JH 209

DEPARTMENT OF INDUSTRY
ASHDOWN HOUSE
123 VICTORIA STREET
LONDON SW1E 6RB
TELEPHONE DIRECT LINE 01-212 3301
SWITCHBOARD 01-212 7676

(1)

Secretary of State for Industry

22 January 1982

rec'd 25/1

Michael Scholar Esq
Private Secretary to the
Prime Minister
10 Downing Street
London SW1A OAA

Prime Minister

You earlier asked for an audio-visual presentation at your briefing meeting for the NEDC discussion on the electronics industry / IT. Is the attached an adequate substitute? (We would have a non-audio-visual briefing meeting anyway). MLS 27/1

Dear Michael

You will be aware that the Government's response to the Electronics EDC paper is to be discussed by the National Economic Development Council at a meeting on 3 February chaired by the Prime Minister.

2 Discussion in the Council is likely to centre on ways in which the UK information technology industry might be best assisted to develop an internationally competitive position. This particular industry is so wide ranging in its products and services offered and technologies used that a very broad based strategy of support is likely to be ruled out if only on limited resource grounds. Accordingly there will be a need to focus discussion in the Council on the IT sectors where the Council's attention is likely to be concentrated. This aspect will be addressed in the briefing which will be submitted for the meeting. It might however be helpful to the Prime Minister in advance of receiving that briefing to glance through the attached paper which presents a view of the UK information technology industry and its strengths and weaknesses in some of the key market sectors.

No

3 It may be that having seen the attached material the Prime Minister will consider that an audio-visual presentation is no longer necessary for the 2 February briefing meeting. I am, however, making the appropriate arrangements but would be grateful for your advice on this point as soon as possible.

4 I am copying this letter to PS/Chancellor.

Yours ever

RICHARD RILEY
Private Secretary

Richard

THE UK INFORMATION TECHNOLOGY INDUSTRY

Introduction

1 Through the use of modern technology and, in particular, microelectronics, the previously separate technologies of computing and telecommunications are being brought together to create new products and services, in the office and elsewhere, and to enable existing services to be provided in new ways (see Figure 1). The result of this convergence is known as information technology, and the processing and transmission of information and its use in product manufacture and services will account for a steadily larger portion of the GDP of advanced nations.

2 Two main factors underlie current interest in information technology. The first is that accurate and adequate information is a major component of industrial and commercial operations and an increasing proportion of the labour force is employed in information handling: in the USA the proportion is ca 50%. The second factor is technical: the development of fast, reliable and cheap microelectronic devices for use in computing and telecommunications.

3 In a sense this new technology has all the virtues: it causes no pollution; it exhausts no natural resources (there is an abundance of silicon); 'chips' carry no health or safety dangers and consume only minute quantities of energy both in their manufacture and operation.

4 The world market for IT products - in banks, shops, offices, factories, houses etc - is vast, currently £50 billion, and expanding rapidly. A competitive UK share in this market could be a major factor in our future industrial success.

Equally important however is the use and application of IT in this country to improve the efficiency of industry, commerce and public services.

The World Market

5 Geographic trends 1980/85 are shown in Figure 2. US suppliers dominate globally with 75% of the world data processing market and 50% of the telecommunications market. Japanese and US competition can be expected to intensify in Europe - a market which accounts for 25% of the world data processing sales and 35% of the telecommunications market and yet which imports 80% of its integrated circuits requirements.

6 Unlike the US, Japan and Germany the UK is a net IT importer and the trade gap is widening: trends indicate the gap will increase from £300M to £1000M over the 1980s.

UK Position

7 Despite the crucial importance of IT to the UK's economic future, there are serious weaknesses in the country's IT industry although a large range of products and technologies are offered. In world terms it is small (see Figure 3) with only one wholly-owned UK company in the top thirty; it is fragmented and its activities are largely concentrated on the domestic market. The penetration of the domestic market by foreign-owned companies can be gauged from the fact that 40 out of the UK's 100 IT companies are UK-owned. These have only a 1.5% share of the non-UK market and even this is decreasing. The UK has no industrial giant like Siemens or Philips; Hitachi is bigger than the seven top UK IT companies combined.

8 Most of the world's top ten IT companies are strong in both telecommunications and computers. The larger UK companies however tend to be strong in telecommunications with their

second in defence electronics. Only ICL has real strength in computers.

9 The key to competitivity in the IT sector is volume production and market share. Figure 2 shows that the UK market is too small itself to sustain a viable IT industry. UK companies must therefore pursue business on an international scale; there is really no other option.

10 Apart from Rank-Xerox which is 51% US-owned, the major UK IT companies are GEC, ICL, Plessey, Thorn-EMI, Racal-Decca and Ferranti. Unlike the US where some two-thirds of all new jobs have been created by small companies not older than 5 years, in the UK there is a scarcity of dynamic small and medium size high growth companies, Racal being the outstanding exception. With this in mind and since in the UK 15% of the IT companies are responsible for ca 85% of IT sales, then for the next few years it is probably realistic to look mainly to the existing medium/large UK companies for the establishment of an internationally-competitive industry and substantial bridgeheads in the main IT markets.

11 The scale of the problem of turning these particular companies from their over-absorption in the home market can be seen from Figure 4; only Racal is truly internationally oriented. And further analysis of the domestic portfolios of GEC and Plessey would show a high dependence upon the traditional government markets such as defence and public telecommunications equipment.

Key IT Sectors

12 Some of the more important IT sectors are:

Telecommunications

Office systems
General computer systems
Special systems
Services
Information systems including Teletext and Prestel

How do we stand in these?

Telecommunications

13 The UK is suffering from a long term decline in the competitiveness of its supply industry, its world market share having fallen from 24% to 6% over the past 15 years. We have three substantial companies in the public switching sector, GEC, Plessey and STC, and System X is nearing the stage where it can be offered in world markets. Potentially it could capture a significant share of these markets. Given however the intense competition in this sector and the necessity of high volume production for competitive pricing, it is difficult to resist the logic that at least one of the three UK companies will not survive in the public switching business beyond the 1980s.

14 In the telecommunications attachments sector liberalisation of the monopoly will provide new opportunities for the traditional telecommunications companies and the younger innovative companies. But they will face intense international competition and one cannot be entirely confident of the outcome.

Office Systems

15 This market includes a wide range of data, text, image processing, storage, display and communications equipment. UK companies include GEC, Plessey, ICL, Rediffusion, Rank, Gestetner, Nexos, CTL, Muirhead. It is in a state of flux

and uncertainty, in terms of products and services supplied, users' attitudes and the evolution of competition. This uncertainty, caused by the overlapping of previously separate products (in telecommunications, data processing and office products) and by the potentially massive impact of new office technologies, creates a market rich in both opportunities and risks.

16 To date the UK effort has been piecemeal at home and largely non-existent elsewhere. It is however a high growth and dynamic market (word processing growth is 35% per year) and successful entry into it is still possible via a variety of individual products and through the use of 'local area networks' (such as Xerox's Ethernet and Logica's Cambridge Ring) which can interconnect a range of disparate office products. But the supply industry cannot wait much longer before committing itself whole-heartedly to this sector, if it is to have real prospects of supplying other than specialised sectors of the market.

General Computer Systems

17 Trends indicate major growth in small business machines, including small computers, intelligent work stations and terminals, and software products. The influence of IBM is all-pervasive; Japan, where they have adopted a very long range strategy in IT, is also strong and Fujitsu in particular is poised to expand its world market share and bids fair to rival IBM over the 1980s.

18 The UK does not have a powerful base from which to develop a strategy for this sector. Its relevance to other IT markets means however that its abandonment would be unwise. ICL clearly failed to develop a product range to match the growth areas for the 1980s but under its present management it is focussing on the smaller (and faster growing) end of the computer market. Its linking with demonstrably successful

international companies such as Fujitsu and Mitel is enabling the company to widen its product base and make a serious bid for the small business system market.

19 Indicators in the US point to opportunities for the UK industry, particularly in the services and software area and in small computers. It is in these particular sectors where the smaller, more innovative UK companies with clear perspectives on technology needs may be expected to capitalise; the larger, more established companies are likely to be slower to react.

Special Systems

20 These systems are based on combinations of high performance communications and computing and are frequently defence oriented eg mobile networks for military tactical communications, industrial process simulators. UK companies active in this area include Plessey, Ferranti, Marconi, ICL, Rediffusion, Racal, Data Logic, Scicon, SDL and Software Sciences. The industry derives considerable revenue from special systems but its market penetration can and should be increased. If the UK is to keep abreast of leading edge technologies a continued presence in special systems (where there is a large export potential) is vital.

21 The creative use of procurement by Government in enhancing the competitiveness of the UK industry and in establishing larger, more effective groups is apparent.

Services

22 The UK software services industry is in a moderately good starting position, occupying second place in Europe (to France). It has several major service bureaux backed by large international groups (such as BOC Datasolve and BP's Scicon) and is in a good position to attack the US market

because of close contacts and the common language. But this position could be eroded by further takeovers of UK companies by US and French firms and by continued aggressive pursuit of the UK computer bureau market by overseas companies. Nevertheless the services sector is well placed to adopt a central role in the IT sector and help overcome the major weaknesses in other sectors by developing effective and attractive combinations of UK hardware and software.

23 The aim should also be to establish several 'critical mass' service companies capable of competing with the large US and French companies on advanced, complex projects.

Information Systems including Teletext and Prestel (viewdata)

24 The markets and opportunities for information systems and services based on the electronic storage, transfer and dissemination of information is substantial and characterised by a high growth rate. Included in this are public and closed user group Prestel based viewdata services, specialised financial and economic information services (such as provided by Reuters, Extel etc) and scientific and other kinds of data-base material.

25 A complex variety of participants is involved including publishers, computer operators, and hardware and software suppliers, telecommunications companies as well as large information users. The scope of the market and the diverse nature of skill requirements makes it a likely sector for new entrepreneurial activity, particularly in the exploitation of the national/international information sources based in the UK.

26 The strengths of the UK include: a number of organisations skilled in the packaging and delivery of information

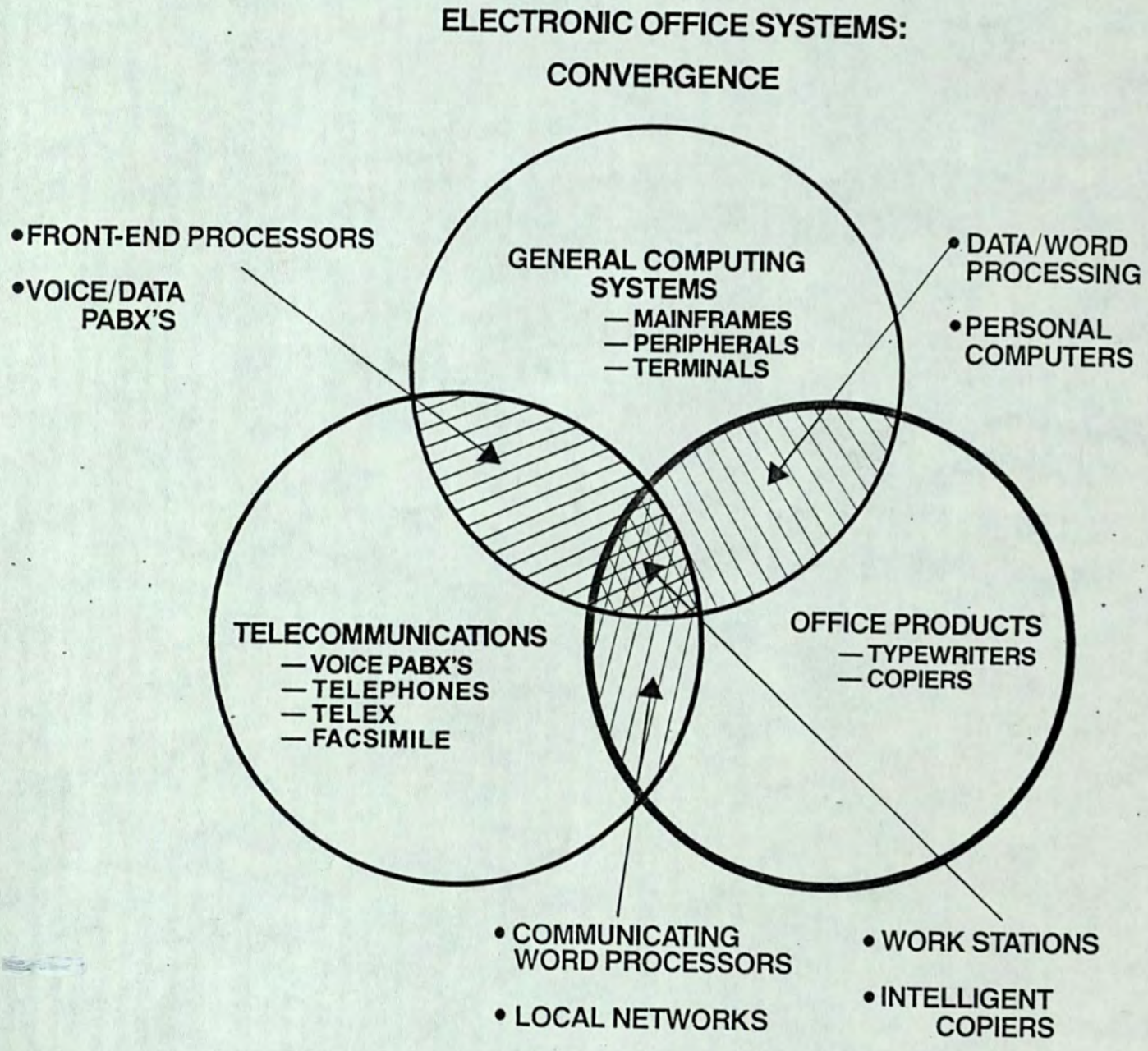
(eg Reuters, BBC, Extel, Pergamon); the widespread acceptability of English; the increasingly liberal telecommunications environment; design and manufacturing skills for Teletext/ Prestel systems. Weaknesses: the information management software needed to create electronic information services; the much slower than anticipated take-off of Prestel (though Teletext usage is now building up acceptably); too many companies chasing too little demand.

Government Influence and Support

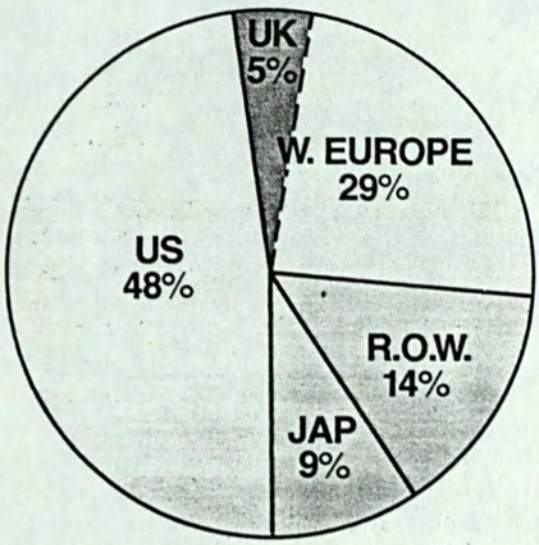
27 The opportunities presented by the burgeoning IT industry have been recognised by the leading IT nations and there have been significant but markedly different support programmes. Figure 6 shows the relative size of the UK IT industry and some other traditional industries as against the support the UK Government has given to these sectors. Figure 5 also shows the comparative development support given to IT by the British, French and German governments: in the UK in the past support has tended not to be in the faster growing IT areas but in the more traditional areas, including main frame computers but this pattern is changing quite quickly.

Department of Industry
21 January 1982

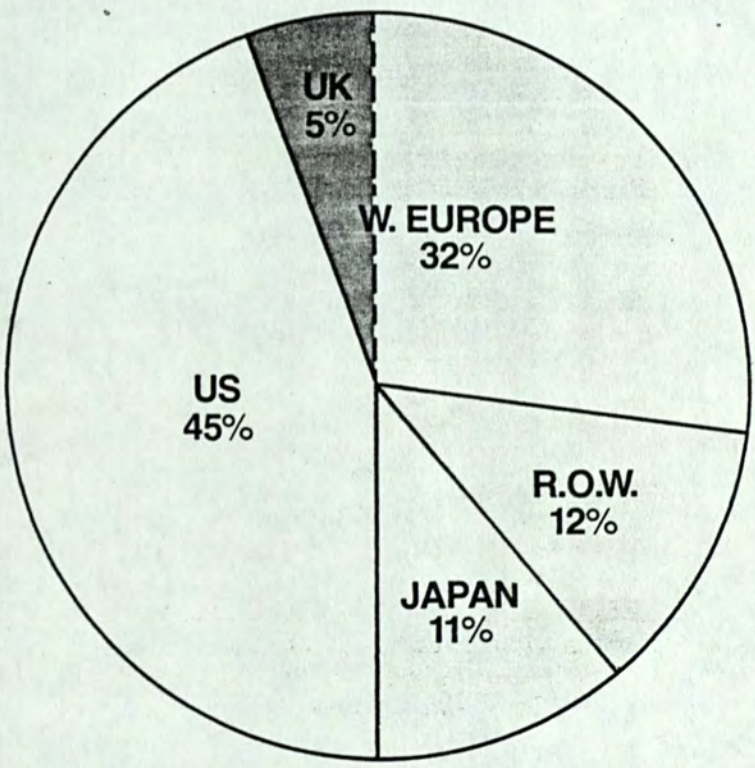
FIGURE 1


ELECTRONIC OFFICE SYSTEMS:
CONVERGENCE
• FRONT-END PROCESSORS
• VOICE/DATA PABX'S
GENERAL COMPUTING SYSTEMS
— MAINFRAMES
— PERIPHERALS
— TERMINALS
• DATA/WORD PROCESSING
• PERSONAL COMPUTERS
TELECOMMUNICATIONS
— VOICE PABX'S
— TELEPHONES
— TELEX
— FACSIMILE
OFFICE PRODUCTS
— TYPEWRITERS
— COPIERS
• COMMUNICATING WORD PROCESSORS
• LOCAL NETWORKS
• WORK STATIONS
• INTELLIGENT COPIERS

GROWTH OF INFORMATION TECHNOLOGY MARKET



1980 WORLD MARKET £54.4 B



1985 WORLD MARKET £104.7 B

FIGURE 3

WORLD TOP 50 IT COMPANIES

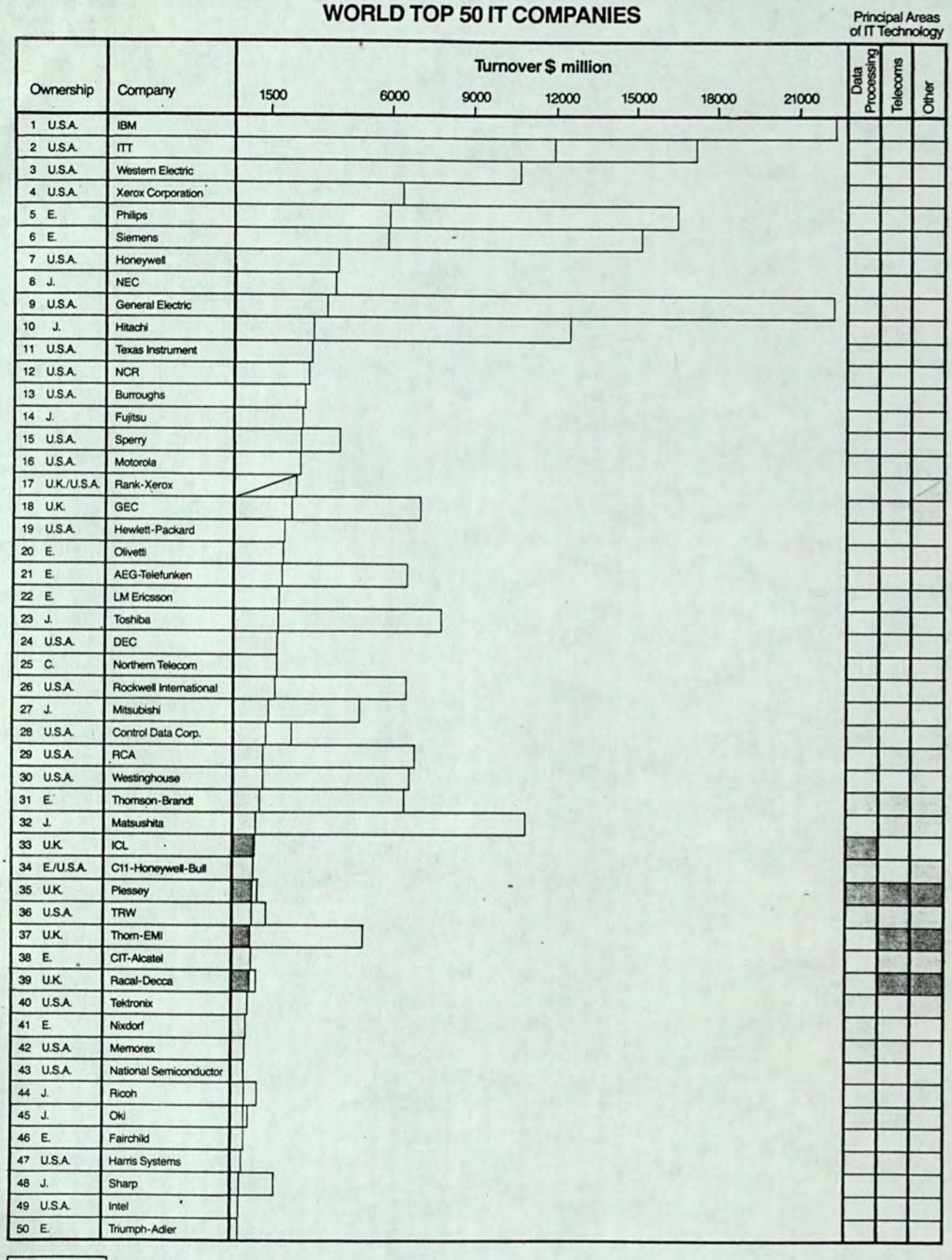


FIGURE 4

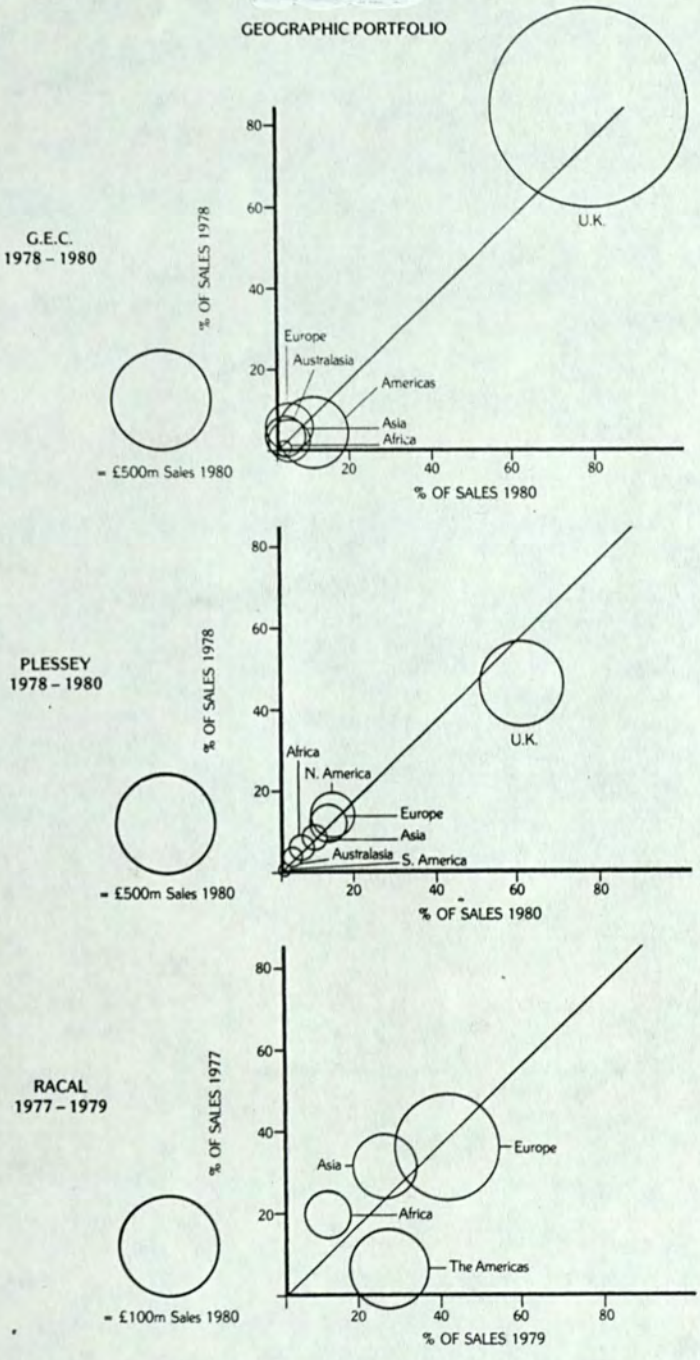
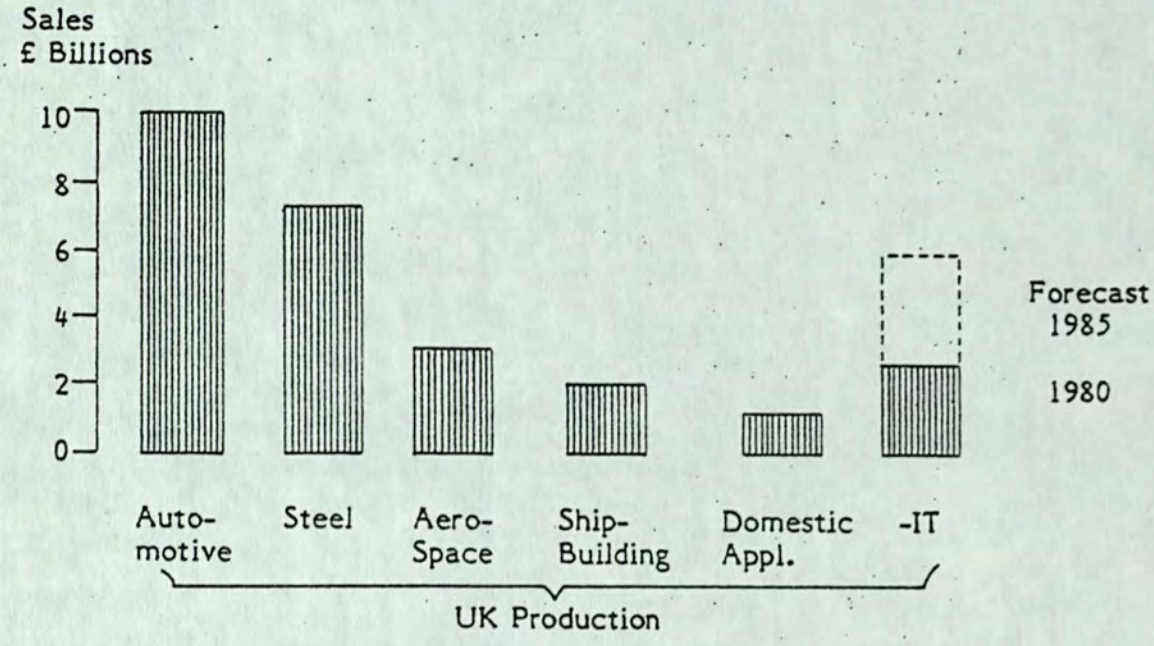
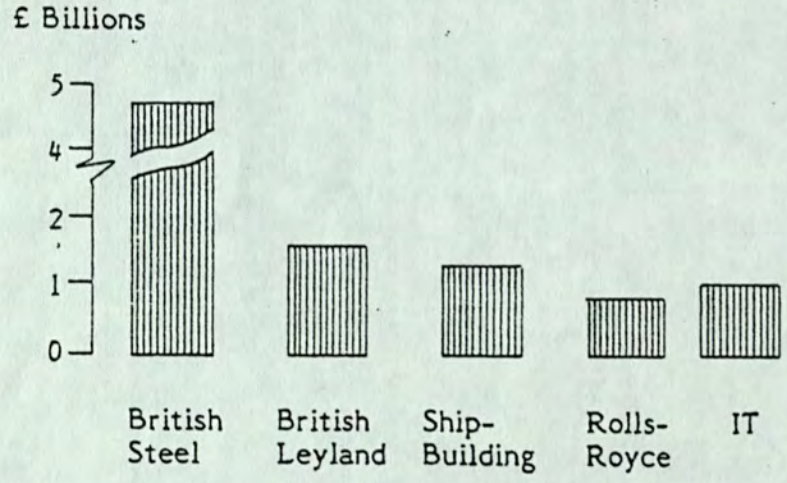

GEOGRAPHIC PORTFOLIO
G.E.C.
1978 – 1980
% OF SALES 1978
U.K.
Europe
Australasia
Americas
Asia
Africa
= £500m Sales 1980
% OF SALES 1980
PLESSEY
1978 – 1980
% OF SALES 1978
U.K.
Africa
N. America
Europe
Asia
Australasia
S. America
= £500m Sales 1980
% OF SALES 1980
RACAL
1977 – 1979
% OF SALES 1977
Europe
Asia
Africa
The Americas
= £100m Sales 1980
% OF SALES 1979

FIGURE 5

Relative Size of IT in UK 1979/1980



UK Government Financial Support IT and Other Industries 1970-1980



Comparative Government Support for IT Industry 1970-1980