

BRIEF FOR THE DEBATE
ON
EUROPEAN COMMUNITY DOCUMENT 7619/83
on DEVELOPMENTS IN INFORMATION
TECHNOLOGY (ESPRIT)
House of Commons
Wednesday 21st March 1984

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<u>Contents</u>	<u>PAGE</u>
1. Information Technology: The European Response	
Background	1
Objectives	1
Need for Community Co-Operation	2
Details of the Programme	2
2. Technology: The Conservative Government's record	5-7

ESPRIT

Background

The European Strategic Research Programme in Information Technology (ESPRIT) is designed to assist in the fulfilment of the second of six goals, outlined in the EEC's document 'A Framework Programme for Community Scientific and Technical Activities 1984-1987', promoting industrial competitiveness.

The programme has been developed in response to a growing awareness that Western Europe has been lagging behind the United States and Japan in the field of Information Technology (IT).

Co-operation between Community Member States is the most effective method of placing Western Europe in the forefront of IT in the next decade, as the high research costs involved are generally beyond the resources of one country acting alone.

Agreement was reached by the Council of Ministers in June 1982, adopting guidelines for the project. Pilot projects were set in train during 1983, following the Council's meeting in November 1982. Ministers at the Community's Research Council on 28th February 1984 came to a final agreement on the allocation of funds for ESPRIT and the workplan and management arrangements for the programme.

Initially ESPRIT will run for a period of five years from 1984, at a total cost of 1500 million ECUs, (some £850 million), although the Community will only contribute 750 ecus.

Pilot projects, working from a budget of £6.5 million, have already taken place. UK companies, notably GEC; ICL and Plessey have participated in 21 of the 36 contracts that have been awarded. In 11 of these contracts British firms have taken the leading role. The Government has given its support to the principle of the ESPRIT programme from the outset and has taken a full part in the administrative arrangements for the programme.

B. Objectives

The primary strategic objective of ESPRIT for the Community as agreed with industry and Member States is:

The achievement of technological parity with, if not superiority over, world competitors within 10 years'.

The Community is therefore aiming to attain product leadership in the next generation of IT. The high rate of obsolescence in IT has meant that scarce financial resources will be focussed on a few selected key strategic technological objectives. These objectives are based on the assumption that an increasing number of people will have to use this technology and the impact of IT on social and economic life will have to be fully taken into account.

Research will therefore concentrate on areas which enhance the following objectives.

Man-machine interface: Establish easier and more natural ways for the user to operate the machinery.

Intelligence: Increase the flexibility of the machine to cope with wider, less specific commands.

Access: Increase available access to information across a broad spectrum.

Security: As information becomes more available, so its protection from improper use must be strengthened.

Reliability: Reduce the risk of malfunction as systems become more complex.

Success of the programme would make three major contributions:

- by placing Western Europe in a better position to compete for potentially very valuable markets;
- by reducing our industrial and economic dependence on foreign technology;
- by making a major step forward in the field of European co-operation.

C. Need for Community Co-operation

It has been estimated that 80 per cent of current investment in European R & D is related to catching up on the lead established by the USA and Japan.

This has meant that the Community has only captured 10 per cent of the lucrative world IT market (valued in the region of £55 billion annually) and only 40 per cent of its own domestic markets.

In 1975 the Community had a trade surplus in IT products. By 1980 the trade deficit was \$ 5 billion and by 1982 was estimated to have reached \$10 billion.

Evidence compiled by the Commission suggests that the Community-wide effort is being blunted by a duplication of effort between Member States in R & D investment and that the volume of resources committed in Community countries individually is too small to be effective.

The potential rewards in establishing a lead in the next generation of IT products are immense. Growth in this sector is expected to continue at 8 - 10 per cent until 1990 by which time it will be one of the world's largest manufacturing sectors.

The Commission has said:

'If the market in the Community for IT products had developed at the same rate as that in the USA and Japan, supplying this additional demand would have provided perhaps 2,000,000 jobs' (COM (83)258).

D. Details of the Programme

ESPRIT will be directed towards 'pre-competitive' R & D. European industry will be able to collaborate without impeding its ability to compete for markets as none of the work will be carried to a stage where it can be directly applied commercially.

Funding. The programme will involve co-operation between governments, industry and academic institutions. Overall funding will reach 1500 million ecu spread over five years, 50 per cent being Community funds, with matching contributions from industry.

The UK share will depend on the number of contracts gained by UK companies, however, the Government estimates that the cost would be around £85 million. This level of pre-competitive R & D would represent around 6 per cent of total industrial R & D investment in Community IT, very much in line with our major competitors.

The UK Government, together with our Community partners, have looked for ways of financing ESPRIT which allowed it to proceed before the wider budgetary problem was solved.

As Mr Kenneth Baker MP, reported to the House of Commons:

'This does, however, require agreement on common priorities for Community R & D expenditure. Both the Commission and other Member States have now endorsed ESPRIT being given sufficient priority to ensure that necessary funds will be allocated to it over the next five years within the resources available to the Community' (Hansard, 29th February 1984, Col. 170).

This reflects the Government's view that a shift of resources away from the present weighting in favour of agriculture was desirable.

Scope of the Programme

ESPRIT will run for a five-year period with a review after 30 months. There is also an option to extend the period of the programme for a further 5 years in 1987. This will offer a degree of certainty for companies that will have a beneficial affect on their planning process.

Five main areas will be covered:

- 1) Advanced microelectronics
- 2) Computer integrated manufacturing
- 3) Software technology
- 4) Advanced information processing (man-machine interface)
- 4) Office systems.

Opto-electronics are also covered, as also are elaborate microchip materials.

Certain aspects of ESPRIT are complementary to the £200 million UK Alvey Programme on advanced IT, particularly in the field of software technology and man-machine interface. The development of ESPRIT will however release resources from the Alvey Programme, where the UK level is the most appropriate level to carry out the research. Participation in Alvey already enables UK firms to keep up to date in developments in IT and therefore able to participate in other collaborative ventures.

Commercial Exploitation

This scope of R & D proposed will require to be developed further before it can be exploited commercially.

Ownership and the right to exploit any information and industrial property rights resulting from the work under contract will normally reside with contractors. Companies not participating in a specific project, but who might be able to use its results will have the

opportunity to acquire rights.

Conclusion

The Prime Minister, reporting on the Athens Summit-- underlined the potential importance of ESPRIT:

'I would like there to be some room made in the agricultural budget in order to get more industrial co-operation like ESPRIT and, of course, outside the Community we have matters to consider that we are now considering such as Airbus. We shall not have aircraft and high technology industries in Europe unless we are prepared to have much more co-operation than we have at present' (Hansard, 7th December 1983, Col. 332).

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TECHNOLOGY: THE CONSERVATIVE GOVERNMENT'S RECORD

The Rt Hon Mr Kenneth Baker, the Minister for Information Technology, has said:

'The micro chip revolution has started. It will bring new opportunities and new jobs. Britain must not miss out on this. We've recognised the importance of this by increasing research and development in the new technologies; by creating new areas of investment opportunity in telecommunications and recabbling Britain, and by increasing computer training for youngsters in school.

'We are the only party that has effective policies for our future industries. The other parties have produced no new ideas or proposals for the new industries. In our second term we will build on the foundations laid in the last 4 years in supporting Information Technology'. (Technology - The Government's Record).

Achievements in Industry

Government support for the new technologies was £50 million in 1979. In 1983-4 it will be £200 million. This is provided mainly by grants for research and development carried out by companies. (see above).

- * There has been a boom in microcomputers. Over 50 companies are now designing and making computers in Britain. Sinclair is the first company in the world to sell over 1,000,000 micros. Britain has the highest penetration of micro-computers per head in the world.
- * We have provided more support - some £80 million - for a National Space Programme because Britain has a successful space industry. We are making 11 communications satellites.
- * We have provided £55 million for companies making fibre optic cable and laser equipment. This was a British invention.
- * We are providing £70 million to equip British factories with the latest robots and advanced manufacturing systems and to ensure that these are made in Britain.
- * We have provided £130 million to help small engineering firms buy the advanced machine tools they need to take advantage of the economic upturn.

New Investment

- * We are a magnet for new investment by foreign companies:

Hewlett Packard at Bristol for computer peripherals
Wang at Stirling for office equipment
IBM at Greenock for micros
Nippon Electric in Scotland for chips
National Semiconductor in Scotland for chips
Sanyo in Lowestoft for video recorders
Sony in South Wales for TV tubes
Mitel in Wales for telephone exchanges
Unimation in Telford for robots

All this is new or increased investment by international companies. Thousands of new British companies have been started, making hardware and software for the new technologies.

New Opportunities

- * By ending BT's monopoly we have stimulated British manufacturers to design and make new telephone equipment.
- * We have licensed 2 companies to provide mobile telephone services from January 1985. By the end of the decade this could provide an extra 10,000 jobs.
- * We have given a licence to the private company Mercury to establish an additional business telephone network to compete with BT.
- * We have given the go-ahead for an early start on cabling Britain to provide a broad range of new communication services including entertainment. This is a great opportunity for British equipment and manufacturers as well as programme makers.

Research

- * We have launched the largest collaborative research programme since the war - the Alvey Programme. It makes available £350 million over 5 years; and involves companies, universities and Government in designing and developing the next generation of computers.
- * We are spending £37 million on developing products and techniques for computer aided design and helping British companies adopt them.
- * We have allocated £25 million to put Britain among the leaders in the development and commercial exploitation of biotechnology.

Training

- * Every secondary school now has at least 1 microcomputer as a result of our micros-in-schools scheme. Already 10,000 of our primary schools have them as well.
- * Colleges of Further Education will be receiving new British computer controlled machine tools.
- * An extra £100 million over 3 years has been allocated for Information Technology training at Universities and Polytechnics.
- * We are setting up a national network of Information Technology centres to train unqualified and unemployed youngsters in the computer and electronic skills. By the end of 1983 there were 150 with over 5,000 trainees.

The Compassionate Face of Technology

- * We are financing the development of a wide range of high technology aids for the disabled, the elderly and for children with learning difficulties and physical handicaps.
 - special telephones for the deaf and blind, whose interests are specifically safeguarded by the Telecommunications Bill;
 - portable reading aids for the blind;
 - special computer keyboards and software to allow handicapped children to use computers; and
 - computer systems to allow the handicapped to have normal jobs working from home.

* In the treatment of the sick, we have introduced a number of major initiatives in medical electronics and £ for £ help to doctors and dentists to use microcomputers in their surgeries to improve the quality of health care.

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