

Speech by Mr Liam Connellan, Director General, Confederation of Irish Industry at The Irish Computer Society Seminar - "Computers - The Second Industrial Revolution" - at the Victoria Hotel, Cork, on Friday, 12 September 1980 at 3 p.m.

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THE IMPACT OF MICRO TECHNOLOGY ON IRELAND

The new technology based on minature integrated circuits will cause major changes in all industrialised countries in consumption and production behaviour. Ireland, because of our thriving electronics industry, is in a unique position to take advantage of this revolution.

The Electronics Industry

Nearly 18,000 people are employed in the electrical and electronics industry which is equivalent to over 8% of manufacturing employment. Employment in the industry is growing rapidly and is up by over 60% on 1975 levels. In the last year, employment in the sector expanded by about 2,500, and is expected to grow by 3,000 per annum over the next few years.

Output in the electrical and electronics industry, also, is surging ahead with an increase of almost 25% in the first four months of this year, compared to the same period last year. The manufacture of office and data processing machinery equipment grew by 42% over the same period. This was achieved when output from manufacturing as a whole expanded only marginally, and occurred despite the increasing severity of the international recession.

Exports of electrical and electronic goods will probably be in excess of £450 million this year, if they continue to grow at the rate which was achieved in the first seven months of this year. Since one in four IDA job approvals were in this sector of industry, it is likely that the high growth in employment, output and exports will continue.

The fact that many of the leading manufacturers of microelectronic products have set up manufacturing operations in Ireland provides this country with the opportunity to develop a European centre of excellence for these products. These firms, which include three out of the top ten U.S. electronic manufacturers, and two of the top five Japanese manufacturers, enable Irish technologists to have direct access to the most developed technical processes in the world. It is essential that we make the most of the opportunity.

With such a strong and vital industry it is essential to ensure that no barriers are placed in the way of its continuing development and that every effort is made to get the maximum benefit in terms of spin-off employment and knowledge from this industry.

Major Job Opportunities for Trained Staff

The electronics industry offers major opportunities for suitably trained staff. Trained personnel are essential in an industry which is so dependent on technical skills. Up to 30% of the staff in some of the new electronic firms require third level technical qualifications. This means that at least 1,000 engineering technicians and technologists will be required annually by the electrical and electronics industry. There will continue to be a very high demand for electrical, industrial and electronic engineers, and experienced programmers and systems analysts. It is vital to expand the number of people with these skills so that the industry can grow at its full potential.

I would strongly urge that second level pupils be encouraged to study subjects such as maths and physics so that they can have the option of developing the skills, or obtaining the qualifications needed, for the electronics industry.

Boys and girls who have passed the Leaving Certificate this summer, and who wish to study for a certificate, diploma or degree should not be discouraged if they cannot obtain a place in the university, or Regional Technical College of their first choice. It is almost certain that a place will be available in one of the fourteen third level colleges in Dublin, Cork, Galway, Waterford, Sligo, Letterkenny, Athlone, Carlow, Limerick, or Tralee. Grants may be available for students who have to travel to another part of the country to study engineering.

The supply of engineering technicians and technologists will be a major determinant of the growth of the Irish and other European economies over the next decade.

Furthermore, there is need for increased awareness among parents and teachers of the importance of new computer technology in the world of the 80s and 90s so that we have a population trained and ready to live in such a society.

Applications

We must also ensure that Ireland does not lag in the introduction and application of new computer technology in industry and commerce. There will be increasing evidence of micro-processor application in the coming years. There are few areas of work and leisure which will not be affected. The most obvious developments are in consumer durable products and office technology. It appears that the office and administration sectors will experience a major productivity break through with the increasing convergence of communications and computers.

Such developments will improve efficiency, reduce costs and make Irish goods more competitive at home and abroad. Resistance to the introduction of this new technology would relegate Ireland to a backwater position, as other countries adapt to the new technology.

Of great importance to Ireland, in view of the small scale nature of the economy, will be the contribution to output and quality which cheap computing power and intelligent machines will make to production. It is likely that many of the traditional production disadvantages of small scale operation will be eliminated.

Furthermore, the widespread adoption of new technology methods of production in Irish industry will accelerate the growth in productivity, which has been running at about 4% on average in recent years. This will enable Irish companies to bridge the gap in productivity with their Continental European counterparts, and can help to restore the competitive position of many firms.

In the medium to long term it is likely that the increasing diffusion of computing power will lead to a high demand for personnel, skilled in this area. There are indications that by 1990 as much as 80% of the total cost of computer systems will be accounted for by software costs. It is estimated that approximately 14,000 people in Ireland are currently employed in selling, servicing and operating computers, as well as developing software and preparing data for computers. There will be considerable growth in this number with the growing use of computer for work and leisure.

Implications for Ireland

The rapid development of the microprocessor and its application has three major implications for the Irish economy :

1. Ireland is already a significant centre for the manufacture of computer products and components within the European Community. The electronics industry continues to expand very rapidly, despite the recession. There are currently about 18,000 people employed in manufacturing electrical and electronic products and components in Ireland. Recent decisions by leading American and Japanese microprocessor manufacturers to invest in Ireland means that growth will continue at a rapid rate over the next few years.

2. Development of microprocessor manufacture in Ireland will stimulate a more rapid growth of the associated applications sector. There will be at least as many people employed in developing software and applications in other sectors of the economy.

3. The rapid changes in technology, made possible by the microprocessor, has created a demand for a major increase in the output of engineering technicians and technologists from the education system. Many of the new manufacturing firms in this industry require 30% of their total staff to have third level technical qualifications.

Conclusion

The access to cheap and powerful computing facilities as a result of the development of the microprocessor, presents a major challenge and opportunity to the Irish economy.

Major progress has already been made in developing a significant centre in Ireland for the manufacture of products based on this new technology. There are opportunities, at least as great, in developing the associated application service sector. There can be considerable spin-off to other

sectors of industry and commerce, which will up-grade service, reduce costs and improve competitiveness. A microprocessor based ethos must permeate all sectors of our society if Ireland is to gain full advantage of the potential benefits in productivity and living standards. Major changes are required in the emphasis of our education system. Shortages of technologists must not be allowed to constrain development.

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