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Contributors

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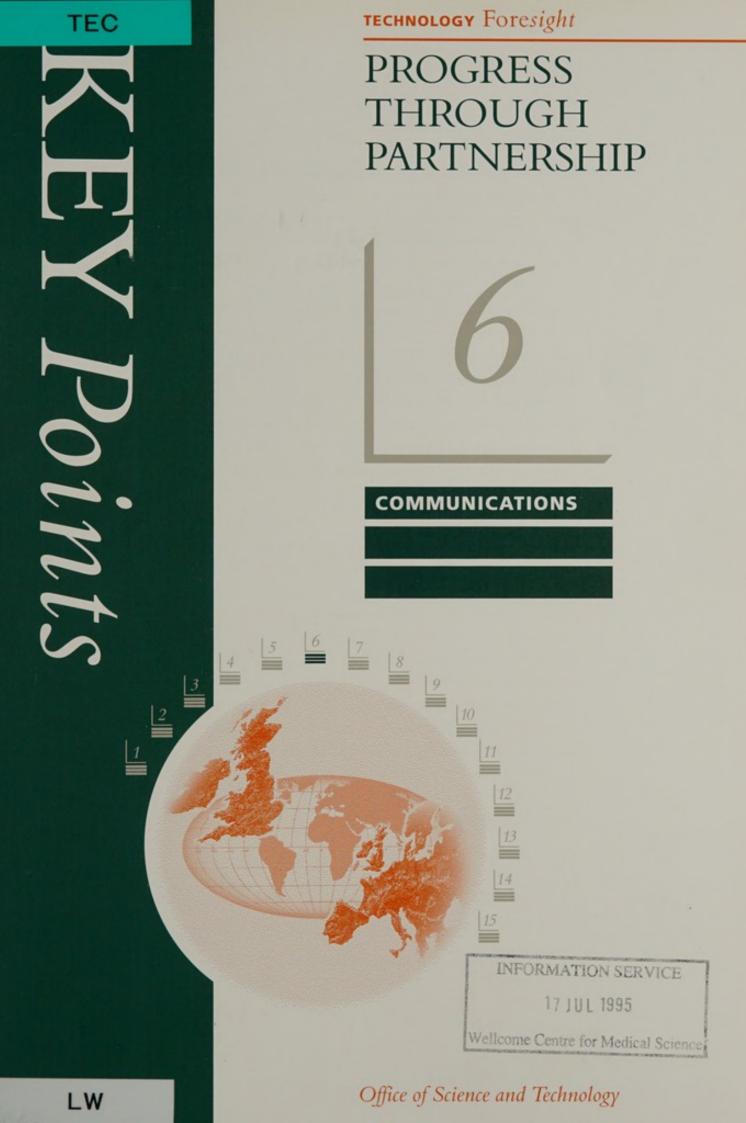**Persistent URL**

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TECHNOLOGY Foresight

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COMMUNICATIONS

Office of Science and Technology

THE SECTOR

The communications sector, including telecommunications, radiocommunications and broadcasting, provides infrastructure and technology-based services that are vital to our modern economy and are increasingly important in the information society. There is increasing convergence between communications and information technology and electronics.

The communications sector accounted for about 6 per cent of the UK's GDP in 1990. This is almost entirely attributable to the service components of the sector, i.e postal services and telecommunications and business services. The major part of the UK communications market is the provision of public telecommunications network services which amounted to £14 billions in 1993; a compound annual growth rate of almost 6 per cent is predicted for these services over the next five years. About £15 billions has been invested by service providers and network operators in the UK over the last five years. Some 10 per cent of this has been inward to the UK and this percentage is expected to grow.

THE FUTURE

The communications sector will experience rapid growth because of the needs of customers for mobility, multi-media and broadband services. Growth will be especially strong in the developing countries where the need for modern communications will be amplified by demographic trends. New technologies will profoundly alter existing activities, whilst creating new opportunities for the UK. For example, the notion of 'local' retail transactions could be overturned by global electronic networks. Services, such as video-on-demand and distance learning, could build on the UK's strength as a content provider. To benefit from the inevitable changes, the UK needs to promote a culture that is at ease with exploiting these new technologies. Business and the public must become aware of the crucial importance of IT and telecommunications to the future of the UK. The role of the Government must be to create an environment in which innovative services can flourish, while promoting competition among service providers and encouraging investments in modern infrastructure.

PRIORITIES

These major changes give rise to a number of opportunities and areas of concern, namely:

- The share of national R&D budget devoted to telecommunications

- The regulatory regime for communications in the light of increasing convergence

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- The technology deployed in our evolving national telecommunications infrastructure

- Global competition for the provision of communications services

- The development of virtual centres of excellence in selected technologies

- The need for increased awareness of the importance of information technology and communications technology at all levels in our society

- The harnessing of national enthusiasm and resources in one or more major projects.

FORWARD WITH FORESIGHT

Several solutions have been specified which seek to address the foregoing opportunities and concerns. The following table summarises the major tasks and lead organisations needed to implement them.

	RECOMMENDATION	ORGANISATION
(1)	The amount of R&D devoted to telecommunications and IT should be substantially increased, both in industry and in the academic community.	Engineering and Physical Sciences Research Council (EPSRC), Department of Trade and Industry (DTI), Departments of Education, Industry
(2)	The UK's regulatory regime should evolve to allow the UK to gain the maximum economic and social benefits from the convergence of telecommunications, broadcasting, electronic publishing and information technology.	DTI, regulatory bodies
(3)	The UK must embrace the following long-term technology objectives: • digitalisation • broad-band networks • mobility • intelligent networks	EPSRC/LINK, DTI, Industry
(4)	The UK's priorities in international policy on telecommunications must be to dismantle barriers to trade and to encourage international standardisation, both at a European level and at a global level.	DTI
(5)	At least two virtual Centres of Excellence in specific areas should be established with joint funding from industry and the Research Councils.	EPSRC, Economic and Social Research Council (ESRC), Higher Education Funding Councils (HEFCs), Education Departments, Industry
(6)	The Government should set an example to industry and to the public by becoming a leading-edge user of telecommunications and information technology.	CCTA Government departments
(7)	By 1998, every school should be connected to public broadband digital networks giving access to high quality interactive educational software, including video-on-demand. The provision of hardware, software and infrastructure should be a Millennium Project.	Education Departments, DTI, Industry

TECHNOLOGY FORESIGHT PROGRAMME

The purpose of the Technology Foresight Programme is to help business people, engineers and scientists become better informed about each other's efforts. It is bringing these communities together in networks - looking forward in partnership - which will help to identify emerging opportunities in markets and technologies. The Programme will also help to ensure that resources are used to best effect in support of wealth creation and improving the quality of life. The results of Foresight will inform decisions on spending by Government and industry. Foresight findings are available to small and medium sized enterprises which may not have the resources to undertake Foresight work on their own account.

The Technology Foresight Programme is co-ordinated by the Office of Science and Technology (part of the Cabinet Office). Foresight panels have been working in each of the following 15 sectors:

Agriculture, Natural Resources & Environment	Health & Life Sciences
Chemicals	IT & Electronics
Communications	Leisure & Learning
Construction	Manufacturing, Production & Business Processes
Defence & Aerospace	Materials
Energy	Retail & Distribution
Financial Services	Transport
Food & Drink	

Summary leaflets (like this one) are available for each sector. Copies of these documents are available from the Office of Science and Technology, Albany House, 84-86 Petty France, London, SW1H 9ST (Fax: 0171-271-2015). Full reports for each sector are available from Her Majesty's Stationery Office.