

ELECOMMUNICATIONS INTELLIGENCE

ITI Publications Ltd PO Box 1 Chichester West Sussex PO20 6XR UK • Tel (0243) 683915 Telex 869314 (Tecpub G) Fax (0243) 684168

World Telecommunications Expenditure and Development 1987 to 1995



Executive Summary

Insight into the world's telecommunications markets

Responding quickly to the needs of changing world telecommunications markets is essential to strategic planning.

Market information and intelligence correctly used, can give companies a competitive advantage.

Since its first publication in 1986 ITI's world study "World Telecommunications Expenditure and Development" has become the major research reference work for the industry.

In terms of sales it has become the telecommunications industry's "best seller".

The new study, which forecasts telecommunications spending in more than 50 countries up to 1995, is ready now.

In addition to the already successful features of last year's study, the 1987 edition carries many more.

The study identifies the top 50 markets for telecommunications equipment by value and breakdowns by product area.

Each of the markets has a full narrative detailing developments and PTT changes, including deregulation and privatisation.

A major section is devoted to market access.

Greater analysis is given to world telephone density.

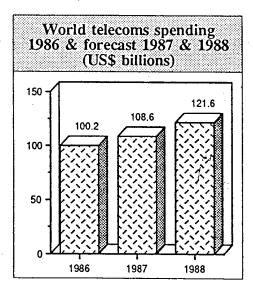
There is a complete new section on demographics in more than 120 telecommunications markets - it is necessary to know the psychology of a market as well as its size in order to market to it successfully.

The network data section has been expanded with, in most cases, comparative data over four years.

World aid is covered in greater detail with spending projections up to 1990.

A major directory of PTTs and telecommunications ministries is included in the study.

The study clearly identifies the growth markets and enables manufacturers to position their own products critically within the markets.



World telecommunications equipment spending in 1986 was US\$100.2 billion which is forecast to increase to US\$108.6 billion in 1987 and US\$121.6 billion in 1988.

World equipment spending in 1990 is expected to reach US\$156.8 billion with further growth to US\$243.3 billion in 1995.

By the year 2000 the study forecasts world telecommunications equipment spending will reach US\$360.8 billion.

Spending patterns will change over the next 15 years with developing countries taking a larger share of the spending as their networks expand.

The 50 top spending countries reviewed in the study, mostly developed countries, are forecast to spend 79 per cent of the world's total telecommunications equipment expenditure in 1987 with the remaining 100-plus countries spending 21 per cent.

By the year 2000 the developing countries are forecast to have 57 per cent of the market within the remaining 43 per cent.

Russia, which replaced Japan as the second largest telecommunications equipment spending market in 1985 is expected to increase spending dramatically:

Russia - total estimated telecommunications equipment spending

1987			US\$9.6 billion
1988		•	US\$10.9 billion
1990	•		US\$13.4 billion
1995			US\$23.6 billion

By the turn of the century Russia is expected to equal the spending of the United States which was US\$24 billion in 1986 and is forecast to grow to US\$27 billion in 1990.

The study includes a complete section on forecast spending by Product Sectors.

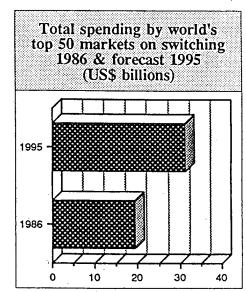
The top 50 markets for cable are expected to increase spending from US\$6.4 billion in 1986 to US\$13.8 billion in 1995.

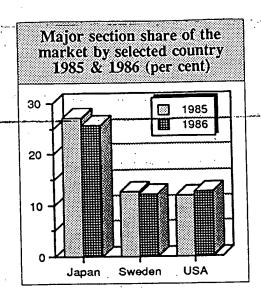
Transmission equipment accounted for US\$6.4 billion spending in the top 50 countries in 1986 and this is forecast to rise to US\$13.8 billion in 1995.

Total spending by the world's top 50 markets on local and toll switching was US\$19.3 billion in 1986 and this is forecast to grow to US\$31.2 billion in 1995.

Other product areas covered by the study are microwave transmission, satellite earth stations, data communications, customer premises equipment, and mobile, cellular and paging equipment.

The study has a major section which shows Japan's share dropped from 27.1 per cent in 1985 to 25.6 per cent in 1986.





Sweden's share also dropped from 12.7 per cent in 1985 to 12.2 per cent in 1986.

The United States, however, increased its share from 11.8 per cent in 1985 to 12.5 per cent in 1986.

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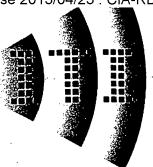
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Telecommunications Market Analysis

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All information contained in this issue has been obtained from numerous sources we believe to be reliable, but which we cannot guarantee.

Opinions expressed are based on our interpretation of available information, which is subject to change.

The ONLY weekly service analysing world telecommunications expenditure and development

WORLD REPORT

Russia - the major telecom market of the 1990s

Russia will dominate the world telecommunications sales market by 1990 becoming the country that every company wants to break into.

The sales potential is huge. Revised forecasts for the year 1990 predict that Western companies will be selling US\$350 million worth of equipment to the Russians.

In 1985 Russia displaced Japan as the second largest spending market. Projections for the next three years show a sharp upsurge in expenditure.

In 1984 Russia did not even figure in the top ten spending countries in the world. In 1985 it was spending US\$7.2 billion a year on telecommunications equipment.

Last year the figure rose to US\$8.4 billion and this year Russia is budgeted to spend US\$9.8 billion.

By 1990 the expenditure is forecast to be running at US\$13.4 billion.

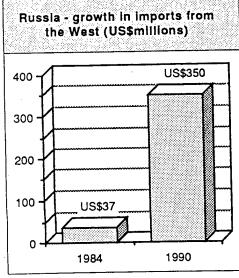
However, while the Russian market will grow rapidly, the United States sales market will remain at a virtual standstill.

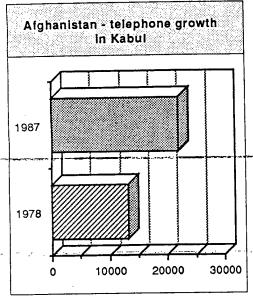
Although still the world's biggest spending country, expenditure will rise to US\$27.19 billion - a fairly small increase compared to the 1986 figure of US\$24 billion and this year's budget of US\$24.31 billion.

Continued on Page Two

WORLD REPORT







Marketing managers would be well advised to start looking at the Russian market immediately.

Russian imports of telecommunications equipment are expected to reach US\$5 billion in 1990 with the West accounting for US\$350 million

This compares with imports of 1984 of only US\$924 million of which the West supplied a mere US\$37 million.

COCOM agreement

The COCOM agreement bans certain telecommunications exports to Russia and other Eastern bloc countries.

However, this is likely to be amended in September 1988, a move which could literally open the floodgates.

The Russian network is typified by old, outdated equipment, corded rotary telephones and poor reliability.

The West's expertise and technical know-how would be welcomed in a country which has made telecommunications a priority area.

Afghanistan - Further expansion announced

Afghanistan's infant telecommunications sector is planning further expansion.

The country has just announced its 1986-1990 Five Year Plan although full details of the expansion programme are not known.

Since 1978, Afghanistan's government has increased the number of telephones installed in Kabul, the capital, from 13,200 to 22,000.

However, communications facilities in rural areas are far sparser. The number of telephone sets currently number 6,600 compared with about 4,500 in 1978.

Although full details of the plan are not revealed, a report issued by the country's official news agency Bakhtar said that before 1978, automatic telecommunications facilities were only installed in Kabul, Balkh, Herat and Kandahar provinces.

Since then the government has extended automatic facilities to Parwan, Jowzjan, Konduz and Nangarhar provinces as well as Pol-e Knomri City:

Plans call for automatic telephone equipment to be installed in Ghazni province shortly.

Telecommunications growth has so far been slow.

The number of main lines only increased from 22,200 in 1976 to 25,800 in 1980, the last year for which figures are available.

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4.1 WORLD OVERVIEW

Market growth

According to International Telecommunications Intelligence, a United Kingdom based research organisation, world spending on telecommunications equipment reached a record \$US90 000m in 1985. In the next five years, the fast growth is expected to continue, reaching a world market of \$US156 800m in real terms in 1990 and a forecast \$US202 700m in 1995.

World expenditure is broken down as follows.

- ☐ In 1985, North America's spending was \$US28 200m out of a world market of \$US90 000m and this is forecast to grow to \$US34 600m in 1990 out of a world market of \$US156 800m. Further growth is expected to 1995 when the share will be \$US38 700m out of a world market of \$US202 700m.
- ☐ Europe will grow from a 1985 total of \$US27 300m to \$US38 300m in 1990 and \$US43 500m in 1995.
- ☐ The Far East, including Japan and China, is expected to grow from \$US13 800m in 1985 to \$US21 400m in 1990 and \$US30 400m in 1995. This growth is fuelled by China's \$US30 000m telecommunications development program.
- ☐ Africa, for long lagging behind in telecommunications

development, is forecast to grow from \$US2400m in 1985 to \$US11 400m in 1990 and \$US17.200m in 1995.

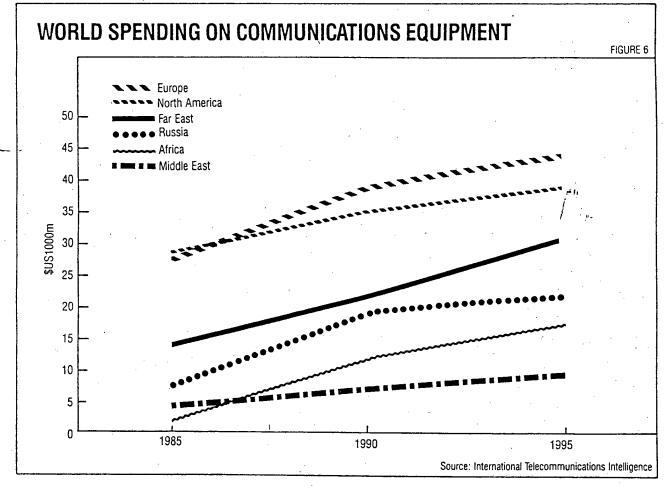
The USSR's huge telecommunications expansion plan to install another 10 million telephones by 1990 will mean a projected increase in expenditure from \$US7200m in 1985 to \$US18 600m in 1990 and \$US21 500m in 1995.

Slower growth is forecast in Middle East markets which accounted for \$US4200m expenditure in 1985. This is expected to rise to only \$US6700m in 1990 and \$US8900m in 1995 (Figure 6).

Many of the world markets will level off after 1995 as much of the major change to digital switching and fibre optic transmission will be completed. The developing countries are then expected to come into their own as major world markets with Africa, Asia and South and Central America showing significant growth.

Product shares in world sales of telecommunications equipment in 1985 were (Figure 8):

- □ switching 31.5 per cent;
- ☐ transmission 30.9 per cent;
- ☐ terminal equipment 14 per cent;
- mobile radios 9.6 per cent;
- ☐ private systems 8.4 per cent; and
- □ other equipment 5.6 per cent.



TOP 20 WORLD TELECOMMUNICATIONS MARKETS BY VALUE OF EQUIPMENT EXPENDITURE (1985 — \$USm)

USA	24 058
USSR	7200
Japan	6841
Germany, Fed. Rep. of	5604
France	4140
United Kingdom	2450
Italy	2289
Canada	1951
Korea, Rep. of	1391
Spain	1182
China	1055
Australia	977
Brazil	852
South Africa	719
India	585
Sweden	580
Austria	543
Switzerland	542
Mexico	505
Argentina	492

Source: International Telecommunications Intelligence (Fig. 7).

WORLD SHARE OF SWITCHING EQUIPMENT MARKET BY INSTALLED LINES AND ON ORDER AT 31 DEC. 1984

Company	No. of lines	Percentage of world market share
Alcatel	16 738 000	22.5
Northern Telecom	11 258 000	15.1
ITT	10 906 000	14.7
Ericsson	8 074 000	10.9
AT and T	5 800 000	7.8
Siemens	4 208 000	6.2
NEC	3 530 000	4.8
Others		18.0

Source: International Telecommunications Intelligence.

Priority markets

The top 10 exporting countries in 1984 were Japan, FR Germany, Sweden, the USA, the Netherlands, the United Kingdom, France, Canada, Belgium and Italy.

The top 10 importing countries were the USA, the United Kingdom, Canada, FR Germany, the Netherlands, Belgium, Italy, France, Sweden and Japan.

During the past 12 months, telecommunications projects and developments worth more than \$US200 000m have been announced. For instance, India plans to spend \$US45 000m in the 15 years to 2000.

International trade

The OECD estimates that the major growth sector is expected to be in private telephone and data networks incorporating text

capability. Ultimately, these will expand into integrated business information systems culminating in Integrated Services Digital Networks (ISDNs), which are expected to account for 55 per cent of world telecommunications markets by the year 2000. Growth in international trade is expected to continue to be focused on electrical line, telephonic and telegraphic apparatus. This category includes exchanges, switchboards, telephone apparatus, teleprinter and teletype units.

Total OECD exports of telecommunications equipment increased at a yearly average rate of 8.8 per cent between 1978 to 1983, from \$US5100m to \$US7700m, compared with the growth in manufacturing exports as a whole of 5 per cent annual average. In terms of the four main product categories which constitute 'telecommunications equipment', the high rate of growth in line equipment exports (10.7 per cent annual average over 1978-1983) has been the main contributing factor to total export growth of telecommunications equipment. This item accounts for about 50 per cent of total telecommunications equipment exports and for nearly two-thirds of the growth in export trade. The table below shows the relative contribution of each product category to the total growth in exports of telecommunications equipment:

CONTRIBUTION TO TELECOMMUNICATIONS EQUIPMENT EXPORT GROWTH (1978-1983)

	Percentage contribution	Annual average growth
Line equipment Telephonic/telegraphic	61.4	10.7
transmitters Telephonic/telegraphic	17.0	6.0
receivers	2.3	5.9
Line equipment parts Total telecommunications	19.3	8.0
equipment Source: OECD	100.0	8.8

The most promising markets for Australian communications equipment can be categorised as follows:

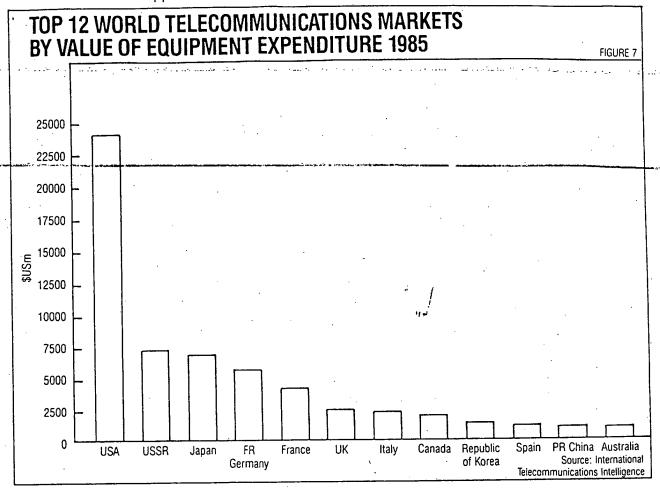
- ☐ South-East Asia.
- □ North America.
- ☐ Western Europe/United Kingdom.
- ☐ People's Republic of China.
- ☐ India.
- ☐ New Zealand and the Pacific Islands.

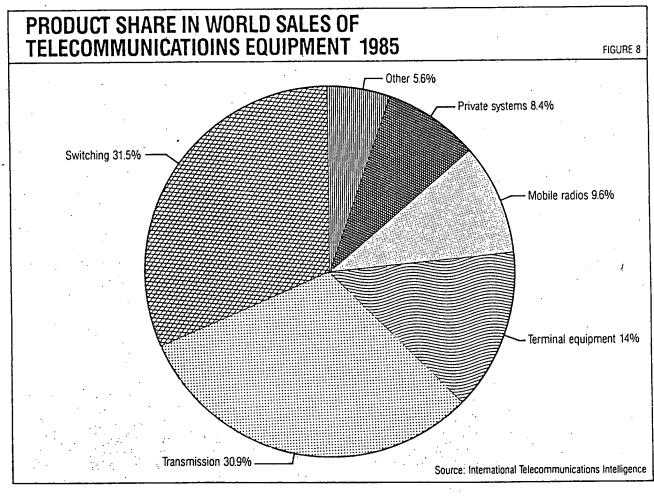
Developing country markets offer longer term opportunities as they upgrade their telecommunications networks to respond to rapid industrialisation.

4.2 SOUTH-EAST ASIA

The South-East Asian region is considered a priority market for the following reasons:

- there are basically a limited number of clients (telecommunications authorities), most of whom are aware of Australian technology and have close contact with Telecom Australia;
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quitous by 1991 - will, it is argued, need a lot more bandwidth than the pabx can offer, to pull down files, applications and graphics from central stores. Hence Ethernet and the IBM token ring - both well-suited to high bandwidth, bursty traffic will dominate.

If the PC does spread to many more desktops (see Figure 1), it should also safeguard the market forsome modems - especially V22 dial-up modems. But the leased line modem will fall victim to the spread of digital leased lines.

Also beginning to decline after a

long and useful life is telex. Though the number of terminals is still growing, traffic is beginning to fall off in some developed countries. The main reason is facsimile.

As Figure 2 shows, facsimile has been growing at an astonishing rate, and most forecasters believe it will continue to do so. In most developed countries, indeed, there will be more facsimile terminals than telex terminals : \$ in 1991. - Viet Commission (1997)

Other technologies may emerge for the first time over

the next four years. One which is likely to be highly visible at Geneva is videoconferencing, where impressive technical advances have led to the announcement recently of a number of 64kbps video codecs.

They are still very expensive, but it is clear that, with economies of scale, this could be one of the growth markets of the next five years.

Voice messaging is another promising technology which has failed to make real headway. In the US. however, there are signs that this simple but useful technology, which could end 'telephone tag', is poised for take-off. The spread of DTMF telephones - without which it cannot

work - should help.

But the most promising single area

The league of spending

You are the marketing director of a the league table of telecommunications broadly-based telecomtions nations will change, and where muncations vendor You are looking the most growth will be for new countries in which to sell. The table on the left shows the your products. Where do you turn top twelve spending nations in 1986. If the products which perhaps to the table on the right shows which be those countries which show most countries, amongst the top 50 curgrowth potential. Unfortunately frent spenders, are expected to grow telecommunications continues to be fastest over the perfect of the perfe

some countries are so difficult to penetrate that it is scarcely worth the effort, however large the

All the same, it is interesting to a see how one analyst ITI believes

telecommunications continues to be a fastest over the next five years

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in telecommunications today is probably mobile communications.

Five years ago, this somewhat unglamorous technology was largely confined to closed user groups such as the police, the military, taxi fleets, airlines and the like. In the intervening years, it has been transformed by the arrival of cellular radio, and in the next four years, the expansion of mobile communcations, most pundits believe, will not slow down.

As Table 1 shows, Dataquest believes that cellular radio will overtake digital switching as a money earner in the USA by 1991. But other mobile technologies will complicate the picture, in particular the cheap digital cordless phones which could enable people to own a telephone number instead of a telephone and make calls wherever they are. Manufacturers of pabxs - Ericsson and Motorola, for instance - are expected to boost the ailing pabx market by announcing so-called 'cordless pabxs'. And, in the skies, land-based mobile communications based on satellites should be well underway by 1990.

Cellular radio itself, of course, will be massively boosted by the establishment of a European digital standard. However, this, and many other, new mobile technologies will probably not be fully underway until 1991. They will only become really big revenue earners in the years to 1995. But even analysts and journalists are wary of making predictions about Geneva 1995. . . .

Other telecommunications market reports currently available are: Belgium £295 US\$445 Italy £295 US\$445 Turkey £295 US\$445 Canada £295 US\$445 Saudi Arabia £295 US\$445 Finland £295 US\$445 Netherlands £295 US\$445 Switzerland £295 US\$445 Australia £295 US\$445 China £295 US\$445 France £295 US\$445 Portugal £295 US\$445 United Kingdom £295 US\$445 Egypt £295 US\$445 Brazil (Update Report) £75 US\$120 Greece £295 US\$445 Spain £295 US\$445 West Germany £295 US\$445 Kuwait £295 US\$445

Declassified and Approved For Release 2013/04/23 : CIA-RDP92B00181R000300270040-5 International Telecommunications Intelligence



World telecommunications expenditure and development



1988

1989

1990

International Telecommunications Intelligence

Telecommunications Industry Research Centre 4/5 The Square Barnham West Sussex PO22 0HB United Kingdom Telephone (0243) 554251

Telex 869449 (ITIRES G) Facsimile (0243) 553125

cations equipment reached US\$90 billion in 1985.

☐ In the next five years the fast growth is expected to continue to reach a world market of US\$156.8 billion in 1990 and a forecast US\$202.7 billion in 1995.

☐ A major study on world telecommunications markets over the next five years has been undertaken by International Telecommunications Intelligence -

one of the world's leading telecommunications market analysts. ☐ The study looks at more than 50 of the major telecommunications markets in

detail and highlights growth areas both by market size and production areas. ☐ In its findings the study analyses how the world expenditure is broken down: ☐ In 1985 North America's spending

was US\$28.2 billion out of a world market of US\$90 billion and this is forecast to grow to JS\$34.6 billion in 1990 out of a world market of US\$156.8 billion and further growth is expected up to 1995 when the share will be US\$38.7 billion out of a world market of US\$202.7 billion. The study reveals some interesting growth areas. Europe will grow from a 1985 total of J\$\$2.7.3 billion to U\$\$38.3 billion in 1990 and U\$\$43.5 billion in 1995. ☐ The Far East including Japan and China is expected to grow from U\$\$13.8 billion in 1985 to J\$\$21.4 billion in 1990 and U\$\$30.4 billion in 1995. This growth is fuelled by China's U\$\$30

pillion telecommunications development programme.

☐ Africa, for long lagging behind in telecommunications development, is forecast to grow from US\$2.4 billion in 1985 to US\$11.4 billion in 1990 and US\$17.2 billion in 1995. ☐ Russia's huge telecommunications

expansion plan in which it plans to install a further 10 million telephones by 1990 will give rise to an expected expenditure from US\$7.2 billion in 1985 to US\$18.6 billion in 1990 and

US\$21.5 billion in 1995

□ Disappointing growth is forecast in Middle East markets which accounted for US\$4.2 billion expenditure in 1985 and is set to rise only to US\$6.7 billion in 1990 and US\$8.9 billion

☐ The study points out that many of the world markets will level off after 1995 as much of the major change to digital switching and fibre optic transmission will be completed. ☐ The developing countries are then expected to come into their own as major world markets with Africa, Asia and South and Central America showing significant growth.

Top 20 world telecommunications markets by value of equipment expenditure - 1985 (US\$ millions)

United States	24,058
Russia	7,200
Japan	6,841
West Germany	5,604
France	4.140
United Kingdom	2,450
Italy	2.289
Canada	1,951
South Korea	1,391
Spain	1,182
China	1,055
Australia	977
Brazil	852
South Africa	719
India	585
Sweden	580
Austria	543
Switzerland	542
Mexico	505
Argentina	492
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Declassified and Approved For Release 2013/04/23: CIA-RDP92B00181R000300270040-5: al telecommunications market – of this total 22 per cent of the countries have more than a million telephones and 40 per cent have fewer than 50,000 telephones.

 \square The study details the telephone density of the world's telecommuncations markets with the lowest being Rwanda (0.9 telephones per 100 population) followed by Burma and Zaire

(0.11 per 100 population).

Some 25 countries use 85 per cent of the total world international voice traffic and virtually a the data communications traffic. ☐ The study examines the product share in world sales of telecommunications equipment which in 1985 were: Switching 31.5 per cent; transmission 30.9 per cent; terminal equipment 14.0 per cent; mobile radios 9.6 per cent; private systems 8.4 per cent, and other equipment

 \square Analysis is made in the study of world trade in telecommunications equipment with the top ten exporting countries in 1984 being Japan, West Germany, Sweden, United States,

Netherlands, United Kingdom, France, Canada, Belgium and Italy.

☐ The top ten importing countries were: United States, United Kingdom, Canada, West Germany, Netherlands, Belgium, Italy, France, Sweden and Japan.

☐ The major companies involved in world telecommunications markets still remains complicated picture of 'free' and 'closed' trading areas due to protectionist barriers preventing market access to some foreign countries.

☐ The situation is changing and the study reviews the current situation of competitive access worldwide and future trends.

 \square An important part of trading with developing countries is payment. The study looks at the current aid situation in the telecommunications sector, long-term country loans and supplier credits.

☐ The study also covers the important joint venture agreement situation.

☐ During the last 12 months telecommunications projects and developments worth more than US\$200 billion have been announced and a complete survey of these projects is included in

 $\hfill\square$ Many of these are ongoing projects covering many years and are vital information to manufacturers. For instance India's plan is to spend US\$45 billion in the 15 years up to the year

☐ A comprehensive directory including details of every world PTT or operator is part of the

study together with international organisations. ☐ The study also contains a large statistical section and is illustrated with numerous graphs and

World share of switching equipment market by installed lines and on order as at 31st December, 1984

Company	No. of lines	Percentage of world market share
Alcatel Northern Telecom ITT Ericsson AT and T Siemens NEC Others	16,738,000 11,258,000 10,906,000 8,074,000 5,800,000 4,208,000 3,530,000	22.5 15.1 14.7 10.9 7.8 6.2 4.8 18.0

"World Telecommunications Expenditure and Development – the next five years 1986 to 1990" is a major reference work and an essential research document for every management executive in the telecommunications industry. It is published by International Telecommunications

Intelligence. Price: £295 (UK and Europe) US\$445 (USA and the Rest of the

World) AIRMAIL.

Publication date: September 1986

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THE WORLD MARKET

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