. In 1988 fixed asset supports accounted for 46.5 per cent of total direct expenditure. By 1997 the percentage had fallen to 35.7 per cent.
- spending by the industrial development agencies in support of record job creation increased significantly from 1995 onwards, and this is reflected in Figure 6.

Figure 6
State Expenditure on Enterprise Development
Constant Prices 1998 (IR £million)



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

The previous graph relates to the table below. This shows values in Irish Pounds and euro equivalents. All Conversions to euro were made using the irrevocably fixed conversion rate (1 euro = 0.787564 Irish pounds).

State Expenditure on Enterprise Development

	IR£million	€million
1988	403.7	512.59
1989	376.9	478.56
1990	387.5	492.02
1991	411.5	522.50
1992	381.5	484.41
1993	414.8	526.69

FORFÁS ANNUAL REPORT 1998

1994	408.0	518.05
1995	461.0	585.35
1996	527.8	670.17
1997	551.8	700.64
1998	605.4	768.70

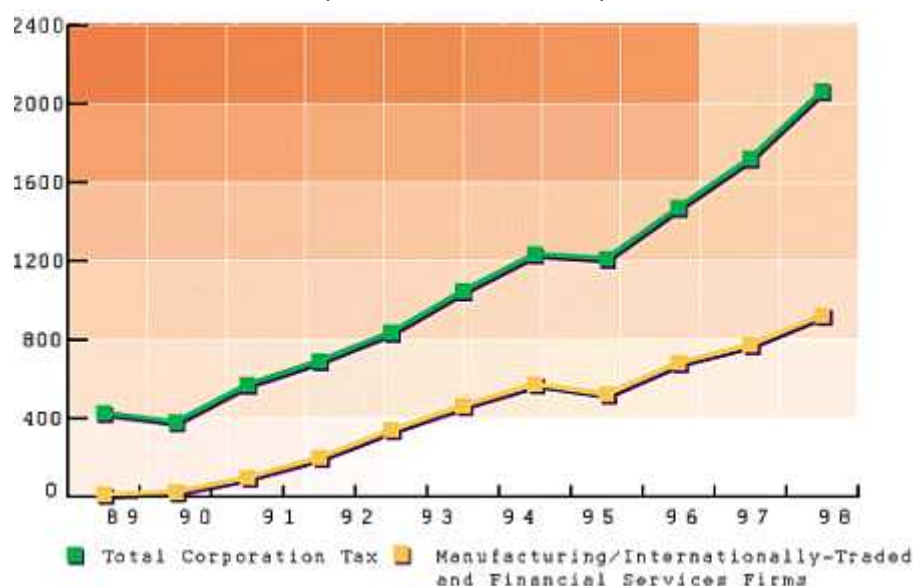
Corporate Tax

The cost to the State of fostering the development of enterprise has been offset by the rise in corporation tax payments, and in particular from corporation tax paid at the low (10 per cent) rate by manufacturing and internationally traded/financial services firms. This is evident from the following;

- The total corporation tax take amounted to IR£2,065 (€2,622) million³ in 1998. This represents a rise of over 383 per cent in real terms in the period 1988 to 1998 (17 per cent per annum);
- Forfás surveys indicate that corporation tax paid at the 10 per cent rate by manufacturing, internationally traded and international financial services firms amounted to IR£924 (€1,173.23) million in 1998, or almost 45 per cent of total corporation tax receipts.

3 Source: Exchequer Returns

Figure 7
Corporation Tax Payments
(Constant Prices £m.)



Source: Forfás; Corporation Tax Survey

The above graph relates to the table below. This shows values in Irish Pounds and euro equivalents. All Conversions to euro were made using the irrevocably fixed conversion rate (1 euro = 0.787564 Irish pounds).

Corporate Tax Payments

	Total		Manufacturing/Internationally Traded Services	
	IR£ million	€million	IR£ million	€million
1988	428	543.45	13	16.51
1989	381	483.77	25	31.74
1990	572	726.29	99	125.70
1991	692	878.66	200	253.95
1992	837	1,062.77	340	431.71
1993	1,048	1,330.69	464	589.16
1994	1,235	1,568.13	574	728.83
1995	1,213	1,540.19	522	662.80
1996	1,472	1,869.05	682	865.96
1997	1,722	2,186.49	774	982.76
1998	2,065	2,662.01	924	1,173.24

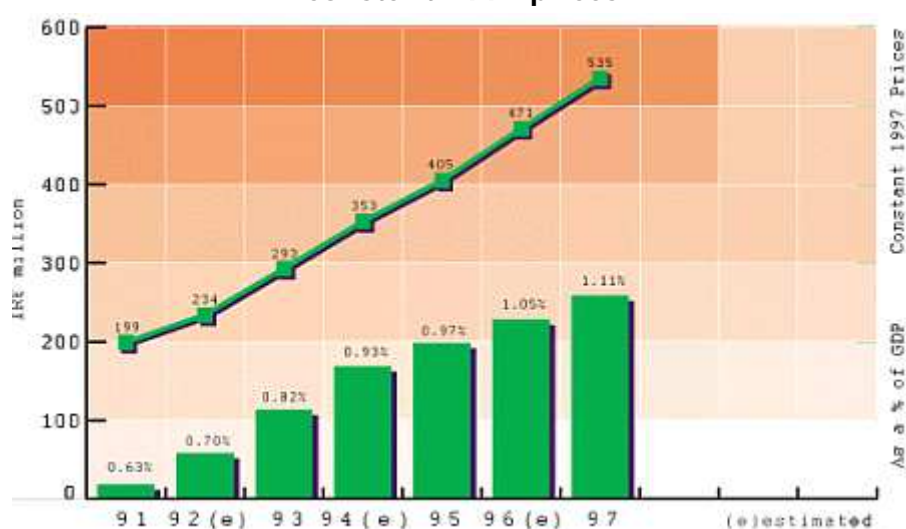
Technological Innovation and R&D in Industry

Forfás continued to monitor the innovation performance of industry during 1998 through its survey of R&D performing enterprises and through participation in the second pan-European Community Innovation Survey.

Figure 8 shows that Business Expenditure on Research and Development (BERD) amounted to IR£535 (€679.30) million in 1997 or 1.1 per cent of GDP, on a par with the EU average.

The rate of growth in BERD was 15 per cent per annum in real terms between 1995 and 1997 and this represents a slight levelling-off in growth compared with the 20 per cent per annum growth that occurred between 1991 and 1995.

Figure 8
Business Expenditure on Research and Development 1991-1997 in constant 1997 prices



Source: Forfás

The above graph relates to the table below. This shows values in Irish Pounds and euro equivalents. All conversions to euro were made using the irrevocably fixed conversion rate (1 euro = 0.787564 Irish pounds).

Business Expenditure on Research and Development, 1991-1997

	IR£million	€million
1991	199	252.68
1992(e)	234	297.12
1993	293	372.03
1994(e)	353	448.22
1995	405	514.24
1996(e)	471	548.05
1997	535	725.02

Behind the aggregate figure, it was found that indigenous firms accounted for IR£192 (€243.78) million (36 per cent of BERD) and foreign-owned firms accounted for IR£343 (€435.52) million (64 per cent of BERD). The R&D intensity (R&D spend to gross output) of indigenous manufacturing was 1.1 per cent in 1997 (from 0.5 per cent in 1991) while in foreign-owned manufacturing, it was 1.2 per cent (from 1.0 per cent in 1991).

The R&D intensities of indigenous and foreign-owned manufacturing are a cause for concern because these represent half of the OECD average (2.4 per cent) and approximately one-third of that found in the top performing country (Sweden 3.5 per cent). The largest gaps in R&D intensity in manufacturing are in pharmaceuticals, electronics, instruments and chemicals. Despite the fact that Ireland has a strong orientation towards 'high-tech' sectors, it is clear that these sectors are not underpinned by R&D activity based in Ireland. The survey

FORFÁS ANNUAL REPORT 1998

indicates that only 340 indigenous firms and 260 foreign-owned firms spent more than IR£100,000 (€126,973.80) on R&D in 1997.

Other indicators of technological innovation in industry suggest that Ireland's performance is at best average relative to other EU countries. The Second Community Innovation Survey, which was carried out in Ireland by Forfás, indicates that total expenditure on all innovation activities amounted to 3.3 per cent of sales in manufacturing compared to 3.8 per cent in the EU on average. The share of sales in 1996 from products that were introduced or subject to some change in the previous three years was 32 per cent in Ireland compared to 31 per cent for the EU generally.

The main message coming from these surveys is that, despite the generally positive trends that have emerged during the 1990s, there is considerable room for improvement if Ireland is to move from a somewhat 'below average' position in Europe to become one of Europe's more innovative regions and a genuinely 'high-tech' economy.

State Investment in Science & Technology

The State Investment in Science & Technology report, published by Forfás, shows the total Government allocations to science and technology activities in 1998 at around IR£845 (€1072.92) million, an increase of IR£113 (€143.48) million (or 15.5 per cent) over 1997. The total appears quite large as the coverage of the S&T Budget is very wide. Sixty-four per cent of public funds go to third level education under the Department of Education & Science.

States Investment Allocation in Science & Technology - 1998 (Exchequer + EU Funds)

Departments	Total Public Funding		%Total
	IR£`000	€`000	
Taoiseach	374	748.88	0.05
Finance	1,658	2,105.23	0.24
Enviroment & local Government	9,595	12,183.14	1.37
Education & Science	448,146	569,028.04	63.98
Marine & Natural Resources	16,062	20,394.53	2.29
Arts Heritage, Gaeltacht & The Islands	3,225	4,094.91	0.46
Agriculture & food	60,309	76,576.63	8.61
Enterprise, Trade & Employment	102,708	130,412.26	14.66
Puplic Enterprise	13,891	17,637.93	1.98
Social, Community & Family Affairs	6,716	8,527.56	0.96
Health & Children	10,689	13,572.23	1.53
Government Offices	27,024	34,313.40	3.86
Total	700,397	889,302.74	100.00

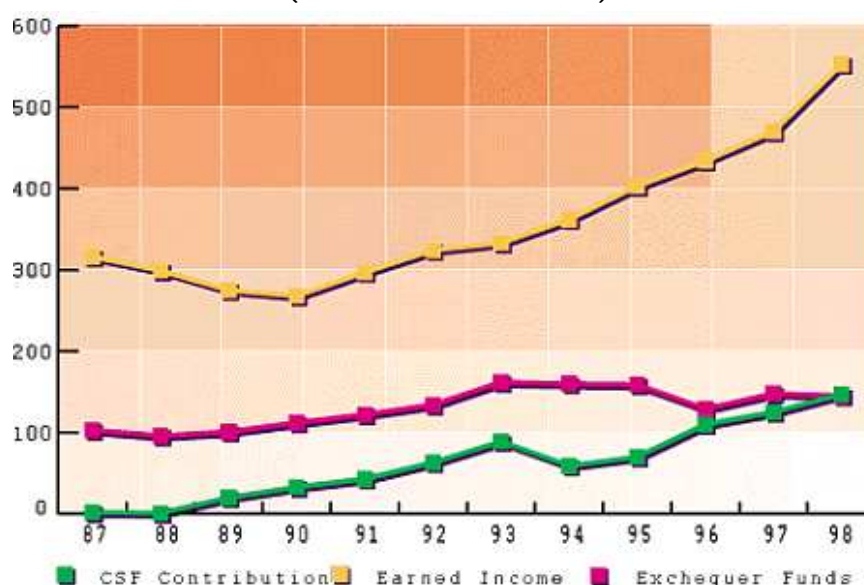
Source: Forfás State Investment in Science & Technology, 1998

FORFÁS ANNUAL REPORT 1998

Of this total, IR£145 (€184.11) million represents income earned by departments and their agencies. Figure 9 shows the breakdown across departments of the total public funds involved of IR£700.4 (€889.32) million.

The contribution of the EU, via the Community Support Framework (CSF), to public sector science and technology continues to increase, rising to IR£147 (€186.65) million in 1998 from IR£123 (€156.17) million in 1997 and representing 21 per cent of public funding of science and technology in Ireland. In the area of research and development, IR£64 (€81.26) million out of a total of IR£187 (€237.44) million (or 34 per cent) comes from Structural Funds.

Figure 10
Distribution of Government Supported S&T by sources of Funds
(1998 Prices IR£million)



Source: Forfás; State Investment in Science and Technology, 1998

The above graph relates to the table below. This shows values in Irish Pounds and euro equivalents. All Conversions to euro were made using the irrevocably fixed conversion rate (1 euro = 0.787564 Irish pounds).

1998 Prices	CSF Prices		Earned Income		Exchequer Funds		Sum of Total	
	IR£m	€m	IR£m	€m	IR£m	€m	IR£m	€m
1987	2	2.54	103	130.78	316	401.24	421	534.56
1988	1	1.27	96	121.89	299	379.65	396	502.82
1989	20	25.39	101	128.24	275	349.18	396	502.82
1990	33	41.90	112	142.21	268	340.29	413	524.40
1991	43	54.60	122	154.91	297	377.11	463	587.89
1992	63	79.99	134	170.14	324	411.40	521	661.53
1993	89	113.01	162	205.70	333	422.82	584	741.53
1994	63	79.99	160	203.16	359	455.84	582	738.99
1995	76	96.50	159	201.89	396	502.82	631	801.20
1996	115	146.02	129	163.80	428	543.45	673	854.53
1997	125	158.72	148	187.92	470	596.78	743	943.42
1998	147	186.65	145	184.11	553	702.17	845	1,072.93

The latest Forfás survey shows that expenditure on research in the higher education sector (HE) amounted to IR£121 (€153.63) million in 1996. ⁴This is a real increase of 164 per cent over the 1986 level of IR£35 (€44.44) million and 21 per cent over the 1994 figure of IR£95 (€120.62) million. Figure 11 illustrates the trend of expenditure on R&D between 1986 and 1996.

4 The component of this expenditure funded by Government is included in the State Investment in Science & Technology 1998 report, published by Forfás

Figure 11
Higher Education Expenditure
on Research and Development
1986-1996
 (1998 Prices IR£million)



Source: Forfás; Survey of Research in Higher Education Sector, 1996

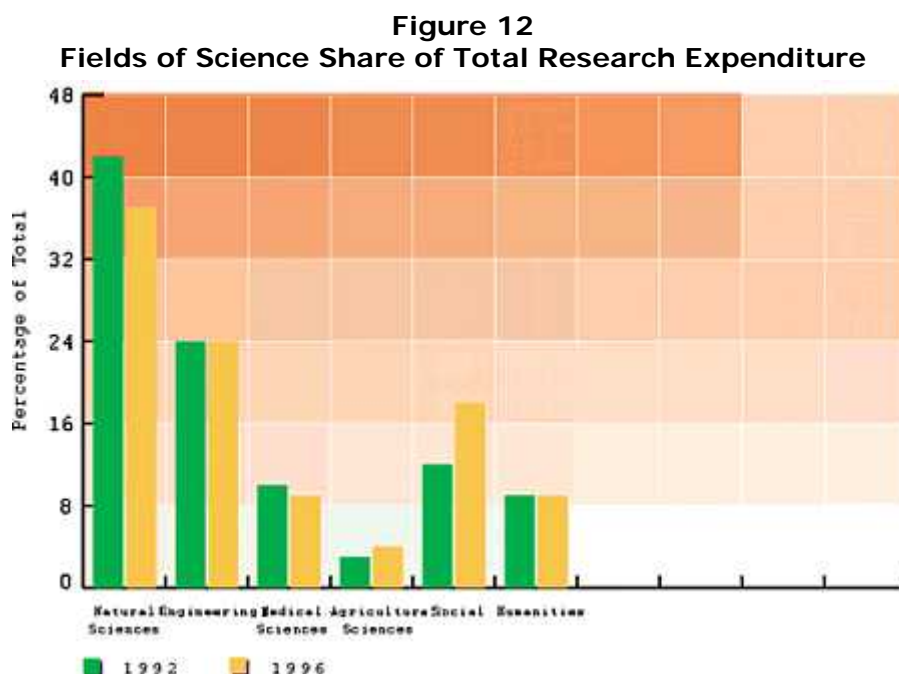
The above graph relates to the table below. This shows values in Irish Pounds and euro equivalents. All Conversions to euro were made using the irrevocably fixed conversion rate (1 euro = 0.787564 Irish pounds).

Higher Education Expenditure on Research & Development 1986-1996

	Constant Prices		Current Prices	
	IR£ million	€million	IR£ million	€million
1986	46	58.41	35	44.44
1988	46	58.41	25	31.74
1990	57	72.38	50	63.49
1992	79	100.31	73	92.69
1994	99	125.70	95	120.63
1996	121	153.64	121	153.64

All HE research is classified into six broad fields of science and Figure 12 shows how the distribution of expenditure across each of these fields has changed between 1992 and 1996.

All fields of science have recorded an overall real increase in expenditure in the four year period to 1996. Since 1992, while it has grown in real terms by 39 per cent (IR£21/€26.66 million), the share of total expenditure attributable to natural science/engineering disciplines has decreased from 66 per cent to 61 per cent of the total.

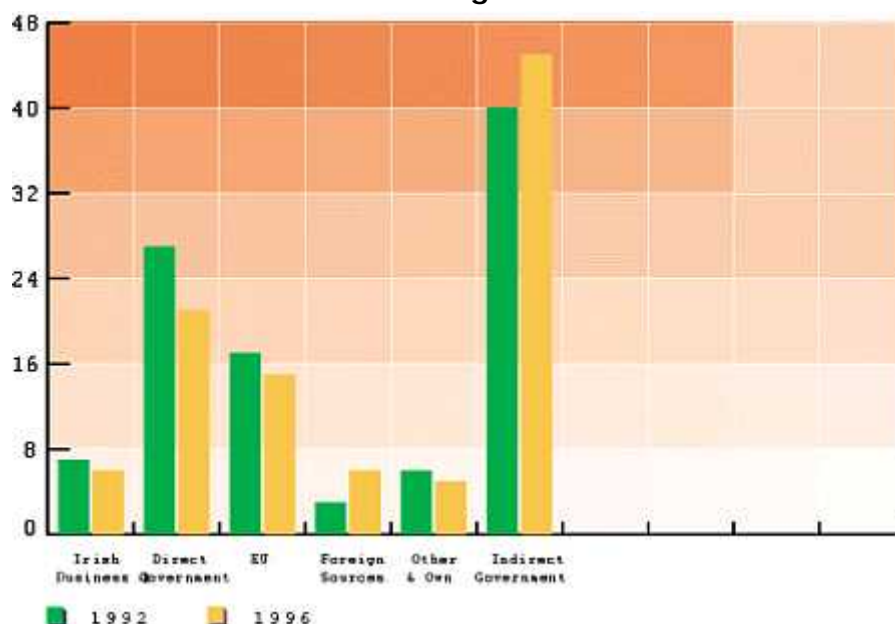


Source: Forfás; Survey of Research in Higher Education Sector, 1996

Sources of Funds

Figure 13 analyses the sources of funding for HE research. The government is the main provider of funds. It does so mainly through the *block grant* from the Department of Education & Science / HEA, which envisages that staff can and do spend a proportion of their time doing other things besides teaching, including research. This indirect Government funding is calculated by assigning to research a proportion of the block grant to each higher education institution.

Figure 13
Source of Research Funds
as Percentage of Total



Source: Forfás; Survey of Research in Higher Education Sector, 1996

Foreign sources have shown the largest real growth as a source of research funds since 1992, with the EU and direct government showing large growth. Six per cent of funding for HE expenditure on research comes from the business sector.

Although the business sector funding shows a real growth rate of 33 per cent, it can be seen in Figure 13 that its share of total expenditure on HE research has decreased slightly since 1992.

ACTIVITIES IN 1998

Introduction

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

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

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

1. Policy

Introduction

Forfás continued to develop policy recommendations on a broad range of issues which impact on the development of the enterprise sector in Ireland in 1998. It worked closely with various bodies established by Government under the broad auspices of Forfás to consider specific issues critical to economic performance and job creation, including the National Competitiveness Council, the Irish Council for Science, Technology and Innovation and the Expert Group on Future Skills Needs. This section of the report describes briefly some of the work undertaken by Forfás during the year on the following areas:

- Competitiveness
- Skills
- Regional Development
- Telecommunications & E-Commerce
- Science, Technology and Innovation
- Technology Foresight Ireland
- Science and Technology After 1999
- Taxation and Public Expenditure
- Finance
- Transport
- Strategic Development Zones
- Electricity
- Greenhouse Gas Abatement

Competitiveness

There is widespread recognition internationally that public policy plays a broad and significant role in determining the competitiveness of enterprises. Ireland's recent economic success has been based on a number of positive factors, many of which are the result of policies pursued for an extended period. These include measures in the field of taxation, education and skills development, telecommunications infrastructure, European integration, and a policy regime generally favourable to enterprise development. However, important difficulties are emerging that may hinder sustained progress in the future unless action is taken to correct deficiencies. Moreover, the challenges posed by European Economic and Monetary Union (EMU) mean that competitiveness of enterprises in Ireland is even more important.

FORFÁS ANNUAL REPORT 1998

Some of the activities undertaken by Forfás in this area in 1998 are set out below:

- A first Annual Competitiveness Report, reflecting the views of the National Competitiveness Council, was prepared, through a process involving extensive dialogue with Government Departments and other interested bodies. The report was submitted to the Taoiseach and published in March 1998.
- A Council Statement on Skills was prepared and published in December 1998. This document highlighted the role of skills in competitiveness and brought together a comprehensive set of recommendations on the actions required.
- A Statement on *Telecommunications: A Key Factor in Electronic Commerce and Competitiveness* was drawn up, making detailed recommendations on policy actions needed. This statement was prepared following extensive discussions with the principal actors involved, and was issued in November 1998.
- Studies of competitiveness performance and policy in other countries were undertaken, including special studies of the UK and of Hungary, and a review of the Nordic countries.
- Forfás undertook a survey of enterprises in Ireland, in order to determine their competitiveness priorities and perceptions. The survey focused on the priorities of enterprises for future Structural Fund expenditures, the impact of Government policy in a number of areas related to competitiveness, and additional data in terms of the strategies and organisation of enterprises.
- As an input to the work of the Council, a study was undertaken of agriculture and its competitiveness in Ireland, focusing especially on the international trends that would alter the policy requirements for the future.
- Also as an input to the work of the Council, a special study was undertaken on inflation and the implications for competitiveness.
- Forfás continued to participate in EU pilot benchmarking exercises, including a project on information and communications technologies (ICT) and organisational change. This project examined the policy requirements for the diffusion of new technologies and the degree to which these affect operations at the enterprise level. Forfás' contributions included case studies of enterprises in Ireland, together with a special survey of the diffusion of ICT in Irish enterprises at sectoral level.
- As an input to the work of the Council, Forfás undertook a synthesis of EU pilot benchmarking studies in the areas of information and communications technologies, logistics, the financing of innovation, and skills development. The implications of these Europe-wide studies for Ireland were examined in this context.
- In the preparation of the report, a major economic and statistical database that has been developed was maintained and updated.
- Forfás continued to provide extensive secretariat support to the National Competitiveness Council. A second Annual Competitiveness Report was prepared. It compares the performance of Ireland with other countries using a wide range of indicators covering all the main fields of competitiveness policy. A particular focus was made on the policy implications of the findings, and Ireland's performance since the first Annual Competitiveness Report was reviewed.

Skills

In November 1997 the work of the Business Education Partnership began. The three components of the partnership, which is supported with Forfás research and secretariat, are as follows:

- An Expert Group on Future Skills Needs;
- A Business Education Partnership Forum;
- A high level Management Implementation Group.

FORFÁS ANNUAL REPORT 1998

The Expert Group submitted its first report to the Tánaiste and Minister for Enterprise, Trade & Employment, Mary Harney, T.D. and to Micheál Martin, T.D. Minister for Education & Science. This report was published by Forfás in December 1998 and concentrated on the third-level requirements of the information technology industry. The main finding of the report was that Ireland faced a skill shortage of 2,200 engineering and computer science professionals and technicians between 1998 and 2003 and that to address this 5,400 extra third-level places should be provided.

The first meeting of the Forum, organised by Forfás and the HEA, was held in June 1998, and participation included the Tánaiste and Minister for Enterprise, Trade & Employment, Ms Mary Harney, T.D. and the Minister for Education & Science, Mr. Michael Martin, T.D. The findings of the Expert Group in relation to the demand for technologists in Information Technology were discussed. A report on the proceedings of the Forum was published.

The Implementation Group has advanced the recommendations of the Expert Group and the following progress has been achieved:

- The Government approved, in April 1999, the allocation of an additional IR£75 (€ 95.23) million to the Department of Education & Science for the provision of 5,400 places. This will ensure that Ireland has the human capital to meet the needs of the fast growing IT sector and respond to the opportunity presented by e-commerce;
- From September 1998, FÁS has increased its provision of training in the IT sector by an additional 737 places;
- The Department of Education & Science has created 650 new places on accelerated National Certificate in Technology courses. These courses commenced in January 1999 and 550 students are currently enrolled, about 300 in computing and around 250 in manufacturing technology.

In the latter half of 1998 the Expert Group began work on craft and other skills requirements in areas such as construction, transport and logistics, and call centres.

This, together with a study of the supply of and demand for professional and associate professional skills in the life sciences, and a review of the findings and recommendations of the first skills report, will form the basis for a second skills report in 1999.

Regional Development

CSO and Eurostat data show that the economic development of some regions, particularly the Borders, Midlands, West and South-East, lags considerably behind the other regions. There are also a number of areas of significant urban deprivation characterised by high levels of unemployment and poverty. The decision to divide the country into two primary development regions to help accelerate development in the under-developed Borders, Midlands and West regions is welcome in this context. However, it will be vital to have parallel development initiatives for the South-East and inner city areas. Forfás recommended that accelerating development in these areas will require:

- A deliberate effort to develop attractive alternative development centres to the Dublin-Belfast corridor, for example, the Waterford-Cork-Limerick triangle;
- Taking account of the special needs of areas of urban deprivation, for example, in terms of counselling and specialised education and training;
- Making the cities and major towns that are to be development centres in the regions attractive for both businesses to operate in and highly skilled for employees to live in;
- A determined and co-ordinated approach to advanced planning of investment in
 - transport infrastructure and services to facilitate access to air and seaports for both goods and people
 - industrial development
 - development of social, cultural and recreational infrastructure
 - local authority water and sewage service provision
 - provision of broadband telecommunications and other utilities
 - development of regional educational and training facilities to support ongoing life-long learning and continuing skills development
 - improved zoning, planning procedures and implementation for infrastructure and commercial projects.

Forfás consulted widely with business firms, business associations and the development agencies in the regions to identify the infrastructure investments needed to promote regional development.

The consensus was that the critical priorities must be as follows:

- investment in transport systems, particularly roads;
- encouraging regional air service development;
- ensuring local availability of broadband telecommunications; and
- further streamlining of physical and infrastructural planning procedures.

Forfás has advocated that the new National Development Plan should incorporate a considerable acceleration of road investment and has set out proposals for IR£4.3 (€5.46) billion in investment to be in place by 2006. Forfás also advocates that larger cities be connected by motorway starting with Cork-Dublin, working through Waterford-Cork-Limerick-Galway and Galway-Athlone-Dublin and, in the longer term, Sligo-Dublin and Sligo-Galway. The planning and reservations for these should be put in place immediately. Failing to plan for this standard of road will mean major disruption and cost in subsequent upgrading, probably within ten years in many cases. The Forfás proposals, with the addition of public-private-partnerships (PPP), can be carried out without significantly exceeding the investment levels anticipated by the ESRI in its report, *National Investment Priorities for the period 2000-2006*.

Forfás set up a Steering Group to study the business requirements for improved air services in to and out of the South-West and Mid-West regions. The report, completed in Autumn 1998, recommended that regional air services should be handled by a specialised regional air carrier with an appropriate cost base.

FORFÁS ANNUAL REPORT 1998

The use of Structural Funding to accelerate the provision of broadband telecommunications in areas where the market fails to provide the required services in advance of demand was also proposed by Forfás. A total of IR£18 (€22.85) million of EU Structural Funds has been allocated for this purpose. When associated private sector investment is included, total investment should amount to more than IR£50 (€63.49) million. This will increase the attractiveness of the regions as investment locations.

Forfás also proposed that funding be provided to support the establishment of a high capacity Internet link into Ireland to permit the speedy exchange of Internet traffic. A provision of IR£12 (€15.23) million was made for this in the 1999 Budget on a public-private-partnership basis.

Telecommunications and E-Commerce

During 1998 Forfás continued to work with the development agencies and Government Departments to determine the required level of investment in broadband to meet the expanding requirements of the enterprise sector, and how that investment could be secured. Forfás has long advocated that investment in broadband infrastructures across the country should be made in advance of demand.

A Forfás report published in March 1998, *Broadband Telecommunications Investment in Ireland*, highlighted the gap that exists between the broadband services available in Ireland and those in other countries with which we compete.

This work, which was supported by international telecommunications consultants Analysys Limited, concluded that investment in broadband infrastructure and services can best be achieved by encouraging competition through a pro-competitive regulatory framework. Significant progress on a number of recommendations in this report was achieved during 1998, including the early liberalisation of the market.

The establishment of a pro-competitive regulatory framework requires that the objectives of the Director of Telecommunications Regulation should be stated explicitly in the Telecommunications legislation and should serve as a set of guiding principles for the work of the Director.

The report also recommended that:

- Cablelink should be sold to a party that would invest significantly in the network;
- The derogation on competition which applied until the year 2000 on voice telephony should be ceded immediately;
- A telecoms marketing expert should be appointed to encourage investment in broadband telecoms by telecom operators;
- A number portability facility needs to be established by the date of full liberalisation.

The decision in June 1998 to liberalise the telecommunications market from 1 December 1998 will be of considerable benefit to future competitiveness.

Forfás was also a member of the Advisory Committee on Telecommunications established by the Minister for Public Enterprise in 1998. The recommendations of the Committee included:

- the immediate implementation of the Government decision to have an initial public offering (IPO) of shares in Telecom Eireann and divestiture of Cablelink;
- the unbundling of the local loop at tariffs based on long run incremental costs;
- conferring a clear legislative mandate on the Director of Telecommunications Regulation to promote competition in the telecommunications sector with a strengthening of the sanctions available for breaches of the regulatory framework in telecommunications;

FORFÁS ANNUAL REPORT 1998

- clarification of the co-ordination arrangements between the Director of Telecommunications Regulation and the Competition Authority;
- providing for low-cost internet access, including the consideration of flat-rate pricing levels;
- providing universal access across regions to broadband and advanced telecommunications services;
- Government acting as a catalyst in conjunction with Irish and global telecommunications operators and internet service companies to provide a new high capacity internet-capable connectivity into Ireland;
- the development of Ireland as a leader in electronic commerce as a major objective of national economic policy. A range of required support actions was set out;
- the priority implementation of the recommendations of the Forfás Expert Group on Future Skills Needs and the establishment of the skills needs for new types of activities in the electronic commerce area – particularly in the area of creative and content skills;
- the further expansion of computer literacy and internet skills within the education system and, in particular, at primary school level.

Under the auspices of the National Competitiveness Council, chaired by Mr Brian Patterson, Forfás set out the proposals for the development of telecommunications and electronic commerce.

In the Council's *Statement on Telecommunications: A Key Factor in Electronic Commerce and Competitiveness*, recommendations in the following key areas were set out as essential for Ireland to take a lead in electronic commerce:

- Establishment of a co-ordinated set of programmes to accelerate investment in broadband and promote the use of broadband services;
- Adoption of information and communications technologies by enterprises;
- Establishment of a process to monitor Ireland's performance against competing countries;
- Development and implementation of a national policy framework for advanced telecommunications deployment;
- Rapid development of digital TV as a platform for electronic commerce;
- Establishment of a position amongst the leaders in the world for digital businesses.

Digital TV will be a key communications platform and infrastructure from a competitiveness perspective and potentially a significant platform in the development of digital TV for the mass roll-out of the Internet and e-commerce. Ireland has fallen behind other countries such as France, Germany, Italy and the UK where services have already been launched.

The Council's Statement proposes 33 actions which include the following:

- Co-ordinated awareness programmes need to be developed to increase the use of advanced telecommunications and related technologies by businesses;
- Enterprises and trade representative associations need to work with telecommunications service providers in determining business and investment broadband requirements at local level;
- Targeting the rapid development of indigenous and overseas enterprises in electronic commerce and related industries should be a priority for the development agencies.

A Forfás Feasibility Study recommended that a Digital Park should be established to help develop e-commerce and other telecommunications-intensive projects. This was accepted, and IDA Ireland are now establishing the Park in two linked locations at the CityWest Business Park and at East Point in the Dublin Docklands.

Science, Technology & Innovation

The Irish Council for Science, Technology and Innovation (ICSTI), to which Forfás provides the secretariat and research support, held seven meetings during 1998 in its second year of operation, under the chairmanship of Dr Edward M. Walsh.

The work of the Council centred around three Task Forces which were established in June 1997 to focus on key areas of science, technology and innovation policy. These Task Forces are:

- **Technology Foresight**, dealing with the matching of technology development to national needs. Further details are provided on Technology Foresight Ireland below (Chair: Mr. Brian Sweeney).
- **Innovation Infrastructure**, dealing with the development of policy so that the science, technology and innovation infrastructure provides efficient and effective services in a number of areas. (Chair: Mr. Brian Trench).
- **Public Expenditure on Science & Technology** which examines the current profile of public funding of science and technology and the mechanisms by which priorities are set. (Chair: Mr. John Travers).

The Council also established a sub-group to conduct a Benchmarking Study of science teaching in Irish schools.

In 1998 the Council issued seven Statements, arising from the work of the task forces and sub-group, on the following topics:

- '£250 Million Scientific and Technological Education (Investment) Fund' (January)
- 'A Partnership Approach to Research Funding – the Need for a National Science and Engineering Research Fund' (May)
- 'Science in Primary Schools' (May)
- 'Mechanisms for Prioritisation of State Expenditures on Science and Technology' (June)
- 'Innovation in Enterprises in Ireland' (July)
- 'State Expenditure Priorities for 1999' (November)
- 'Investing in Research, Technology & Innovation (RTI) in the Period 2000 to 2006' (final draft)

Technology Foresight Ireland

Global competition and economic development will be largely driven by unprecedented growth in knowledge in many areas of technology and particularly in the pervasive areas of information and communication technologies and biotechnologies. New firms, sectors, production and marketing methods will emerge. The evidence for this and the implications for Ireland are highlighted in the findings of the first ever Technology Foresight exercise to be undertaken in Ireland.

The initiative was launched in March 1998, at the request of the Minister for Science, Technology & Commerce, by ICSTI and the findings published in April 1999. The Technology Foresight initiative was managed by an ICSTI Task Force, under the Chair of Brian Sweeney (Group Chairman, Siemens Ireland). The work was carried out by eight expert panels in the following areas, who consulted widely and whose work was supported throughout by the Forfás executive:

- Chemicals & Pharmaceuticals
- Information & Communication Technologies
- Materials & Manufacturing Processes
- Health & Life Sciences

- Natural Resources
- Energy
- Transport & Logistics
- Construction & Infrastructure

Technology Foresight is a process, increasingly used by governments of industrially advanced countries, for systematically looking into the longer-term future. Its focus is on the interplay of science and technology with the economy and society. Its purpose is to bring together business, the science community and government to respond to emerging opportunities in markets and to identify the technologies likely to yield the greatest economic benefit in the long term.

The Technology Foresight exercise concluded that, in order to safeguard the advances made in economic developments and to provide the foundations on which further advances can be secured, the Irish economy should be repositioned, to become a knowledge-based economy and to be acknowledged internationally. To achieve this, there is an imperative to develop a world-class research capability of sufficient scale in a number of strategic areas within our universities, research institutes and industry.

It recommended that an IR£500 (€634.86) million dedicated fund be established and allocated over a five to six year period to achieve this objective, particularly the development of world class research capabilities in niche areas of information and communication technologies and biotechnologies.

The Technology Foresight recommendations are under consideration by the Tánaiste and Minister for Enterprise, Trade & Employment and the Minister for Science, Technology & Commerce.

Science and Technology after 1999

For the past ten years public funding of science and technology in Ireland has been very dependent on EU support through the Structural Funds.

Forfás has been working on the case for public funding for science and technology, in particular on research and development from the year 2000 onwards. This has been done as part of the inputs to preparation for the National Development Plan 2000 – 2006.

The work completed sets out a new framework for public investment in research, technology and innovation (RTI) under three main headings:

- RTI for industry, to encourage new R&D performers in the business sector and to increase the scale of business R&D spending;
- RTI collaborative networks, to encourage colleges, institutes and business to devise joint RTI activities;
- RTI infrastructure, particularly to implement the Technology Foresight findings which represent long-term public investment in the necessary skills and facilities.

The Forfás and ICSTI work in this area was drawn upon strongly by the ESRI in the report it prepared for the Department of Finance earlier this year on – *National Investment Priorities for the period 2000 – 2006*. The ESRI report concluded that there is a strong case for significantly increasing the level of public funding for research over the period of the plan.

Tax and Public Expenditure

FORFÁS ANNUAL REPORT 1998

Taxation

Forfás has advocated that taxation policy should be developed in the overall context of assisting Ireland to enhance its competitiveness as a location to do business. Taxation policy should be focused on stimulating employment and investment and on promoting social inclusion.

Forfás recommended that the overall burden of taxation and PRSI should be steadily reduced in order to shift resources from the public to the market sector of the economy. In order to achieve this objective, it recommended that reductions in personal income tax, employment taxes, corporation tax and capital taxes should be implemented.

Forfás has worked along with Government Departments, the agencies, the private sector and other organisations to implement these recommendations and much has been achieved.

Tax Burden

The overall burden of taxation and PRSI has reduced from c.40 per cent of GNP in 1995 to 38.5 per cent in 1998, and is forecast to fall to 36.7 per cent in 2001. The debt/GDP ratio is expected to fall to 43 per cent of GDP by 2001 from an expected 59 per cent at end 1998. (Source: Stability Programme 1999-2001 published by the Department of Finance.)

Personal Taxation

Over the past three years (1997/1999) some IR£1.5 (€1.9) billion has been provided in personal tax reductions and in 1998/1999 just over 60 per cent of taxpayers paid tax at the standard/marginal relief rate. The burden of employees' PRSI has also been steadily reduced, particularly for the lower paid.

Tax Wedge

Reductions in personal taxation and PRSI have led to an improvement in Ireland's competitive position in this area with the UK. One way of measuring this is through the tax wedge i.e., the gap between the cost to the employer of employing someone and that person's net pay. For a single person on the average industrial wage of c. IR£15,000 (€19,046.07), the tax wedge is five per cent higher in Ireland compared with the UK for the tax year 1999/2000. The wedge was c.19 per cent higher in Ireland in 1994/1995. However, for a single person on c. IR£30,000 (€38,092.14) p.a. the extent of the tax wedge is 30 per cent higher in Ireland in 1999/2000. The tax wedge is generally lower in Ireland than the UK for married couples.

Corporation Tax

During 1998 the Minister for Finance announced the arrangements for the introduction of a single rate of corporation tax first proposed in the Forfás report – *Shaping Our Future*. A low standard rate of corporation tax of 12.5 per cent will apply to all trading income, with a rate of 25 per cent on non-trading income, from 1 January 2003. The standard rate of corporation tax will be reduced by four percentage points per annum to achieve this. This will give a significant boost to the services sector, which will be the driving force in employment creation.

Capital Gains Tax

The rate of capital gains tax has been halved to 20 per cent and significant reductions in capital acquisitions tax for business transfers have occurred. This will boost small business activity and entrepreneurship and should lead to increased revenue from capital taxes as economic activity increases (revenue from capital taxes has grown from IR£178 (€226.01) million in 1996 to an estimated IR£316 (€401.23) million in 1999, an increase of 78 per cent).

Irish Registered Non Resident Companies (IRNRs)

At the request of the Department of Enterprise, Trade & Employment, Forfás carried out a study on the issue of companies incorporating in Ireland that undertake little or no activity in this country. This was creating a negative perception of the financial services industry. As a result of this work, and that of the Departments of Finance and Enterprise, Trade & Employment provisions were included in the Finance Act 1999.

Finance

Public-Private-Partnerships (PPPs)

The provision of a high standard of infrastructure is crucial to the continued attraction of new investment and to the development of the existing base of Irish and foreign-owned companies.

Forfás undertook work on the scope of alternative sources of finance to fund infrastructural developments in the light of future curtailment of EU Structural Funds and the growing deficit in infrastructural investment.

During 1998, Forfás was appointed to an Advisory Group set up by the Minister for Finance alongside an Inter-departmental Group, to consider the potential contribution of PPPs to meet infrastructural needs.

Such contribution can lead to speedier project delivery, improved value for money, access to alternative sources of finance and risk transfer from the public to the private sector. PPPs can cover a range of possibilities, from having the private sector design and build a project to having it design, build, finance and operate it. In deciding on a PPP project it is important that measurable output and operational criteria should be laid down for each project and output and operations assessed against these. A number of pilot projects should be developed.

In his Financial Statement delivered to the Dail on 2 December 1998, the Minister for Finance announced the provision of IR£12 (€15.23) million in 1999 to support the establishment of a public-private-partnership to build a new high capacity Internet link into Ireland. A number of other projects are also being considered.

Forfás' role on the Advisory Group will continue in 1999. In addition, a number of sub-groups to the Informal Advisory Group have been formed to consider legal and tax/finance issues relevant to the PPP process. To give impetus to the PPP process a special centralised unit has been established in the Department of Finance to which projects will be recommended for rigorous analysis prior to being put out to tender. A number of specific pilot projects involving estimated capital expenditure of IR£600 (€760) million were announced by Government for the PPP initiative in June 1999.

Provision of Risk Capital

Measures to increase the provision of long-term finance and venture capital to support the activities of early stage and developing firms in Ireland have been successful and have included the following:

- As a result of work undertaken by Forfás in conjunction with Enterprise Ireland and the Department of Enterprise, Trade & Employment, an Enterprise 2000 Seed Capital Fund was launched in 1998 as a joint public/private sector initiative to support start-up and early stage enterprises. The fund has had a very positive response from project promoters and some 20 investments totalling IR£1.7 (€2.15) million have so far been approved in IT, biotechnology, electronics, food processing and a number of other sectors;

FORFÁS ANNUAL REPORT 1998

- Two subsidised long-term loan schemes, a IR£100 (€126.97) Million Small Business Expansion Loan Scheme (ICC Bank) and a IR£200 (€253.94) Million Access to Finance Scheme (major banks), were fully utilised;
- Increased loans to SMEs were made available from the enterprise support programmes of the major banks;
- Seed and venture capital measures were contained in the EU Operational Programme (1994 to 1999) under which some IR£66 (€83.80) million has been provided on a shared basis by the EU and the private sector for investment by venture capital intermediaries in smaller firms with good growth potential. Some 16 venture capital funds have been established under this measure.
- Start-up and early stage projects received some 40 per cent of the initial funds. Investments in software, telecommunications, food processing and biotechnology were predominant.

Although much progress has been made in improving the flow of finance to smaller firms, it is important to continue to support measures to improve the financing of innovation and to increase the access of emerging enterprises in high tech and growth orientated sectors to finance for development. This should be the focus of policy over the next three years.

Strategic Development Zones

While Ireland has demonstrated its ability to secure planning permission for investors within the timeframes set out in existing legislation, investors still face considerable uncertainty in the Irish planning process, relative to competitor countries. Forfás, in consultation with the development agencies and the Department of the Environment & Local Government, has developed specific proposals for a revised planning process for strategic industrial sites in line with the earlier recommendations of the Culliton report on industrial policy (1992). The objective is to create a planning system for strategic industrial sites that proactively plans for industrial development on suitable sites in advance of specific projects being identified, thereby streamlining the planning process when suitable projects are identified, while protecting the environment and the rights of individuals. The approach developed by Forfás was endorsed in the Partnership 2000 agreement and the proposals have been incorporated by the Department of the Environment & Local Government in its review of the planning process underway during 1998. The implementation of these proposals, as part of the proposed Planning and Development Act scheduled for late 1999, should be of significant benefit to the development agencies in their targeting of areas across the country for specific types of industrial development.

Electricity

Ireland is obliged to comply with the EU Directive on Electricity Liberalisation and Forfás, with the assistance of an advisory group representative of the enterprise sector, the relevant trade unions and energy specialists, developed recommendations in regard to electricity policy.

The overriding recommendation is that the objective of electricity market regulation should be to promote a competitive market. A policy of achieving a competitive market should not be constrained by the minimum targets for market opening (28 per cent) given in the EU Directive. All enterprises should be eligible to negotiate their electricity supply from the lowest cost source.

The role and powers of the electricity regulator are fundamental and it is essential that the regulator is independent of the sector and Government. The overall goal has to be firmly focused on the promotion of a competitive market and the regulator's remit should extend to all monopoly elements in the sector. The office should be resourced sufficiently to ensure a level playing field for all participants in the market.

Electricity tariffs should reflect the economic cost of providing supply to different categories of user. Currently the tariff structure militates against industrial users, including small firms in particular.

2. Co-ordination

Introduction

Co-ordination of the industrial development agencies is a core function of Forfás. Co-ordination is achieved in a number of ways. These include 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, and an Inter-Agency Planning Managers' Group, chaired by Forfás, to facilitate an integrated approach to the development needs of the enterprise sector. Forfás also operates a number of cross-agency working groups on specific areas and works closely with individual agencies to help achieve operational consistency.

This section of the report gives an overview of some of the areas of co-ordination in which Forfás is involved.

Linkages

The generation of increased value added in Ireland by way of encouraging linkages between multinationals and Irish-based suppliers of goods and services is a major priority of Government enterprise policy. Its achievement requires close co-operation between the development agencies. Forfás plays a key role in ensuring the required level of co-operation and co-ordination.

During 1998 the Linkage Programme developed further linkages between foreign-owned and Irish companies, helping to maximise benefits to Ireland. Increases in additional business linkages have been significant and the number of companies involved has increased for each year of the programme. Initiatives for 1998 include the following:

- A Healthcare Directory was launched jointly by Enterprise Ireland and IDA Ireland, giving a listing of major purchasers and healthcare manufacturing companies. The directory also profiles the key supply companies to the healthcare industry;
- The Enterprise Ireland Trade and Technology Centre (EITTC) was established to provide Irish technology firms with the support services and networks necessary for a fast, effective start-up in the USA. It provides Irish companies with affordable accommodation and back-up services in Silicon Valley to make it easier to connect to the business networks of the West Coast of the United States. It also provides a panel of technology industry professionals who are experienced across the business functions and who can help companies to access the human and financial capital necessary to get to the technology markets in the USA.
- The concept of fostering links between suppliers and OEMs, and updating suppliers on OEM sourcing strategies in Ireland and world-wide, continued with a number of supplier days for multinationals across a range of sectors;
- Enterprise Ireland led a delegation of European toolmakers to Japan and Taiwan to visit some of the top toolmaking and design companies in the world, as part of a European initiative looking at toolmaking in Europe and the Far East;
- A number of presentations on linkages were made to industry representative bodies throughout Ireland in 1998.

The Linkage Programme commenced operation in 1985. The trends in raw material linkages over the period 1987 to 1997 are set out in Figure 14 from which it can be seen that Irish raw materials as a percentage of total raw material purchases by foreign (non-food) manufacturing firms increased from 15.7 per cent to 20.5 per cent. Irish raw materials as a

FORFÁS ANNUAL REPORT 1998

percentage of total purchases by foreign-owned electronic firms increased from 11.8 per cent to 20.2 per cent.

Figure 14 Foreign Manufacturing Companies - Irish Raw Material Purchases Relative to Total Raw Material Purchases 1987-1997						
Constant 1997 Prices	1987		1992		1997*	
	IR£m	€m	IR£m	€m	IR£m	€m
Total Purchases	2,558	3,286.08	3,795	4,818.66	8,938	11,348.92
Irish Purchases	406	515.51	725	920.56	1,831	2,324.89
Irish % of total	15.7		19.1		20.5	

*Preliminary

Source: Forfás Annual Survey of Irish Economy Expenditures-Results for 1997.

Services

The services sector is the fastest growing sector of the global economy and is generating increasing numbers of jobs for the development agencies. It has the potential to be a significant driver of economic growth in Ireland into the future.

Forfás continued its monitoring and co-ordination role in respect of the implementation of the Government White Paper On Services published in 1997, *A Government Strategy for Services - Employment Initiatives through the Millennium*. Forfás' second implementation report, prepared during 1998, noted that significant progress was being made in the implementation of the key recommendations in the strategy by the development agencies and relevant Government Departments and that employment targets were being met.

The agreement on a future corporate taxation regime of 12.5 per cent for all trading activities from 2003 will be of particular benefit to the services sector and should spur further growth and enterprise in the sector.

Business Information System

The Business Information System (BIS) involves the collection of company data from the development agencies for use in policy development by the Department of Enterprise, Trade & Employment, the development agencies and Forfás itself. The BIS facilitates policy analysis across a range of key performance indicators including, for example, employment incentives, value for money, and trade by allowing access to a common, comprehensive industrial database of State-supported enterprise.

Forfás continued its development and deployment of the BIS in 1998 to participants, particularly planning personnel in Forfás, IDA Ireland, Enterprise Ireland, Shannon Development, Údarás na Gaeltachta, Bord Bia, FÁS and key staff in the Department of Enterprise, Trade & Employment.

Comprehensive training courses for staff in the Department of Enterprise, Trade & Employment and the development agencies were initiated and will be completed during 1999.

An objective of the BIS is to rationalise the administrative and compliance burden on agency clients imposed by data collection requirements.

Awareness Campaigns

Forfás co-ordinates awareness campaigns on EMU, Science, Technology and Innovation and Skills.

EMU Business Awareness



During 1998, the work of the EMU Business Awareness Campaign, which Forfás manages on behalf of the Government, intensified as business preparations accelerated in the lead-up to the start date for EMU on 1 January 1999.

The Campaign's primary role is the dissemination of information to business to assist with preparations for EMU and the changeover to the euro. The changeover itself presents a number of functional issues for enterprises, and detailed changes are required in their internal systems. Even more important, however, is the strategic response required from enterprises to meet the new competition and new opportunities that EMU brings.

In line with this, distribution continued of the Campaign's publications including the Information Pack, the summary brochure for companies in the SME sector and EuroChange newsletter.

In addition, the Campaign expanded its range of information material with the introduction of a number of new publications. These included a comprehensive new guide on the IT issues for business, viz., EMU: *The Issues for IT* which was produced in collaboration with the members of the IT Working Group.

A summary version of the guide was also prepared for inclusion as a new document within the Campaign's Information Pack.

A guideline publication aimed at assisting the retail sector, particularly smaller retailers, with preparations for the changeover were also completed. This publication was prepared after extensive consultation with the many retail organisations represented on the Campaign's Retail Working Group and highlights the specific issues that need to be addressed by retailers at various stages in the changeover period.

In association with the Irish Congress of Trade Unions (ICTU), the Campaign prepared a detailed guide on EMU issues for trade union representatives that was distributed directly by ICTU to trade union members in workplaces throughout the country. A number of new documents were also added to the Information Pack including a guide on conversion and rounding, as well as information on the support available to businesses from the State development agencies.

In total, the Campaign distributed almost 450,000 publications in 1998.

All of the published information can also be accessed on the Campaign's web site (www.emuaware.ie). A considerable amount of work was undertaken in 1998 to re-develop the site in order to accommodate the expanding range of information material in a more user-friendly manner and so make it more accessible for businesses.

The Campaign continued to utilise the medium of advertising to communicate its key messages to the business sector. A national radio advertising campaign, using national and local radio stations, was conducted in early 1998 with follow-up distribution of information material to respondents.

A targeted print advertising campaign to promote the Campaign's range of information material was developed and executed in the latter part of the year, using national, provincial and specialist press.

Other information initiatives undertaken in 1998 included the production of a number of supplements on EMU with the national media and specialist publications, as well as articles by the Campaign or information supplied for features in a wide range of publications including national papers, provincial press, specialist and trade publications, and a number of in-company newsletters. In addition, the Campaign continued to make presentations to interested groups and provided speakers for meetings/conferences organised by Chambers of Commerce, professional bodies and various industry groups. Two further surveys were undertaken by the Campaign in 1998 to assess on an on-going basis the degree of awareness and preparedness for EMU among the enterprise sector in Ireland. The first of these surveys was conducted in March and showed firms making considerable progress in their preparations for the changeover in comparison with the findings of the benchmark survey completed in July 1997. This was further evidenced in the findings of the survey conducted in December 1998 on the eve of EMU commencement. In particular the results from the December survey showed that a significant number of firms were progressing to the implementation stage of their euro preparations, with a relatively high number of firms indicating that they were planning to invoice and price in euros during 1999, early in the three-year transitional period.

STI Awareness Programme



The Science, Technology and Innovation Awareness Programme is managed by Forfás on behalf of the Office of Science and Technology. The Programme, in its third year, aims to demonstrate that Science, Technology and Innovation develop:

- Leading edge industry and skilled jobs;
- Exciting career options;
- Creativity in our children.

Highlights of the 1998 Programme included the following:

- The National Innovation Awards are an integral part of the Programme and are made possible by the generous co-sponsorship of The Irish Times and PricewaterhouseCoopers. The awards were introduced in the interest of developing a culture of innovation in Irish business. Enfer Scientific, who developed a diagnostic

method for testing for BSE in beef carcasses, won the Small Business and Overall Award. The Large Business Award was jointly awarded to Baltimore Technologies and Raidtec Corporation. BioResearch Ireland won the Scientific/Technological Innovation Award.

- Over 25,000 people visited the Science & Technology Pavilion at the Ideal Homes Exhibition in the RDS.
- A number of Awareness Fora and seminars were held for the business sector.
- The Irish Scientist Yearbook 1998, which contains the best of scientific research and other Irish STI issues, was funded and distributed at home and abroad.
- To mark the 40th anniversary of the founding of TCD's Genetics Department, a Public Symposium on Genetics was held in the Point Depot. Peak attendance was 2,000.
- STI News was published three times in the course of the year. Covering details of the programme, Irish success stories in the STI field and other issues of interest, the newsletter has a circulation of over 3,000 per issue.
- The fifth Irish Innovation Lecture took place in November 1998. The guest lecturer was Professor Yrjo Nuevo, Senior Vice President of Product Creation at Nokia Mobile Phones. He outlined to the audience of 200 industrialists and academics from North and South how Finland had consciously decided to shift from being a natural resources economy to an exporter of advanced technology products by investing in Research and Development.
- Science Week Ireland took place from 1-8 November 1998. Regional launches took place around the country in May, June and July hosted by Minister for Science, Technology & Commerce, Mr Noel Treacy TD. These were well attended and helped to provide a national focus for the week. STI related and community bodies, including schools, colleges and universities, ITs, business organisations and state agencies, acted on the call for events and took the opportunity to promote themselves by organising activities during the week. Over 150 events took place and were publicised by the Programme and promoted in the special Science Week Ireland Events Calendar, which was circulated to over 100,000 people.

The Programme has given rise to greater media interest in STI matters and there is now an element of demand and competition for material in this area. The Irish Times runs Science Today each Monday, The Sunday Tribune began the weekly page Technology @ Work. RTE Radio One airs 'Future Tense' every Wednesday at 3.30pm. RTE Television ran 'Tech TV' on Network 2 and aired the STI Awareness Programme supported documentary 'Big Science' in November to coincide with Science Week Ireland.

Skills Awareness



A Skills Awareness Campaign, managed by Forfás on behalf of the Expert Group on Future Skills Needs, aims to increase awareness of the career options that technology can offer, especially in the areas of electronic technicians, software engineers and teleservices. The campaign is co-ordinated by a working group composed of Forfás, IDA Ireland, Enterprise Ireland, FÁS and the private sector.

During 1998, a Skills brochure was issued to all second level schools, a series of videos was circulated to schools, and information stands were provided at conferences and exhibitions.

Media briefings were organised, articles were placed in newspapers and meetings were organised with Career Guidance Teachers and Parents' Associations.

FORFÁS ANNUAL REPORT 1998

EU Framework Programme for Research and Technology Development

Funding opportunities for Irish researchers in industry, the third level and state sectors are now available in the context of the EU's Fifth Framework Programme (1998 to 2002). An overall budget of €14.96 (IR£11.786) billion has been allocated over a number of areas from health, environment, agriculture, marine, electronic commerce, multi-media to manufacturing processes, materials, transport and mobility.

The Framework Programme enables organisations in Ireland, in partnership with organisations in Europe and beyond, to compete for funding for specific research which the European Community considers important for its industrial competitiveness and quality of life.

Forfás provided policy advice and technical support to the Minister and Office of Science and Technology throughout 1998 in the negotiations between Member States and the EU Commission prior to final agreement, at the Research Council on 22 December 1998, on the content, structure and budget of the Fifth Framework Programme.

Forfás, at the request of the Office of Science & Technology, is the national co-ordinator for 30 National Delegates to the EU. The National Delegates, who come from 13 organisations and Government Departments, are charged with representing Irish interests on the EU Programme Management Committees.

Forfás, in association with the Office of Science and Technology and the EU's Innovation Relay Centre, organised a successful national launch of the Fifth Framework Programme in Clontarf Castle on 26 January 1999.

As can be seen from the Table below, Framework Programmes have historically represented an important source of funds for Irish researchers and provide a valuable opportunity to develop international linkages through collaborative R&D projects.

Participation of Irish Organisations in EU framework Programmes (fp) +Current Prices					
	Research Budget (IR£ million)	Estimated Funds Recieved By Irish Organisations (IR£ million)	Estimated Funds Recieved By Irish Industries (IR£ million)	No.of Irish Organisations Involved	Overseas Linkages
FP2(1987 to 1991)	3,576	60.8	18.24	84	2,193
FP3(1990 to 1994)	4,276	78.4	25	131	4,027
FP4(1994 to 1998)	8,880	153.1	50.3	387	6,895
	Research Budget (€ million)	Estimated Funds Recieved By Irish Organisations (€ million)	Estimated Funds Recieved By Irish Industries (€ million)	No.of Irish Organisations Involved	Overseas Linkages
FP2(1987 to 1991)	4,541	77.2	23.2	84	2,193
FP3(1990 to 1994)	5,429.4	99.6	31.7	131	4,027
FP4(1994 to 1998)	11,275.3	194.4	63.9	387	6,895

Negotiating Guidelines

Forfás advises the Minister for Enterprise, Trade & Employment on negotiating guidelines and financial assistance for industrial and international service projects for IDA Ireland and Enterprise Ireland. In order to take account of the different development needs of clients, consultations are held with the agencies. The aim is to achieve a balance between the need for flexibility and the responsibility of Forfás to ensure consistency and achievement of best value for money. Forfás reviewed the 1998 negotiating guidelines and recommendations were made to the Minister for Enterprise, Trade & Employment.

3. Monitoring and Review

Introduction

Forfás carries out a series of reviews, including evaluations of publicly-funded development agency activities and technology programmes, on its own behalf and on behalf of the Department of Enterprise, Trade & Employment and of the Industry Evaluation Unit, which is part of the EU Structural Funds monitoring process.

Forfás is the premier organisation for the supply of information on the performance of the enterprise sector. It co-ordinates and undertakes an extensive programme of regular performance and competitiveness surveys. These include surveys of employment trends, corporation tax payments and spending by manufacturing and internationally traded services companies in the Irish economy. Surveys are also carried out into trends in research, development and innovation. The key results from the surveys are summarised in the section 'An Overview of 1998' on pages 15-23.

The following programmes were reviewed in 1998:

- Strategic Research Grants Scheme;
- Enterprise Areas Scheme;
- Section 84 Loans;
- Performance of IDA Ireland and Forbairt in 1997;
- Irish International Services Programme
- Implementation of Strategy for Services;
- Shaping Our Future: A Strategy for Enterprise in Ireland in the 21st Century - follow-up review of recommendations;
- Agency Linkages activities;
- Trends in Closures and Job Losses in 1997;
- Financial Support by Government for the Development of Enterprise.

Details on some of these are outlined below.

Evaluation of the Strategic Research Grants Scheme

At the request of The Office of Science & Technology, Forfás' S&T Evaluation Unit carried out a comprehensive evaluation of this scheme, which funds pre-competitive research projects in third-level colleges. The evaluation found that the scheme fulfils a unique and important function by providing the means for developing ideas to emerge from basic research to the stage where their commercial potential is demonstrated. This makes it possible to attract industrial funding for further development, leading to the introduction of innovative products or processes by Irish companies.

Two other significant benefits arising from the scheme were also identified. Firstly, it is providing the springboard for participating in international research collaborations by giving colleges the opportunity to demonstrate their capability for undertaking effective industry-oriented research. Secondly, it has important educational roles, producing skilled researchers

for industry and enhancing the research expertise of college staff and the currency of their knowledge.

The report concluded that the scheme should be continued, with a moderate increase in funding. Some minor adjustments to its operational procedures were recommended, aimed at further enhancing its efficiency and effectiveness. Most of these recommendations have now been implemented.

Enterprise Areas Scheme

A number of changes were made in 1998 to the Enterprise Area scheme which Forfás administers on behalf of the Minister for Enterprise, Trade & Employment who issues certificates to eligible companies. The scheme provides tax incentives in the form of capital allowances, double rent allowances and rates relief to eligible companies locating in new or refurbished property in designated 'Enterprise Areas'.

In February 1998, following an investigation of the scheme under state aid rules, the EU approved the scheme which is to expire on 31 December 1999 for all enterprise areas. The rent and rates relief will not apply to the airport Enterprise Areas, which require EU approval for designation and rates relief will not apply to the areas designated in the 1997 Finance Act. Apart from manufacturing and computer service businesses which have been approved for financial assistance by IDA Ireland/Enterprise Ireland/Udárás na Gaeltachta, the 1998 Finance Act extended the incentives to those businesses involved in freight forwarding in the airport areas.

Thirty-one companies have been certified for the incentives to date. These companies employ in excess of 3,100 people in the Enterprise Areas and project further increases in employment over the next two to three years. Forfás monitors the reliefs and allowances claimed under this scheme and submits an annual report to the Departments of Enterprise, Trade & Employment and Finance for approval and onwards transmission to the European Commission.

Section 84 Loans Monitoring

Forfás is responsible for monitoring the draw-down of Section 84 loans from the two lists contained in the 1990 and 1991 Finance Acts. These tax-based loans were used to finance major projects and were used as a marketing tool by the development agencies in the past. However, cheaper sources of finance are now available to large corporate borrowers from conventional sources or from retained earnings.

As a result, the use of Section 84 loans has declined. Some IR£420 (€533.28) million Section 84 loans were approved in the 1990/1991 Finance Acts, but only IR£76 (€96.50) million was still in use at the end of September 1998.

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 are 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.

FORFÁS ANNUAL REPORT 1998

NAB is also the national statutory monitoring authority for the OECD Good Laboratory Practice (GLP) Scheme under S.I. No. 4 of 1991.

The following six distinct functions of NAB each operate 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 1998 NAB accredited 13 laboratories bringing the total to 101. There were 92 enquiries and 15 applications in hand at year-end.

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 the EN ISO 14000 series of standards.

At the end of 1998 there was a total of two certification bodies accredited in Quality System Certification and one in Environmental Management Systems.

Eco-Management and Audit Scheme (EMAS)

1. Accreditation of Environmental Verifiers

NAB accredits environmental verifiers who meet the requirements of EMAS, Council Regulation (EEC) No. 1836/93 of 23 June 1993. At the end of 1998 one environmental verifier was accredited.

2. 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 1998 two sites were registered, bringing the total to six.

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. During 1998 one attestation body was awarded accreditation.

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.

FORFÁS ANNUAL REPORT 1998

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. GLP Compliance Statements for six facilities were re-confirmed in 1998.

Advisory Groups

Forfás worked with a number of advisory councils and groups, representing the public and private sectors, to help identify and assess issues which are critical to developing and sustaining Irish Industry's competitive advantages.

Membership of these groups is listed.

The Members of the National Accreditation Board

Dr Marie C. Walsh (Chairperson)	State Laboratory
Mr Joe Rowley (Deputy Chairperson)	AGB Scientific Ltd
Mr Ian McClean	Environmental Protection Agency
Mr Sean Conlon	Excellence Ireland
Dr William Crowe	Irish Agrément Board
Dr Rosemary Boothman	Department of Health
Mr Martin Heraghty	Department of Agriculture And Food
Dr Michael O'Keefe	Teagasc The National Food Centre
Mr William Noon	Department of Finance
Mr Eamonn Mullins	rinity College Dublin
Dr Frank Smyth	National Accreditation Board*

*Dr Smyth retired as manager of NAB during 1998
and was replaced by Mr Tom Dempsey

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 Offices Commission.

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

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, education programmes and career breaks.

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

Worker Participation (State Enterprise) Act 1988

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

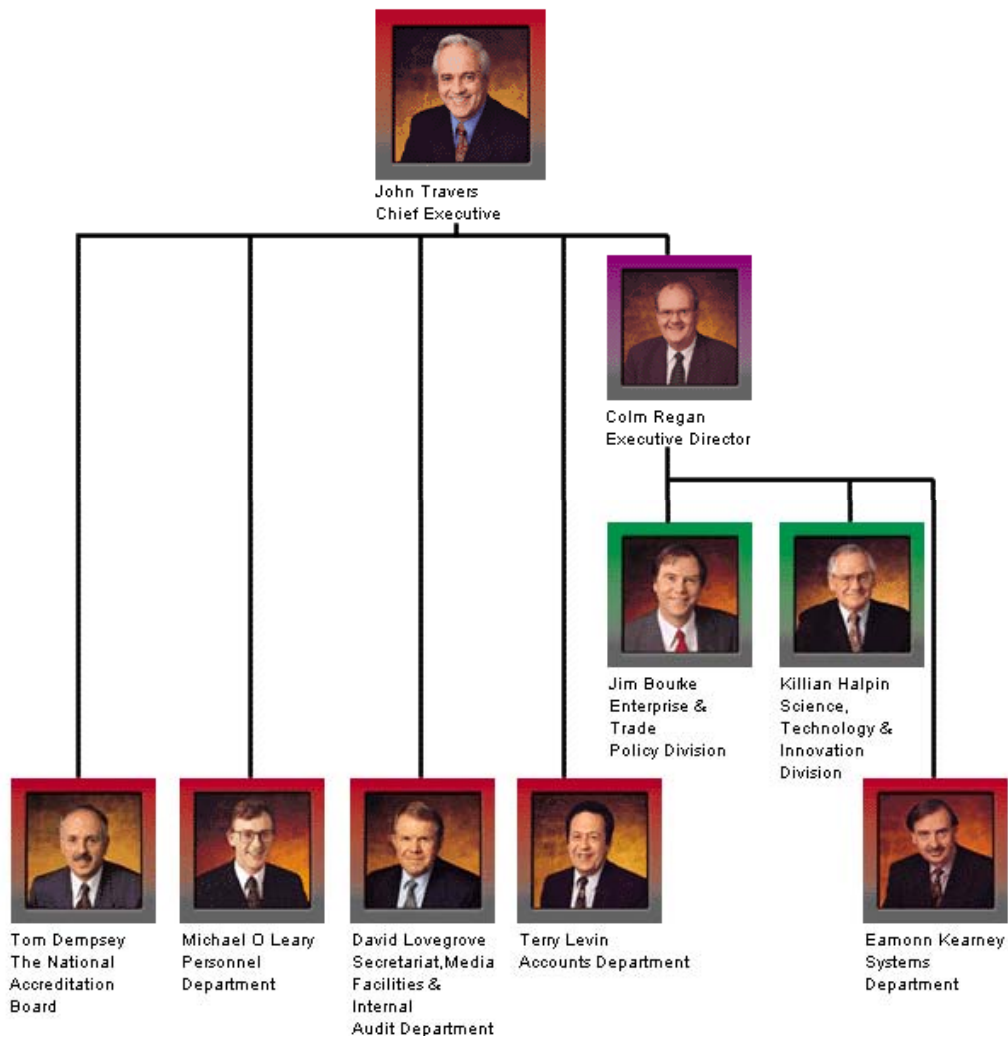
Safety, Health and Welfare Act (1989)

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

Users Charter

Forfás published a User's Charter in 1996 setting out its commitment to a high quality of service to clients and to the general public.

MANAGEMENT STRUCTURE



FINANCIAL STATEMENTS

THE 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 1998 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 no late payments during 1998 and accordingly no interest was paid in the year.

There were no late payments during 1998 and accordingly no interest was paid in the year.

John Travers
Chief Executive Officer
June 1999

REPORT OF THE COMPTROLLER AND AUDITOR GENERAL **pursuant to section 13 of the Prompt Payment of Accounts Act, 1997** **Responsibilities of the Board and of the Comptroller and Auditor General**

The Board is obliged to comply with the Act and, in particular, is required to ensure that it

- pays its suppliers within the payment periods specified in the Act
- pays penalty interest on late payments and furnishes information on such interest to suppliers as laid down in the Act
- submits a report on its payment practice as set out in Section 12 of the Act.

Under Section 13 of the Act, it is my responsibility, as auditor of Forfás, to report on whether, in all material respects, the organisation 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 organisation 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

Nothing came to my attention which in my opinion indicated that the organisation had not complied in all material respects with the provisions of the Act during the year ended 31 December 1998.

John Purcell
Comptroller and Auditor General
15 June 1999

REPORT OF THE COMPTROLLER AND AUDITOR GENERAL

I have audited the financial statements

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 1998 and of its income and expenditure and cash flow for the year then ended.

John Purcell
Comptroller and Auditor General
15 June 1999

STATEMENT OF THE BOARD MEMBERS' RESPONSIBILITIES For 1998 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 accounts, Forfás is required to:

- select suitable accounting policies and apply them consistently;
- make judgements and estimates that are reasonable and prudent;
- prepare the financial statements on the going concern basis unless it is inappropriate to presume that Forfás will continue in operation.

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:

Tom Toner
Chairman

John Travers
Chief Executive Officer

ACCOUNTING POLICIES

Industrial Development Acts 1993, 1995 and 1998

Forfás, the policy advisory and coordinating 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.

The significant accounting policies adopted are as follows:

- a. **Basis of Accounting**
The financial statements are prepared under the historical cost convention.
- b. **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.
- c. **Operating Leases**
The rentals under operating leases are dealt with in the Financial Statements as they fall due.
- d. **Oireachtas Grant**
These are accounted for on a cash receipts basis.
- e. **Science & Technology Programmes**
These are dealt with in the Financial Statements on an accruals basis.
- f. **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.
- g. **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.
- h. **Superannuation**

Paragraph 3 of the Second Schedule of the Industrial Development Act, 1993, requires Forfás to prepare a Scheme for the granting of pension entitlements to its staff and confirms that the Schemes carried out by the former Industrial Development Authority (IDA) and Eolas continue in force as if made by Forfás. A new defined benefit contributory Scheme was established by Forfás with effect from 6 April, 1995, under the Act.

Paragraph 39(3) of Part VI of the Industrial Development (Enterprise Ireland) Act, 1998, confirms that the Schemes carried out by the former An Bord Tráchtála (ABT) continue in force as if made by Forfás.

The basic pension entitlements of former IDA and former Irish Goods Council (part of ABT since 1991) staff are provided through pension funds. Employer and employee contributions are paid into the appropriate fund.

All other entitlements are met from current revenue as they arise. Employee contributions from Forfás staff, including those received where arrangements are in place for seconded staff, are netted against pension costs in the year to which they relate.

FORFÁS ANNUAL REPORT 1998

INCOME AND EXPENDITURE ACCOUNT For Year Ended 31 December 1998

	Notes	1998 IR£	1997 IR£
Income			
Oireachtas Grant	1	10,620,000	9,413,000
Professional Services		240,794	232,923
Other	2	1,142,779	586,615
Profit on Disposal of Investment		-	89,920
Science & Technology Programmes	3	516,721	356,336
		12,520,474	10,678,794
Expenditure			
Administration and General Expenses	4	7,085,859	6,899,749
Pension costs	12	4,431,747	2,903,849
Depreciation	7	369,173	432,845
Science & Technology Programmes	3	524,323	382,555
		12,411,102	10,618,998
Net Movement for Year		109,372	59,796
Contribution to Exchequer		-	(302,000)
Contribution to Other Organisations	5	(57,000)	(260,313)
Balance at beginning of Year		964,104	1,261,403
Transfer from Capital Account	6	142,480	205,218
Balance at end of Year		1,158,956	964,104

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

The Accounting Policies and notes 1 to 14 form part of these Financial Statements.

On behalf of the Board:

Tom Toner
Chairman

John Travers
Chief Executive Officer

FORFÁS ANNUAL REPORT 1998

BALANCE SHEET As at 31 December 1998

	Notes	1998 IR£	1997 IR£
Fixed Assets			
Tangible Fixed Assets	7	626,881	769,361
<hr/>			
Total Fixed Assets		626,881	769,361
<hr/>			
Current Assets			
Accounts Receivable	8	1,348,941	2,289,425
Bank		33,453	127,548
<hr/>			
		1,382,394	2,416,973
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Accounts Payable	9	223,438	1,452,869
<hr/>			
Net Current Assets		1,158,956	964,104
<hr/>			
Net Assets		1,785,837	1,733,465
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Representing:			
Capital Account	6	626,881	769,361
Income and Expenditure Account		1,158,956	964,104
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		1,785,837	1,733,465
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The Accounting Policies and notes 1 to 14 form part of these Financial Statements.

On behalf of the Board:

Tom Toner
Chairman

John Travers
Chief Executive Officer

FORFÁS ANNUAL REPORT 1998

CASH FLOW STATEMENT For year ended 31 December 1998

	Notes	1998 IR£	1997 IR£
Reconciliation of Net Movement for Year to Net Cash Inflow from Operations			
Net Movement for Year		109,372	59,796
Bank Interest		(11,337)	(26,537)
Depreciation Charge: - Tangible Fixed Assets	7	369,173	432,845
Decrease/(Increase) in Accounts Receivable		940,484	(126,056)
Decrease/(Increase) in Accounts Payable		1,229,431	502,792
Profit on Sale of Investment		-	(89,920)
Net Cash flow from Operations		178,261	752,920
CASH FLOW STATEMENT			
Net Cash Inflow from Operations		178,261	752,920
Returns on Investment and Servicing of Finance			
Bank Interest		11,337	26,537
Cash flow before Capital Expenditure and Financial Investment		189,598	779,457
Capital Expenditure and Financial Investment			
Sale of Investment		-	389,920
Sale of Tangible Fixed Assets		-	6,703
Purchase of Tangible Fixed Assets	7	(226,693)	(534,330)
Cash flow after Capital Expenditure and Financial Investment		(37,095)	641,750
Contribution to Exchequer		-	(302,000)
Contribution to Other Organisations	5	(57,000)	(260,313)
(Decrease)/Increase in Cash		(94,095)	79,437
Reconciliation of (Decrease)/Increase in Cash to cash at Bank			
Movement in Cash at Bank in the year		(94,095)	79,437
Cash at Bank at 1 January		127,548	48,111
Cash at Bank at 31 December		33,453	127,548

FINANCIAL STATEMENTS (EURO)

THE 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 1998 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 no late payments during 1998 and accordingly no interest was paid in the year.

There were no late payments during 1998 and accordingly no interest was paid in the year.

John Travers
Chief Executive Officer
June 1999

REPORT OF THE COMPTROLLER AND AUDITOR GENERAL **pursuant to section 13 of the Prompt Payment of Accounts Act, 1997** **Responsibilities of the Board and of the Comptroller and Auditor General**

The Board is obliged to comply with the Act and, in particular, is required to ensure that it

- pays its suppliers within the payment periods specified in the Act
- pays penalty interest on late payments and furnishes information on such interest to suppliers as laid down in the Act
- submits a report on its payment practice as set out in Section 12 of the Act.

Under Section 13 of the Act, it is my responsibility, as auditor of Forfás, to report on whether, in all material respects, the organisation 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 organisation 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

Nothing came to my attention which in my opinion indicated that the organisation had not complied in all material respects with the provisions of the Act during the year ended 31 December 1998.

John Purcell
Comptroller and Auditor General
15 June 1999

REPORT OF THE COMPTROLLER AND AUDITOR GENERAL

I have audited the financial statements

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 1998 and of its income and expenditure and cash flow for the year then ended.

John Purcell
Comptroller and Auditor General
15 June 1999

STATEMENT OF THE BOARD MEMBERS' RESPONSIBILITIES For 1998 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 accounts, Forfás is required to:

- select suitable accounting policies and apply them consistently;
- make judgements and estimates that are reasonable and prudent;
- prepare the financial statements on the going concern basis unless it is inappropriate to presume that Forfás will continue in operation.

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:

Tom Toner
Chairman

John Travers
Chief Executive Officer

ACCOUNTING POLICIES

Industrial Development Acts 1993, 1995 and 1998

Forfás, the policy advisory and coordinating 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.

The significant accounting policies adopted are as follows:

- a. **Basis of Accounting**
The financial statements are prepared under the historical cost convention.
- b. **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.
- c. **Operating Leases**
The rentals under operating leases are dealt with in the Financial Statements as they fall due.
- d. **Oireachtas Grant**
These are accounted for on a cash receipts basis.
- e. **Science & Technology Programmes**
These are dealt with in the Financial Statements on an accruals basis.
- f. **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.
- g. **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.
- h. **Superannuation**

Paragraph 3 of the Second Schedule of the Industrial Development Act, 1993, requires Forfás to prepare a Scheme for the granting of pension entitlements to its staff and confirms that the Schemes carried out by the former Industrial Development Authority (IDA) and Eolas continue in force as if made by Forfás. A new defined benefit contributory Scheme was established by Forfás with effect from 6 April, 1995, under the Act.

Paragraph 39(3) of Part VI of the Industrial Development (Enterprise Ireland) Act, 1998, confirms that the Schemes carried out by the former An Bord Tráchtála (ABT) continue in force as if made by Forfás.

The basic pension entitlements of former IDA and former Irish Goods Council (part of ABT since 1991) staff are provided through pension funds. Employer and employee contributions are paid into the appropriate fund.

All other entitlements are met from current revenue as they arise. Employee contributions from Forfás staff, including those received where arrangements are in place for seconded staff, are netted against pension costs in the year to which they relate.

FORFÁS ANNUAL REPORT 1998

INCOME AND EXPENDITURE ACCOUNT For Year Ended 31 December 1998

	Notes	1998 €	1997 €
Income			
Oireachtas Grant	1	13,484,618	11,952,044
Professional Services		305,974	295,751
Other	2	1,451,030	744,847
Profit on Disposal of Investment		-	114,175
Science & Technology Programmes	3	656,100	452,453
		15,897,722	13,559,270
Expenditure			
Administration and General Expenses	4	8,997,185	8,760,874
Pension costs	12	5,627,158	3,687,128
Depreciation	7	468,753	549,599
Science & Technology Programmes	3	665,752	485,745
		15,758,848	13,483,346
Net Movement for Year		138,874	75,924
Contribution to Exchequer		-	(383,461)
Contribution to Other Organisations	5	(72,375)	(330,529)
Balance at beginning of Year		1,124,159	1,601,652
Transfer from Capital Account	6	180,913	260,573
Balance at end of Year		1,471,571	1,224,159

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

The Accounting Policies and notes 1 to 14 form part of these Financial Statements.

On behalf of the Board:

Tom Toner
Chairman

John Travers
Chief Executive Officer

FORFÁS ANNUAL REPORT 1998

BALANCE SHEET As at 31 December 1998

	Notes	1998 €	1997 €
Fixed Assets			
Tangible Fixed Assets	7	795,974	976,887
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Total Fixed Assets		795,974	976,887
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Current Assets			
Accounts Receivable	8	1,712,802	2,906,970
Bank		42,477	161,952
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		1,755,279	3,068,922
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Accounts Payable	9	283,708	1,844,763
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Net Current Assets		1,471,571	1,224,159
<hr/>			
Net Assets		2,267,545	2,201,046
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Representing:			
Capital Account	6	795,974	976,887
Income and Expenditure Account		1,471,571	1,224,159
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		2,267,545	2,201,046
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The Accounting Policies and notes 1 to 14 form part of these Financial Statements.

On behalf of the Board:

Tom Toner
Chairman

John Travers
Chief Executive Officer

FORFÁS ANNUAL REPORT 1998

CASH FLOW STATEMENT For year ended 31 December 1998

	Notes	1998 €	1997 €
Reconciliation of Net Movement for Year to Net Cash Inflow from Operations			
Net Movement for Year		138,874	75,924
Bank Interest		(14,395)	(33,695)
Depreciation Charge: - Tangible Fixed Assets	7	468,753	549,599
Decrease/(Increase) in Accounts Receivable		1,194,168	(160,058)
Decrease/(Increase) in Accounts Payable		1,561,055	638,415
Profit on Sale of Investment		-	(114,175)
Net Cash flow from Operations		226,345	956,010
CASH FLOW STATEMENT			
Net Cash Inflow from Operations		226,345	956,010
Returns on Investment and Servicing of Finance			
Bank Interest		14,395	33,695
Cash flow before Capital Expenditure and Financial Investment		240,740	989,705
Capital Expenditure and Financial Investment			
Sale of Investment		-	495,096
Sale of Tangible Fixed Assets		-	8,511
Purchase of Tangible Fixed Assets	7	(287,840)	(678,459)
Cash flow after Capital Expenditure and Financial Investment		(47,100)	814,853
Contribution to Exchequer		-	(383,460)
Contribution to Other Organisations	5	(72,375)	(330,529)
(Decrease)/Increase in Cash		(119,475)	100,864
Reconciliation of (Decrease)/Increase in Cash to cash at Bank			
Movement in Cash at Bank in the year		(119,475)	100,864
Cash at Bank at 1 January		161,952	61,088
Cash at Bank at 31 December		42,477	161,952

FORFÁS ADVISORY GROUPS

Irish Council for Science, Technology and Innovation (ICSTI)



Dr Ed Walsh
Chairman

The Irish Council for Science, Technology and Innovation advises Government on the strategic direction of science, technology and innovation (STI) policy. The role of the Council encompasses all aspects of STI policy, including primary, second and third level education, scientific research, technology and R&D in industry, prioritisation of State spending and public awareness of science, technology and innovation issues. The Council is chaired by Dr. Edward M. Walsh.

The Council published a number of statements in 1998 which are listed in the 'reports published' section. In April 1999 ICSTI published the Technology Foresight Report.

Dr Edward Walsh, Chairman	President Emeritus	University of Limerick
Mr Brian Sweeney Deputy Chairman	Chairman	Siemens Group Ireland
Prof. Jim Browne	Director, CIMRU	National University of Ireland Campus, Galway
Prof Emer Colleran	Department of Microbiology	National University of Ireland, Galway
Mr Owen Conway	Development Director	Waterford Stanley Ltd.
Dr Liam Downey	Director	Teagasc
Dr Brendan Goldsmith	President	Dublin Institute of Technology
Prof Jane Grimson	Computer Science Department	Trinity College
Mr Paul Holden	Managing Director	Rédacteurs Software Documentation Ltd.
Mr Gerry Jones	Chief Executive Officer	International Test Technologies Ltd.
Mr Colum MacDonnell	Former CEO	Irish Exporters Association
Prof David McConnell	Genetics Department	Trinity College
Prof. Susan McKenna Lawlor	Department of Experimental Physics	National University of Ireland Maynooth
Mr Seamus McManus	Chairman	Irish Science Teachers' Association

FORFÁS ANNUAL REPORT 1998

Mr David Melody	Vice President for Research and Development	Loctite (Ireland) Ltd.
Dr Pat Morgan	Dean, Faculty of Science	National University of Ireland, Galway
Prof. Máire Mulcahy	Department of Zoology and Animal Ecology	National University of Ireland, Cork.
Mr Ronan O’Caoimh	Chief Executive Officer	Trinity Biotech Manufacturing Ltd.
Ms Ann Riordan	Country Business Manager	Microsoft Ltd.
Prof. Michael Ryan	School of Computer Applications	Dublin City University
Dr Don Thornhill	Chairman	Higher Education Authority
Mr John Travers	Chief Executive	Forfás
Mr Brian Trench	School of Communications	Dublin City University
Mr Peter Walsh	Chief Executive Officer	Medtronic Inc.
Ms Josephine Lynch, Secretary	Senior Scientific Officer	Forfás

The following members of the Council retired in 1998.

Professor Donald Fitzmaurice, Department of Chemistry, National University of Ireland, Dublin

Ms Anne Francis, Director of Quality, Environmental and Safety, Quest International Irl. Ltd.

Professor Cecily Kelleher, Department of Health Promotion, National University of Ireland, Galway

Mr Joel McArdle, Sales Administrator, Unitherm Kestral Ltd.

Mr Sean McDonagh, Director, Dundalk Institute of Technology

Ms Alice Prendergast, Dublin Institute of Technology

National Competitiveness Council Members



Mr Brian Patterson
Chairman

The National Competitiveness Council was established by the Government in May 1997 as part of the Partnership 2000 Agreement. It is required to report to the Taoiseach on key competitiveness issues for the Irish economy together with recommendations on policy actions required to enhance Ireland's competitive position. Forfás, the policy and advisory board for industrial development and science technology and innovation in Ireland, provides the Council's secretariat.

The Council published its first Annual Competitiveness Report in March 1998, along with The Competitiveness Challenge. It also published statements on telecommunications and skills. It published its second Annual Competitiveness Report in May 1999, and a Report on costs in June 1999.

National Competitiveness Council Members

Mr Brian Patterson, Chairman of Council	Chief Executive	Waterford Wedgwood
Mr Kevin Bonner	Partner	Business Insight
Mr William Burgess	Chairman, Managing Director	IBM Ireland
Mr Donal Byrne	Chairman and Managing Director	Cadbury Ireland Ltd.
Mr Des Geraghty	Vice President	SIPTU
Mr Alan Gray	Managing Director	Indecon Economic Consultants
Ms Jackie Harrison	Director - Enterprise	IBEC
Ms Annette Hughes *	Economist	DKM Economic Consultants Ltd.
Mr Billy McCann	Chairman	ESB
Ms Patricia Donovan	Assistant General Secretary	ICTU
Mr John Travers	Chief Executive Officer	Forfás
Mr David Lovegrove	Secretary	Forfás

* Council Member from 22 April, 1999

Special Advisers to the National Competitiveness Council

Mr Phil Furlong	Assistant Secretary	Department of Finance
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FORFÁS ANNUAL REPORT 1998

Mr Dermot McCarthy	Assistant Secretary	Department of An Taoiseach
Mr Michael McKenna	Assistant Secretary	Department of Enterprise, Trade & Employment

EMU Consultative Committee

Mr. John Travers, Chairman	Chief Executive	Forfás
Mr Sean Barron	European Affairs Manager	Shannon Development
Mr Remy Benoit	Managing Director	Kenmare Salmon Company
Mr Noel Bolger	Manager, Research & EU Affairs	Údarás na Gaeltachta
Mr Jim Bourke	Manager, Enterprise, Policy & Planning Division	Forfás
Mr Harry Byrne	Member	Chartered Institute of Management Accountants
Mr Michael Campbell	Director General	RGDATA
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 Peter Fisher	Consultancy Unit	Department of Enterprise, Trade & Employment
Mr Alan Fitzgibbon	Senior Economist	Enterprise Ireland
Ms Adrienne Harten	Project Executive	Chamber of Commerce of Ireland
Mr George Hennessy	Director Economic Affairs	Construction Industry Federation
Mr Jack Hickey	Accountant	CERT
Ms Mary Kennedy	Financial Controller	Irish Co-operative Organisation Society
Mr Muiris Kennedy	Director of Client Services	Bord Bia
Mr Jim Keogh	Industry Specialist	FÁS
Mr Brendan Leahy	Chief Executive	Irish Tourist Industry Confederation
Mr Peter Lillis	Planning Manager	IDA Ireland

FORFÁS ANNUAL REPORT 1998

Ms Elaine Mannix	International Relations	Central Bank
Mr Ian Martin	Member	Small Firms Association
Mr Tom Martin	Secretary	Irish Coalition of Service Industries
Mr Oliver McAdam	Managing Director	Medentech Ltd
Mr Tim McCormick	Senior Specialist	Irish Management Institute
Ms Bernadette McCrory Farrell	Vice President	Institute of Certified Public Accountants in Ireland
Mr Rody Molloy	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
Mr Felix O'Regan	Manager	IBIS Irish Bankers Federation
Ms Rosemary Sexton	Corporate Planning Division	Enterprise Ireland
Mr Frank Vaughan	European Information Office	ICTU
Mr Tony White	Divisional Director	Chartered Institute of Management Accountants

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 Rody Molloy	Assistant Secretary	Department of Enterprise, Trade & Employment
Mr Gerard Moran	Corporate Management Division	Revenue Commissioners
Mr John Norris	Principal	Euro Changeover Board of Ireland

FORFÁS ANNUAL REPORT 1998

Mr Paddy O'Boyle	Director of Projects	Institute of Chartered Accountants in Ireland
Ms Ann Valentine	Manager, Euro Branch Business Transformation	AIB Group
Mr John Whelan	Chief Executive	Irish Exporters Association

Expert Group on Future Skill Needs

Dr Chris Horn, Chairman *	Chairman & CEO	IONA Technologies plc
Mr Roger Fox	Manager, Planning & Research Department	FÁS
Mr Seamus Gallen	Education Liaison	Forbairt (National Software Directorate)
Mr John Hayden	Chief Executive/Secretary	Higher Education Authority
Mr Peter Lillis	Manager, Corporate Development	IDA Ireland
Mr David Lowe	Head of Research	Goodbody Stockbrokers
Mr Joe McCarthy	Management Consultant	Arkaon
Mr Paddy McDonagh	Assistant Secretary	Department of Education and Science
Dr Sean McDonagh	Director	Institute of Technology, Dundalk
Mr Michael McGrath	Director	Conference of Heads of Irish Universities
Ms Margo Monahan Department of	Principal Officer	Enterprise, Trade and Employment
Mr Niall O'Donnellan	Head of Policy and Planning	
Mr Seamus O'Morain	Assistant Secretary	Department of Enterprise, Trade & Employment
Mr Lorcan O'Raghallaigh	Manager, EU Affairs & Policy Development	Forfás
Mr Eugene O'Sullivan	Principal Officer	Department of Finance
Mr Colm Regan	Executive Director	Forfás
Prof. Frances Ruane	Head of Economics Department	Trinity College

* Resigned April, 1999

Skills Implementation Group

FORFÁS ANNUAL REPORT 1998

Dr Chris Horn, Chairman	Chairman & CEO	IONA Technologies plc
Mr John Dennehy	Secretary General	Department of Education & Science
Mr Paul Haran	Secretary General	Department of Enterprise, Trade & Employment
Mr Jim McCaffrey	Assistant Secretary	Department of Finance
Dr Don Thornhill	Chairman	Higher Education Authority
Mr John Travers	CEO	Forfás

Skills Awareness Group

Mr Seamus Gallen Chairman	Education Liaison	Forbairt (National Software Directorate)
Ms Una Halligan	Public Affairs Manager	Hewlett Packard Manufacturing
Ms Breda Kennedy	Programme Officer	FÁS
Mr Peter Lillis	Manager, Corporate Development	IDA Ireland
Mr Paul Lyons	Manager, Operations Support	IBM Call Centre
Dr Sean McDonagh	Director	Dundalk Institute of Technology
Mr Lorcan O'Raghallaigh	Manager, EU Affairs & Policy Development	Forfás
Ms Mary Sweeney	Manager	Cooperation Education, University of Limerick
Mr Frank Turpin	Public Affairs	Intel Ireland Ltd.