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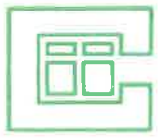

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PRESS RELEASE

The Confederation of Irish Industry

Speech by Liam Connellan, Director General, Confederation of Irish Industry at Meeting of the Institution of Engineers in Ireland at University College Galway at 8.30 p.m. on Monday, 7 November 1983

ENGINEERING AND INDUSTRIAL DEVELOPMENT

Industry now accounts for a similar proportion of output in the Irish economy as the European Community as a whole. The reason Irish living standards are only two thirds the average European level is that the output per capita of our economy is much lower. The achievement of a higher output per person requires that top priority be given to the expansion of the productive sectors of the economy. Average productivity in many sectors of Irish industry compares favourably with that in other Member States of the European Community. We just don't have enough industry.

The fastest growing sectors of Irish industry are the new technology sectors such as electronics and chemicals, which now account for one third of the total output of manufacturing industry. The computer manufacturing sector has expanded by almost 40% per annum over the last decade and employment in this sector has increased by about 25% per annum. Similarly, the output of chemicals and pharmaceuticals expanded by about 10% per annum over the decade and employment has increased steadily. These new technology sectors, comprising electronics, electrical engineering, chemicals and pharmaceuticals, now account for 40,000 manufacturing jobs. In addition, about 3,000 people are employed in internationally traded

services such as computer software; engineering, architectural and management consultancy. About 6,000 additional jobs are being created in these sectors annually and as their importance grows the potential for job creation will increase further.

Ireland has a higher proportion of new technology firms than any of the other EEC countries. A recent study by the European Commission indicated that the relative weight of exports of high technology products to total exports in Ireland, in 1980, was about 15% higher than in other European countries and is now probably in similar proportion to the United States, while still lagging behind Japan.

This structural change has been created by the advent of hundreds of new overseas firms, mainly from the United States.

The challenge for Irish engineers and scientists is to absorb these new technologies and develop them further. Several reports pointed to the need for product and process development in all sectors of Irish industry as a means for expanding output and employment. Product development must respond to the need of the market place.

Engineers and applied scientists have a crucial role to play in developing the innovative capacity of Irish firms. There is need for a clear recognition that we do not have enough engineers in the economy. For example, one person in every twentyfive engaged in U.S. manufacturing industry is an engineer and one person in every thirtyfive is a technician. While this proportion is undoubtedly influenced by the structure of American industry, we have already seen that the Irish proportion of high technology firms is now similar to that in the United States.

On the basis of U.S. comparisons there should be about 15,000 engineers, scientists and technicians employed in Irish industry. I estimate that the actual number is about one third of this figure.

Without adequate numbers of engineers and scientists it is difficult to see how the necessary allocation of resources to innovation can take place. After four years of international recession hundreds of firms have suffered a debilitating decline in profit margins and have little or no funds left for investment in new development. It is paradoxical that, although there is a need for thousands of additional engineers in industry, manufacturing firms are unable to recruit them because of lack of funds and hundreds of young engineers and technicians are unemployed.

In 1983, industry recruited over 500 young people, having third level engineering and science qualifications. This was an increase of more than 20% over the previous year despite a fall in total manufacturing employment. Close to half of these young qualified people were recruited by the new technology sectors.

I would recommend that a target should be set to increase the number of engineers and scientists in industry by about 1,500 per annum over the next five years, and that incentives should be provided to firms taking on additional technologists. Every engineer has the potential, as a result of his work, to create employment for at least 10 other people. The cost of a State incentive to cover the first year's salary of a young engineer would quickly come back in increased revenue to the State as a result of savings from fewer unemployment claims and from greater taxation revenue.

There are definite indications that engineers and scientists in Irish industry are devoting more resources to product development. Last year, industrial expenditure on research and development projects, grant aided by the IDA, increased almost threefold and is now five times higher than in 1980.

The Future

I have talked about the changes which have taken place in the recent past but the pace of change is accelerating. The most important developments are those related to information technology which will have a profound impact on our society over the next five years. Ireland has a good base for the manufacture of information technology hardware. Not only is the growth of the computer and communications manufacturing sector at an early stage, but the demands for application software are likely to grow even more rapidly.

Information technology is developing around the concept of an Information Network System (INS) which brings together the telephone, video, home computer terminals, facimile transmission of documents, and cellular mobile telephones, linked to a digital exchange network. This network, in turn, will integrate with satellite communications.

The following are some examples of some of the developments taking place :

1. Last February the French telecommunications authorities distributed terminals with keyboard and display screens free of charge to 100,000 homes in Brittany. The subscribers will have access to a wide range of information services. It is intended to distribute 3 million of these terminals by the end of 1986.

2. Already about one home in fifteen in the United States and Britain; and one in eighty in Ireland has a home computer. About 10% of U.S. home computers are linked by modems to the phone system, thus allowing access to data bases and other computers.

3. A $15,000 computer to be introduced in the United States next February will be able to photograph documents, and store them on memory.

4. Cellular mobile radio systems are due to go commercial in Chicago and Washington immediately, and are expected to be in operation in London, Birmingham and Manchester by 1985. Washington expects to have 60,000 vehicles incorporating these radio communication systems installed by 1987. Chicago expects to have 300 cells, each of one or two square miles in area, constructed within four years at an infrastructural cost of about £150 million.

5. A major retail store in Britain is commited to spending £100 million on electronic point of sale equipment.

6. Customers of a stockbroking firm in San Francisco buy and sell shares by entering orders on their personal computers without contacting a stockbroker.

7. Teletex systems which allow microcomputers and word processors to communicate to speeds 30 times faster than telex are available for about £2,000 in West Germany and Sweden, and will be available in Britain by the end of this year.

8. Japan will have a pilot Information Network System in operation in a Tokyo suburb in September 1984. The Singapore Government has a similar project under way.

9. It is estimated that over 80% of the people employed in the services sector of the United States are engaged in processing and exchanging information - in offices, by phone, in public administration, teaching, etc. These figures indicate the scope for the application of information technology.

10. Computer aided drafting systems are now operational in a small number of Irish companies. Computers reduce both the time required and the cost incurred in design. A recent survey of the British engineering industry showed that 37% of engineering firms are using, or are about to use, computers for manufacturing or design. This proportion varies from 90% of firms having more than 1,000 employees to one sixth of firms having less than 20 people. While only 9% of these are applying computer aided drafting systems, this proportion is expected to double next year.

These random examples indicate some of the changes currently taking place. Ireland's capacity to cope with these changes will depend on having an adequate supply of trained technologists to overcome the inevitable inertia of application.

It is vitally important that the development of the telecommunications system in Ireland should proceed with the maximum possible speed. The number of installed telephones is abysmally low at about 23 per hundred of population or less than half the EEC average, and one third that of Sweden.

It is essential that the basic infrastructure of digital exchanges and trunk cabling is installed so that the phone system can operate efficiently.

The rate of development of the telecommunications system will depend on its quality and cost. The present high cost of telecommunications is slowing down the rate of increase in usage, when the opposite should be happening. It is no coincidence that countries such as Germany and Sweden, which have a high telephone density, are the most advanced in introducing new information technology.

The current telecommunications development programme is clearly only one step along the road to an Information Network System which will bring together computers, videos, telephones, telex, cellular radio, facsimile transmission, and data processing and storage systems. The commercial expansion of an information network system in Ireland requires dynamic marketing, an openness to technological change, and an internationally competitive pricing policy, which will generate a volume of usage sufficient to finance the next stages of development.

Engineers have a vital role to play, not only in building the infrastructure, but also in accelerating the pace at which our economy adopts these developments after they become commercially viable. Our competitors are moving rapidly in exploiting information technology. We must also do so in order to increase the output per capita in the economy and to create lasting employment.

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