

JPRS-TTP-88-016  
16 DECEMBER 1988



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# ***JPRS Report***

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# **Telecommunications**

REPRODUCED BY  
U.S. DEPARTMENT OF COMMERCE  
NATIONAL TECHNICAL INFORMATION SERVICE  
SPRINGFIELD, VA. 22161

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# Telecommunications

JPRS-TTP-88-016

CONTENTS

16 DECEMBER 1988

## SUB-SAHARAN AFRICA

### TANZANIA

- New Satellite Earth Station in Final Stage [DAILY NEWS 3 Nov] ..... 1

## CHINA

- Joint Satellite Communications Venture Announced [ZHONGGUO XINWEN SHE] ..... 2  
Communications Satellite Launch Set for December [ZHONGGUO TONGXUN SHE] ..... 2  
Atmospheric 'Balloon Satellites' Set for Launch [XINHUA] ..... 2  
Satellite Receiving Station in Inner Mongolia Opened [Hohhot Radio] ..... 2

## EAST ASIA

### CAMBODIA

- Cambodian Satellite Communications Station Opens [Moscow TV] ..... 4

### HONG KONG

- Mainland Fund Takes Stake in Telecommunications  
[SOUTH CHINA MORNING POST (BUSINESS POST) 2 Dec] ..... 4  
Cable TV Hongkong Out of Cable TV Race [SOUTH CHINA MORNING POST 6 Nov] ..... 5  
Reportage on Activities Concerning HK Telecom ..... 5  
20 Percent Profit Rise [SOUTH CHINA MORNING POST 5 Nov] ..... 5  
Market Awaits Details [SOUTH CHINA MORNING POST 6 Nov] ..... 6  
500 Million Shares for Sale [SOUTH CHINA MORNING POST 8 Nov] ..... 7  
Share Offer Clears Air [SOUTH CHINA MORNING POST 8 Nov] ..... 8  
Record Share Placement [HONG KONG STANDARD 8 Nov] ..... 8  
Offer Near Seven Percent of Equity [HONG KONG STANDARD 8 Nov] ..... 9  
Possible HK-TVB Takeover by Bond Corp Discussed ..... 10  
Latest Takeover Target [HONG KONG STANDARD 9 Nov] ..... 10  
World International Involvement [HONG KONG STANDARD 10 Nov] ..... 10  
Telerate Financial Net To Use Intelsat [SOUTH CHINA MORNING POST 8 Nov] ..... 11  
Versatile Software Taking Over Market [SOUTH CHINA MORNING POST 8 Nov] ..... 11  
Telex Tie to Equatorial Guinea Starts [HONG KONG STANDARD 1 Nov] ..... 12

## NEAR EAST & SOUTH ASIA

### EGYPT

- Experiment Links Television Between Jordan, Egypt [AL-AHRAM AL-DUWALI 9 Oct] ..... 13

### INDIA

- Cabinet Defers Decision on Telecommunications Panel [THE TIMES OF INDIA 9 Oct] ..... 13  
Space Chief Discusses Prospects of INSAT-1C Operation [THE TIMES OF INDIA 11 Oct] ..... 14  
Tasks of New Telecommunications Research Center Defined [THE HINDU 29 Sep] ..... 14  
New Earth Station To Be Set Up in Bangalore [THE TIMES OF INDIA 14 Oct] ..... 15  
Lag in Telephone Switching System Production Reported [THE HINDU 17 Oct] ..... 16

**WEST EUROPE**

**FINLAND**

Telecommunications Administration Orders Nokia System [*HUFVUDSTADSBLADET 19 Nov*] .... 18

**PORTUGAL**

Digital Phone System Obtained From Finland [*HELSINGIN SANOMAT 15 Nov*] ..... 18

**SWEDEN**

Ericsson Planning Major Mobile Phone Effort in North America [*DAGENS NYHETER 18 Oct*] ... 18

## TANZANIA

**New Satellite Earth Station in Final Stage**  
*55500002 Dar es Salaam DAILY NEWS in English*  
*3 Nov 88 p 1*

[Article by Roland Ntondolo: "TPTC Embarks on New Satellite"]

[Text] The Tanzania Posts and Telecommunications Corporation (TPTC) has embarked on a new satellite earth station standard "A" which is to implement digital technology in the form of Intermediate Data Rate (IDR) configuration.

This was said here yesterday by the corporation's Director General, Ndugu Francis Kasambala, in his opening remarks to an eight-day International Satellite Consortium (Intelsat) seminar at the Arusha International Conference Centre (AICC).

He said at the moment they were on the final stages of concluding the project and that the carrier implementation was initially planned for the Tanzania-Britain link which constitutes the major route.

Digital conversions on other links will be done when agreements were reached with distant correspondent in the period time of 1990 to 1995. He did not mention the distant correspondents.

Stressing on the economics of some digital carrier configuration, Ndugu Kasambala said this had significant attraction to thin route traffics which were prevalent between most African countries.

He said such characteristic was very important in the establishment of inter-African traffic, which for a long time had been transiting through extra-African centres such as Europe.

Ndugu Kasambala said "that was not only disadvantageous with respect to the outflow of foreign currency from the African continent, but also affects the quality of service that is offered between African countries."

The Director General also said that efforts within the Southern Africa Telecommunications Corporations (SATCC) and other sub-regional groups in the continent to improve their interconnectivity hinged to a great extent upon successful implementation of digital carriers.

On the International Satellite Consortium (Intelsat) system, Ndugu Kasambala said that was a cure to global communications problems.

He said first of all it assures high quality of service, and secondly, at a cheaper rate that keeps on decreasing with advanced technology, which is constantly being researched at the Intelsat research and development laboratories.

Tanzania, including other nations, are provided with facilities to enable them to communicate together. "This harmonises the entire world," Ndugu Kasambala stressed.

However, he said Africa's success to satellite system was through analogues system. "In order to enjoy full range of the facilities offered by digital satellite system, we have to convert our analogue to digital operation," he added.

The seminar, which was opened by the Arusha Regional Development Director, Dr. Ben Moshi, is being attended by 23 participants from eight African countries and two representatives from Intelsat headquarters, Washington D.C., Mr. W.R. Calvert, and Mr. T. Alper.

Among other things, the seminar will cover in detail basics to advanced digital satellite techniques, including transitional strategies of converting from existing analogue satellite system to digital one.

The participating countries already represented here are Egypt, Ethiopia, Gambia, Kenya, Lesotho, Mozambique and Hosts Tanzania.

**Joint Satellite Communications Venture Announced**  
*HK0312004888 Beijing ZHONGGUO XINWEN SHE  
in Chinese 1316 GMT 25 Nov 88*

[Report: "A Chinese Corporation, a British Corporation, and a Hong Kong Corporation Jointly Form a Company To Invest Money in Satellites"—ZHONGGUO XINWEN SHE headline]

[Text] Hong Kong, 25 Nov (ZHONGGUO XINWEN SHE)—A corporation jointly formed by a Chinese financial group, a British financial group, and a Hong Kong financial group, the Asia Satellite Telecommunications Company Limited [ASTC], was officially founded here today. It is going to launch and operate Satellite Asia I.

The ASTC is jointly formed by the Cable and Wireless Company of the United Kingdom, the CITIC [China International Trade Investment Corporation] (Holdings), and the Hutchison and Whampoa Company Limited. The new company is negotiating the purchase of the franchise of Westar VI, a satellite built by the United States, and is going to rename it Asia I.

It is reported that Asia I is the first regional satellite bought with investment from private organizations. This high-power satellite will provide a wide range of high-quality satellite service for Asia, including telephone service, special-purpose telegraph [zhuan yong dian bao 1413 3938 7193 1032], facsimile, high-speed data transmission, and television broadcasting service. Asia I will be launched in 1990 with a Chengzheng III carrier rocket that belongs to China's Changcheng Industrial Corporation. After entering orbit, this satellite can cover mainland China, Taiwan, Hong Kong, Thailand, Korea, Burma, Afghanistan, Pakistan, and Malaysia.

Asia I will be flown from the Hughes Aircraft Company in Los Angeles, California, to the Xichang launching Ground in Sichuan 3 months prior to launching. Asia I will use up all its fuel 9 years after launching.

Ground control stations in Hong Kong and Thailand will be responsible for monitoring and tracking the satellite. The ground station in Stanley, Hong Kong, will be the main control center. A second control center will be in Bangkok and used as the backup control center.

It is reported that ASTC has other satellite launching plans. These plans will ensure that the company will continue to have high-quality telecommunications facilities at its disposal in Asia long after 1990.

**Communications Satellite Launch Set for December**

*HK0512044688 Hong Kong ZHONGGUO TONGXUN SHE in Chinese 0731 GMT 3 Dec 88*

[Report: "PRC To Launch a New-style Communications Satellite at End of December"]

[Text] Beijing, 3 Dec (ZHONGGUO TONGXUN SHE)—According to information released by people

from aviation and astronautics circles in Beijing, China is going to use the Changzheng No 3 carrier rocket to launch a new-style communications satellite in a geo synchronous orbit, some 30,000 km above ground, at the end of this month.

As told, this satellite will be launched at the satellite launching station in Xichang, Sichuan. This satellite is more advanced and has more functions than the other three satellites of the same category, having four transmitters, which were launched previously by this station.

At present, these three communications satellites are still functioning. The first experimental communications satellite, which was launched in 1984, has exceeded its designed lifetime of 3 years. The launching of this new satellite symbolizes a wider scope of use of China's communications satellites.

It will be the fourth satellite, following the communications satellite, the earth resources satellite, and the meteorological satellite, launched by China this year. This year has thus become the first "good harvest year" of China's space industry. Up till now, China has launched 23 satellites of various categories.

At present, China has five large-scale satellite ground stations, which are being used in international communications. China has gradually begun to end the history of leasing and buying transmitters of international communications satellites.

**Atmospheric 'Balloon Satellites' Set for Launch**  
*OW0511201288 Beijing XINHUA in  
English 1449 GMT 4 Nov 88*

[Text] Beijing, November 4 (XINHUA)—China will soon launch two balloon satellites to study atmospheric density, the journal, "SCIENCE NEWS," reported today.

The two satellites will get a lift on a "Long March No. 4" carrier rocket, which is to launch a meteorological satellite, to a height of 900 km and they will stay in orbit for a year.

Made of polyester material and coated with lithium, the balloons will be inflated to three meters in girth after they are separated from the sender.

**Satellite Receiving Station in Inner Mongolia Opened**

*SK3011074888 Hohhot Inner Mongolia Regional Service in Mandarin 2300 GMT 29 Nov 88*

[Excerpt] The ribbon-cutting ceremony marking the opening of a ground satellite receiving educational station in Aohan Banner was held recently.

This ground satellite receiving educational station is capable of receiving signals issued by two telecommunications satellites located at 66 degrees east and 87.5

**JPRS-TTP-88-016**  
**16 December 1988**

**3**

**CHINA**

degrees east above the equator respectively, receiving and enabling the banner to record all the teaching contents of the China educational television station, and the first and second programs of the Central Broadcast Station.

This station was designed, constructed, and completed within a year. [passage omitted].

## CAMBODIA

### Cambodian Satellite Communications Station Opens

LD0212102888 *Moscow Television Service in Russian*  
1530 GMT 1 Dec 88

[From the "Vremya" newscast]

[Summary] "The ceremonial opening of a satellite communications station built with the assistance of the Soviet Union, has taken place in Phnom Penh."

[Ye. Kochanov reports] "A Soviet delegation led by Gusev, a deputy chairman of the USSR Council of Ministers, took part in the opening ceremony." The new complex is part of the Intersputnik system, and uses many achievements of modern electronics and communications technology, and it is named Bayon, after a famous ancient Cambodian temple. "It was stressed in the speeches by the participants in the meeting that the erection of the station is a major step in the development of cooperation between the two countries, which will promote the movement of the People's Republic of Kampuchea along the road of progress."

"In present-day Kampuchea, with its extremely backward technical base and low standard of living, a satellite communications station looks, at first sight, like a rather alien or premature phenomenon. But the Cambodians need it to help solve some of their tasks, though as yet it is far from being used at full capacity."

The Bayon station ensures reliable communications between Cambodia and the outside world, principally by telephone, and there will be telex links in the immediate future. It also receives Soviet television programs from the "Orbita" system: They are currently being relayed just to the capital and the surrounding area, but other regions will be able to receive them soon.

[Video shows Gusev cutting a ribbon and addressing a meeting; cheering, flag-waving crowds; a satellite dish; exterior shots of a building; men at work at control panels and screens, one of which shows the Moscow TV testcard]

## HONG KONG

### Mainland Fund Takes Stake in Telecommunications

HK0212014988 *Hong Kong*  
*SOUTH CHINA MORNING POST (BUSINESS POST)*  
*in English 2 Dec 88 p 1*

[Article by Martin Winn]

[Text] A China trust fund is taking up more than 10 percent of the shares reserved for Hong Kong institutions in the record \$4 billion placing by Hong Kong Telecommunications [Hong Kong Telecom].

The Hong Kong SAR [Special Administrative Region] Government Land Fund is paying about \$250 million for 56 million shares of the 550 million available to Hong Kong and British institutions in the territory.

Analysts said the purchase represented a show of confidence in Hong Kong Telecom and partly explained the strength of demand for the share issue, which involves the worldwide sale of 877.5 million shares priced at \$4.55.

The total offer has been expanded from an earlier expected maximum of 787.5 million shares, largely because of the warm reception for the sale in Hong Kong.

The Land Fund, set up in 1986 to help finance the provincial government that will assume control of Hong Kong after 1997, takes 50 per cent of the net proceeds of Hong Kong Government land sales and is believed to have accumulated almost \$10 billion.

Most of its money is on deposit or in fixed income securities, and Hong Kong Telecom is believed to be its first major venture into the local equity market.

Officials of the fund were unavailable for comment yesterday.

"Everyone is pleased to see China involved in the offer," said Hong Kong Telecom Deputy Chief Executive Terry Miller. "It is another sign of confidence from across the border. They obviously see it as a good investment."

The Land Fund's investment follows the purchase in June by Guangdong Posts and Telecommunications of 10 million Hong Kong Telecom shares—about 0.1 per cent of the company's equity at the time.

Bank of Communications, a Chinese state bank, recently launched a \$200 million bond issue with warrants exercisable for up to 20 million Hong Kong Telecom shares and has said it would like to raise its stake in the company.

Hong Kong Telecom announced yesterday that the placing and underwriting of the share issue had been completed. Lead underwriters of the Hong Kong portion of the offer will be paid a fee of 2.25 per cent and sub-underwriters 1.25 per cent, in line with recent major share issues in Hong Kong.

All but 25 million shares of the 575 million shares for sale in Hong Kong have been pre-placed with institutions, although up to 105 million shares can be reallocated to the public if the general offer for sale generates demand for more than 130 million shares.

The Hong Kong offer can also be expanded by up to 20 percent through a clawback [as published] of shares placed with U.S. and international investors.

American institutions will take 202.5 million shares in the form of American Depositary Receipts and 100 million shares will be placed internationally.

If necessary, the vendors—the Hong Kong Government and Britain's Cable and Wireless—can give an additional 30.38 million shares to U.S. underwrites to cover over-allotments.

Another 15 million can be made available to international underwriters for the same purpose.

If all the options are exercised, the total number of shares offered could rise to a maximum of 922.88 million and bring the proceeds from the placement to \$4.2 billion.

Application lists for the shares close on December 7 and the basis of allotment will be announced on December 9. Shares certificates and refund payments will be posted on about December 14.

Hong Kong Telecom shares are expected to resume trading today.

**Cable TV Hongkong Out of Cable TV Race**  
*55400012a Hong Kong SOUTH CHINA MORNING*  
*POST in English 6 Nov 88 p 6 Spectrum*

[Article by Kate Southam: "Cable Agent Bows Out With Grace"]

[Excerpts] When Cable Television Hongkong was still in the race to be the territory's first cable TV operator, the assertive and articulate voice of Mrs Valerie Geoffroy was heard often leading the charge. Now the company has withdrawn, some expected to find a different tune but, as Kate Southam found, the American executive has few complaints.

On the day that Cable Television Hongkong's withdrawal was announced, Mrs Valerie Geoffroy answered the phone with a typical smile in her voice.

"I'm fine...well actually I have had better days," admitted the chief operating officer of the once hopeful consortium that included Hongkong Telecommunications (parent of Hongkong Telephone), Swire Pacific, Golden Harvest and the Edko Group.

After spending almost two years working six days a week and 10 hours a day, the battle to be Hongkong's first cable television operator is over for the executive who was seconded from Viacom, a California cable company.

Since the news broke on Tuesday, October 25, Mrs Geoffroy has maintained her smile and for the media an attitude of "well, you win some, you lose some". [passage omitted]

"It has been an evolution (coming to the decision to withdraw). I can't say it was a shock."

Last July the unpredictable powers-that-be changed the cable television rules to stop CTHK using the existing network of Hongkong Telephone.

It was then that the consortium knew it was in trouble. To go on, CTHK would have to completely change tack and bring in a heavyweight from outside.

Mrs Geoffroy flew to the United States and spoke to Bell South before it took up with China Resources. She also spoke to US West and NYNEX.

"They each flew in technical staff and they all took the project very seriously," Mrs Geoffroy said.

At the end of the day, she said, CTHK shareholders did not want to sway from their original plan of using the existing telephone network and last month they decided to pack it in.

When asked if the cable bid is now going to be a one-horse race with Hutchison Cable Vision the sure fire winner, Mrs Geoffroy shrugs. "It sure looks that way, doesn't it?"

According to latest industry suggestions Bell South is again on the loose after a falling out with China Resources and the First Pacific Group is talking to both NYNEX and US West about rustling up a cable bid.

Mrs Geoffroy doesn't believe that the government turned on CTHK but rather that her company was an innocent bystander that got knocked down by an official desire to see competition introduced into the telecommunications arena. [Passage omitted]

**Reportage on Activities Concerning HK Telecom**

**20 Percent Profit Rise**  
*55400011 Hongkong SOUTH CHINA MORNING*  
*POST in English 5 Nov 88 p 1 Business*

[Article: "HK Telecom Records 20pc Rise in Profit"]

[Text] Hongkong's biggest company, Hongkong Telecommunications, yesterday announced that after-tax profits for the six months ending September 30 were 20 per cent higher at \$1.723 billion, in line with expectations.

Turnover was up slightly from \$3.3 billion to \$3.8 billion. An interim dividend of 11 cents a share is to be paid.

International calls were 30 per cent up and accounted for 39 per cent of turnover compared with 34 per cent at the interim stage last year.

Telecommunications is big business in Hongkong, where there are now more than two million phone lines for fewer than six million inhabitants and the company is on line for full year profits of up to \$3.7 billion.

The company, which is capitalised at \$59 billion, was formed earlier this year as a result of the merger of two Hongkong subsidiaries of Cable and Wireless.

It has the franchises to run the territory's telephone service until 1995 and Cable and its international telecommunications facilities until 2006, nine years after Hongkong is handed back to China.

The company is presently 80 per cent owned by Cable and Wireless, nine per cent by Hongkong shareholders and the Hongkong Government holds 11 per cent.

The shares were first listed on January 22, but the company has at some point to raise the stake in public hands to 25 per cent to comply with local listing rules.

According to company spokesperson Roger Gadd, Hongkong Telecom would announce this month details of its plans to offer existing shares to the public.

A maximum of 11 per cent shares will be offered, with most of these to be placed overseas.

The shares rose five cents to \$5.30 each yesterday on rumours that there will be a share sale later this month at a discount of 3.5 per cent to the market price which will be accompanied by a bonus issue.

The company refused to comment on the forthcoming share issue, which has been hanging over the market in recent months.

There were few surprises from Hongkong Telecommunication's interim results announced yesterday, writes Nigel Simmonds.

A 20 per cent growth in profit was in line with market expectations, although slightly down on previous years partly because telex machines, formerly a substantial contributor to profits, are becoming antiquated and less popular.

There has also been a slow down in income from peripherals like equipment sales and rental, computers, engineering and other services. Turnover for this sector dropped back to 38 per cent from a comparative 1987 figure of 42 per cent.

Although this is a major growth area—everyone has a fax machine these days—the market has steadied after the explosive increases which followed the introduction of the new technology.

A surge in the number of international telephone calls boosted turnover derived from that sector by 33 per cent and turnover from local telephone services was lifted by 10 per cent.

### Market Awaits Details

55400012b Hong Kong *SOUTH CHINA MORNING POST* in English 6 Nov 88 p 1

[Article by William Barnes: "Market Wary of Telecom Issue"]

[Excerpts] Investors and stockbrokers are awaiting with deep concern details of the territory's largest ever share offering.

According to Hongkong Telecommunications, the announcement should be made "in the near future". Deputy chairman Mr David K.P. Li has consistently maintained that the issue would take place before the end of the year.

Although many experts argue that the placing of the shares has been largely discounted, there are still fears that such a massive offer could punch a hole in the market.

Hongkong Telecommunications is the biggest company in the colony—twice the size of the Hongkong and Shanghai Bank in market capitalisation. With the local stock market still wallowing in what are all the signs of a bear market, stockbrokers expected the cash call of up to about HK\$6.5 billion to be put off until the New Year.

But a 150-point rise in the Hang Seng index in the past month, and the eventual need to conform to stock market listing requirements, should probably see the offer of existing shares made by at least the beginning of next month.

Cable and Wireless plc with 79.4 per cent and the Hongkong Government with 11 per cent originally said they were going to trim their joint holdings by equal amounts, making a total of 11 per cent. This would increase the public's take from some 9.6 per cent to about 20 per cent of the company.

Some investors worry that the offer could drain liquidity from already shaky market. But most brokers say the impact may be less than feared.

An investment roadshow is helping to sell at least a third of the offer to investors in London, Europe, the US and Japan.

The price of the shares—HK\$5.30 at close of trading Friday—may also be cut, although the Hongkong Government will be reluctant to see them sold too cheaply. Forecasts of the discount to be offered range from three to eight per cent. It is understood a listing is being sought on the New York stock exchange.

A reduction in the size of the sale is also a possibility, although many market watchers reckon the whole 11 per cent will be disposed of at one go. If this were not to happen, there would be the severe danger of an overhang of shares depressing the price.

Hongkong Telecommunications was set up in January: the result of a merger between the territory's domestic telephone company and the local operations of Cable and Wireless.

The company has a monopoly of the territory's telecommunications network but suffered a setback recently when it was effectively banned from participation in cable television, now being developed. As cable TV is expected to take at least six years to break even, this will not hurt profits in the short term.

The move underlined a potential long-term challenge to the monopoly franchise holders, especially given the political uncertainties stemming from 1997. The Hongkong Telecom monopoly extends to 1995 for domestic and 2006 for international telephone services.

The interim profit increase of 20 per cent, slightly slower than last year, was in line with analysts' expectations and should easily be maintained for the full year. There is to be an interim dividend of 11 cents.

Percentage contributions from the domestic telephone network were expected to be down under the scheme of control that governs profits. The explosive growth in equipment sales and rentals by the group also have started to slow finally.

There have been suggestions that some 70 per cent of the shares will be sold in Hongkong. This is dismissed as unlikely by many brokers who argue that the final figure will be rather the reverse, with only 30 per cent sold locally.[passage omitted]

The political uncertainties surrounding Hongkong Telecommunications are dismissed for all but the very long term by nearly all analysts, although some did think that the recent 1997-related publicity had not done it much good.[passage omitted]

### **500 Million Shares for Sale**

*55400013b Hongkong SOUTH CHINA MORNING POST in English 8 Nov 88 pp 1, 3 Business*

[Article by Martin Winn: "Telecom Offering Aimed at Big Buyers"]

[Text] Heavy institutional demand for next month's \$4 billion offering of Hongkong Telecom shares would restrict the amount set aside for the general public to only a small slice of the record issue, brokers and fund managers said.

Of the 425 to 500 million shares offered for sale in Hongkong, institutions and existing minority shareholders are expected to snap up at least 300 million.

This will leave private investors who fail to receive shares placed through their brokers with only about 25 per cent of the 790 million share issue, which will raise about \$4 billion.

"Even \$1 billion is quite a lot for the public to swallow," said one broker's analyst. "Their actual share may only be \$600 to \$700 million."

"The company wants to get some shares in the hands of the public, but the more they place with big investors the less they have to worry about," another said.

Marketing of the sale, expected in the first week of December, is being directed heavily towards major institutions.

The Hongkong market responded calmly to yesterday's news that only seven per cent of the company's stock will be unloaded, against expectations of about 11 per cent, and to the generally cautious tone of the offer. Hongkong Telecom shares ended the day unchanged at \$5.20.

Brokers said sentiment had been helped by the unusual concession that the sellers of the shares, Britain's Cable & Wireless and the Hongkong Government, would shoulder stamp duty and other costs normally payable by buyers, and to the announcement that those taking up the offer will qualify for the 11-cent interim dividend already announced.

Analysts attending a presentation by the company yesterday said management indicated that 20 per cent annual growth in earnings was sustainable over the next few years, despite a slowdown in the expansion rate from 35 per cent in 1985-86 to 26 per cent last financial year, and that total revenues would rise by about 16 to 18 per cent a year.

Most forecast the shares would be sold at a discount of about three to five per cent.

"Something drastic would have to happen to the market for the discount to be as wide as eight per cent, as some have predicted," one broker said.

Institutions who sold Hongkong Telecom shares after the Government's July decision to bar the company from operating the colony's cable television network are expected to be particularly keen buyers.

Many have reserved cash for the long awaited issue and are eager to take advantage of the 15 per cent fall in telecom's shares since July to top up their holdings.

"Telecom shares now appear fairly priced and institutions need to get their market weightings up," said County Nat West analyst Alice Hui.

### Share Offer Clears Air

55400013c Hongkong SOUTH CHINA MORNING  
POST in English 8 Nov 88 p 3 Business

[Article by Nigel Simmonds: "Telecom Offer Clears the Air"]

[Text] Hongkong Telecom's public offer of shares announced yesterday should be greeted favourably by the market—despite the fact that it is likely to flood the market with stock at a time when it is still expected to be wallowing under a bearish mood.

Yesterday's announcement lifts a cloud which has loomed ominously over the exchange since the share plan was announced in January, after the formation of Hongkong Telecommunications through the merger of Hongkong Telephone and Cable and Wireless (HK).

What is obvious from yesterday's announcement is that Hongkong Telecom predicted the potential problems, appreciated the market fears, and took steps to do something about them.

At one stage it was feared that 11 per cent of the total number of shares would be dumped onto the still shaky market, tapping as much as \$6.5 billion from it.

Now the offer has been reduced to between 6.4 and 7.1 per cent; it has been sweetened with a reasonable dividend and secured with a 15-month lock-up period to prevent a further offer in the short term.

What was most surprising from yesterday's announcement was the percentage of shares allocated to Hongkong.

Some analysts had predicted that just 30 per cent would be directed at the local market, but news that Hongkong would be given the chance to take 60 per cent of the shares surprised many who believed such a large weighting towards the territory could drain liquidity from the market.

Perhaps it is a political move to secure the group's Hongkong base, or perhaps the response from overseas investors to such a large offer was not as strong as it had hoped for.

Telecom chief executive Michael Gale claimed the offering process had received significant international interest and would result in the group becoming the first Hongkong company to be listed on the New York Stock Exchange.

Comments in his speech at the press conference to announce the offer seemed to make it clear that Hongkong will be given the lion's share because "Hongkong is and will remain our corporate home".

This offer remains a proposal, with some important variables left hanging in the air. The market has yet to be told the price per share, exact size and date of the offer. Even the size of the allocation to Hongkong could be lifted under a clause in the announcement.

### Record Share Placement

55400014a Hongkong HONG KONG STANDARD, in  
English 8 Nov 88 p 1

[Article by Giselle Militante: "Telecom To Make Record Placement"]

[Text] Hongkong Telecommunications will make the territory's largest ever share placement of up to 787.5 million of its existing shares by the first half of December.

Company chief executive Michael Gale said yesterday that market forces would decide the price and size of the offer.

The company has set a range of between 712.5 million and 787.5 million shares as the total number of shares to be offered, representing between 6.4 per cent and 7.1 per cent of present issued share capital.

The long-awaited share placement will come in equal proportions from Cable and Wireless, which holds a 79.4 per cent stake in the company, and the Hongkong Government, which holds 11 per cent of the shares.

Public shareholding now stands at 9.6 per cent.

After the placement, Cable and Wireless will probably hold a total of 76 per cent shares; the Government seven per cent; and the public 17 per cent.

Company deputy chairman Brian Pemberton said that Cable and Wireless would not be reducing its stakes further in Hongkong Telecom.

Listed companies are required to make at least 25 per cent of issued shares available to the public.

According to Mr Gale, since the Government would own less than 10 per cent after the placement, the stock exchange was allowing such shares to be counted as part of the public holdings.

A total of 425 million to 500 million shares, representing 60 per cent of total placement, will be offered to Hongkong through a combined placement with financial institutions and a public offer for sale.

In the United States, the company will publicly offer 187.5 million shares in the form of American Depositary Shares. Necessary applications will be made to have the company listed in the New York Stock Exchange, making Hongkong Telecom the first Hongkong company to be listed on the exchange.

The remaining 100 million shares will be directed to other international investors.

The distribution of shares is expected to be flexible. Depending on demand, the Hongkong portion of the shares may be increased by up to 20 per cent by cutting overseas offerings.

The placement of shares was first announced in January when the company was formed out of the merger of the Hongkong Telephone Ltd and Cable and Wireless (HK) Ltd.

Worried that previous expectation of an 11 per cent offer size might cause a market "overhang", he said that it would be useful to note that the company and the Government would not sell further shares for 15 months to March 1990.

The company is forecast to register for the year ending March 31, 1989 a net profit not lower than \$3.59 billion, which represents \$0.323 per share on the basis of some \$11.1 billion shares.

The forecast noted the increased rate of royalty Cable and Wireless (Hongkong) Ltd was to pay the Hongkong Government.

Likewise, a final dividend of \$0.115 per share, payable in September 1989.

Last week, the company posted an interim net profit of \$1.72 billion for the first six months ended September 30, 1988, up from \$1.43 billion the previous year.

Meanwhile, negotiations to extend Hongkong Telecom's franchise for domestic services which is valid only up to 1995 will start in early 1989. A decision will be made within the same year.

Hongkong Telecom was first listed in January 22. It has a market capitalisation of \$57.2 billion, the largest for an individual company in Hongkong.

Its shares closed yesterday 10 cents lower at \$5.20.

The company's books will close at the end of trading on November 24 and will reopen on November 30.

Shareholders registered on November 29 are entitled to preferential rights in the Hongkong offer to apply for one share at the offer price for every 10 shares held, Mr Gale said.

### Offer Near Seven Percent of Equity

55400014b Hongkong HONG KONG STANDARD in English 8 Nov 88 p 1 Business

[Article by Stephen Rogers: "Telecom Offer Finally on Line"]

[Text] Hongkong Telecom will offer between 713 million and 788 million shares, representing 6.4 per cent to 7.1 per cent of its equity, through a combination of private placement and public offer in December.

The placement, which will reduce Cable and Wireless PLC's holding to 76 per cent and the government's to 7 per cent, is less than the expected 11 per cent. However Telecom chief Mike Gale was quick to point out that the 11 per cent was always a maximum rather than a fixed amount.

It appears that the less-than-buoyant conditions in the market influenced the size of the offer. Certainly, if the counter was sitting at an all-time high one could envisage the entire 11 per cent going.

Furthermore, the offer will be cum-dividend with investors taking up the shares qualifying for the 11 cents interim dividend just announced.

The dividend will certainly act as a sweetener and suggests that this was necessary to generate sufficient enthusiasm. Alternatively, it may enable the company to pitch the offer price at a smaller discount to share price than generally expected.

Certainly, Cable and Wireless is foregoing \$37 million in dividend income through making the offer cum-dividend while the government is giving up \$49 million.

One surprise is that the bulk of shares will go to Hongkong when it was expected to be offered offshore. Between 425 million and 500 million shares will be offered locally while 188 million will go to American investors and 100 million to other international investors, mainly in Europe and Japan.

The local offer will be a combination of public offer and private institutional placement. Foreign investors, mainly from the London market, will be included in the latter and can always get in on the public offer. The split, between the public offer and private placement, has still to be decided.

Existing minority Telecom shareholders will be given preferential rights in the ratio of 1-for-10 and Hongkong investors will be given preference in the event of oversubscription. The number of shares available to the local market can be increased by up to 20 per cent if this happens.

The offer price and the exact size of each offer will be decided early next month. However, an offer price of \$4.80 has been suggested which puts it at an 8 per cent discount to yesterday's closing price.

At this level, the offer would suck in between \$2 billion and \$2.4 billion from the local market while the entire offer would bring in up to \$3.8 billion to the two major shareholders.

Although this may have a temporary dampening effect on the local market, its effect should be limited. The offer has, to a certain extent, already been discounted while the company's marketing strategy of announcing the offer structure prior to the offer price, which has been justified on the grounds of international practice, will give the market plenty of time to digest it.

On the extension of Telecom's franchises, Mr Gale confirmed that discussions would be held with Government next year and a decision might be possible before the end of 1989.

#### **Possible HK-TVB Takeover by Bond Corp Discussed**

##### **Latest Takeover Target**

55400015 Hongkong *HONG KONG STANDARD*  
in English 9 Nov 88 p 1 Business

[Article by Stephen Rogers: "Bond's TVB Stake May Invite Takeover"]

[Text] HK-TVB may become the latest takeover target with an aggressive bid likely to be made through Bond Corp International's [BCIL] 30 per cent stake.

BCIL has stated that it will not sell its TVB interests. However, it is believed that some companies have expressed interest in the holding and BCIL will obviously sell at the right price.

With Hutchison Whampoa excluded through its cable television interests, there are no obvious candidates but the likes of World International and Golden Harvest could be possibilities.

Since the restrictions on foreign ownership as part of the new broadcasting regulations were announced earlier this year, HK-TVB has been considered a takeover target with the market perceiving the sale of BCIL's stake as inevitable.

The privatisation of BCIL and the suspicion the company will eventually depart from Hongkong have recently increased expectations on the sale of the TVB investment.

Any company which acquires this investment will become the single largest shareholder and be in a strong position to launch a takeover bid.

Sir Run Run [Shaw] is the second largest shareholder controlling just under 30 per cent. However, this holding is almost certainly enhanced by additional shares being held in friendly hands.

But the TVB chairman has sold down his stake before—ironically to BCIL—and his determination to protect his control by going over the 35 per cent mark and making a general offer in the face of a hostile bid must be in doubt.

From BCIL's point of view, it will have to weigh the advantage of selling its stake now or waiting until the two new shares are listed through the restructuring at the end of the month.

The bulk of BCIL's TVB stake was acquired at \$14 a share compared with the counter's closing price yesterday of \$14.20. A 10 per cent premium on this would give the company a profit in excess of \$200 million and may be a sufficient incentive to sell.

However, it appears that BCIL will be able to retain its excess 10.5 million shares.

##### **World International Involvement**

55400016 Hongkong *HONG KONG STANDARD*  
in English 10 Nov 88 p 1 Business

[Article by Stephen Rogers: "World Tunes in to Bond's TVB"]

[Text] Sir Y. K. Pao is believed to be having discussions with Sir Run Run Shaw and Bond Corp International over the buyout of BCIL's HK-TVB stake—and gaining control of the company.

The parties involved were unavailable for comment but both BCIL and Shaw Brothers held after-work meetings last night.

HK-TVB is on a list of stocks that World International monitors regularly.

There is no apparent business relationship between Sir Run Run and Sir Y. K., but the two have never come into conflict and at the least there appears to be some mutual respect.

Any deal among the three parties would probably involve World's buying out the BCIL stake and a portion of Sir Run Run holding, enabling it to gain control of the company but leaving the TVB chairman to run it.

This arrangement would be similar to the thinking behind the acquisition of BCIL's stake from the chairman last year. Sir Run Run does not want to hold his

TVB stake indefinitely. But at the same time, he will not sell out entirely in one fell swoop as he would want to continue being involved in the running of the company.

BCIL is obviously keen to delay the sale of its TVB stake until after the listing of the two new shares, believing the sum of two counters will be greater than one.

With its greater growth prospects, TVB is likely to enjoy a higher rating than TV Enterprises. A price/earnings multiple of 13 times would put the counter at \$12.74 while a p/e for TV Enterprises of, say, 10 times would put the share around \$1.

If this happens, the combined counter would be at just under \$14 compared with yesterday's closing price of \$14.20. However, HK-TV B itself is believed to be expecting the shares to trade at \$13 and \$1.50.

Another factor which may delay BCIL from selling its TVB stake immediately is the privatisation.

BCIL will only sell at a reasonable premium over its average cost price of just under \$14 a share. If it sold at \$16, profit would be around \$250 million and gross return over 14 per cent on the investment.

However, it would also increase the net asset value per share of BCIL by 21 cents.

**Telerate Financial Net To Use Intelsat**  
*55400013a Hong Kong SOUTH CHINA MORNING  
POST in English 8 Nov 88 p 4 Business*

[Article: "Financial Information To Be Distributed Through Intelsat"]

[Text] Telerate Financial Information Network (Asia-Pacific) has signed a contract with Cable and Wireless (Hongkong) for satellite distribution of its real-time financial information, charts and news services throughout the Asia-Pacific region.

The new service, which started this month, allows subscribers throughout the area to receive Telerate financial information directly, using small antennas located at their premises.

This will benefit financial organisations that want such a service but are now constricted by the shortage of telephone lines in many countries, or where delivery was not previously cost-effective.

The broadcast capability of the satellite will allow Telerate to achieve efficient distribution of its service over a very wide area.

Telerate contracted with Cable and Wireless to use its World Broadcast Service to deliver financial information by satellite. Telerate delivers a high speed data feed

to Cable and Wireless in Hongkong, which is then transmitted via the WBS to the Intelsat Indian Ocean satellite situated above the equator just south of India.

The WBS transmission from the satellite can then be received at any point of the globe between London and Japan, including all of Asia, the Middle East, Africa and Europe. At any customer location Telerate will install a personal computer which stores the broadcast data including real-time updates, and allow its display as required.

Julian Childs, managing director of Telerate in Asia-Pacific, forecast that more than 100 customers would be installing the new service within the next year. "This satellite service provides us with an opportunity to further extend our subscriber base and give coverage to organisations in areas which can be efficiently served by satellite," said Mr Childs.

John Swiney, divisional manager of private networks at Cable and Wireless, said his company introduced the World Broadcast Service in order to maintain Hongkong's place as a provider of new technology and cost effective services.

"The equipment we use to broadcast the WBS signal has a reputation for maximum operating up time and can provide clients who want to reach many locations with very reliable and reasonable communications—whether they are operating at 50 baud or 19,200 bits per second (bps)," said Mr Swiney.

The World Broadcast Service utilises the spread spectrum transmission technology developed by Equatorial Communications Co of the US, and which allows virtually error free reception of data signals by a small earth station.

The first client of the WBS, which became operational in June 1988, was the New China News Agency of China. New China News Agency is using the WBS to distribute a 1,200 bps signal to 50 locations throughout China, and intends to extend the service to Chinese embassies and consulates in the satellite's reception area. The Telerate signal will initially be 7,200 bps.

**Versatile Software Taking Over Market**  
*55400013d Hongkong SOUTH CHINA MORNING  
POST in English 8 Nov 88 p 4 Business*

[Article by Keith Cameron: "Versatile Software Taking Over Market"]

[Excerpt] The long backlog of business applications awaiting development is forcing new trends in the information technology industry throughout the world, and Hongkong is no exception.

Traditional software packages are becoming less popular because, more often than not, it is necessary to modify one's business methods to suit the computer system rather than have the computer system match the business methods.

Fourth generation languages, for a time, appeared to be the solution because they reduced development time by factors of five or more, but many fourth generation tools restrict the user to a single manufacturer's equipment.

Vertical expansion capability is critical these days, because executives now recognise the heavy cost of redevelopment which is incurred when more powerful or enhanced hardware is required.

From PC to mainframe, developers are looking towards new tools to improve efficiency in systems development and, at the same time, answer the demand for contemporary systems requirements. Machine independent operating systems, with efficient data management and multi-user environments which include development aids, are becoming increasingly popular.

The PICK operating system is a prime example, and although Hongkong was slow to get going compared with the rest of the world, systems developed under PICK are now becoming commonplace on PCs and minicomputers throughout the territory.

Louis Cheng, systems director of Sun Computer Systems, and his enterprising technical team have quietly achieved a great deal of success with systems developed using PICK, particularly multi-user PC systems.

Besides its excellent data management capability and its machine independence, PICK features a very friendly user interface which can be changed to suit each terminal operator. About 18 months ago the PICK organisation in the US established a PC marketing and support division to concentrate its efforts on the massive PC market.

The strategy was to enable multi-user systems to be developed on PC-based systems and thus protect any company's investment in software development when hardware expansion became necessary. In Hongkong this strategy has more significance than is at first obvious.

There are many companies with branch offices around the region within which it is desirable to run identical software to achieve easy corporation-wide consolidation. Now, with PICK on any machine from a PC to a mainframe, it is possible.

PICK was designed to be multi-lingual but, as is typical of many systems out of the US, this meant only languages which used the Roman alphabet, and did not

include Asian languages. One of the reasons for our own Sun Computer Systems' success is that Louis Cheng and his staff have built a Chinese language front end to PICK.

To my knowledge it is the only one ever devised, even the PICK organisation are still working on the concept.

#### International Datafax Part Two

A few weeks ago I mentioned that the PAN network in the US provided an international datafax service in addition to many other useful business services and that Hongkong business people could take advantage of the network simply and economically.

I subsequently received a note from Francis Lim, of ViTel International (Hongkong), pointing out that his company offers an international fax service locally which could satisfy the executives' international fax needs. According to Mr Lim, ViTel will attempt to deliver a fax to any number provided by its customers. If the number proves not to be a fax number, then the company will advise its customer of non-delivery within a couple of hours.

Roy Ellyatt, manager of Datacom Services division of Hongkong Telephone, also reports that it won't be long before Datafax will be extended to provide a similar service.

Perry Leopold, operational chief of the PAN network in the US, sent me further details of the fax services via my PAN electronic mailbox.

Not only can any member transmit a word-processed document which will be converted to a fax message and then delivered to the fax address, but the process can also be reversed. PAN will accept faxed documents and store them in an electronic mailbox for later retrieval.

Mr Ellyatt also pointed out that the PAN connection number is available on the Datapak services directory for anyone wishing to utilise the fax or other business services PAN provide.[passage omitted]

**Telex Tie to Equatorial Guinea Starts**  
*55400010 Hongkong HONG KONG STANDARD in English 1 Nov 88 p 3*

[Article: "Telex Service Starts"]

[Text] A telex service between Hongkong and Equatorial Guinea comes into operation today. The service to the west African coast country will be operating on a 24-hour fully automatic basis. The destination code is 999 and the telex network identification code is EG. The telex number will consist of six digits with the first and second being 9 and 1 respectively. Rates are set at \$1.40 for each 6 second step.

## EGYPT

### Experiment Links Television Between Jordan, Egypt

45040037z Cairo AL-AHRAM AL-DUWALI in Arabic  
9 Oct 88 p 5

[Article by 'Abd al-Fattah Ibrahim]

[Text] Jordanian Minister of Information Hani al-Khasawnah has stated that tests are currently being carried out preparatory to linking Egypt and Jordan by television. The building of the ground microwave network which will be linked to the Egyptian network in Tabah has been completed. The minister stressed that Egypt remains a primary center of the Arab renaissance that is influencing Arab life.

The Jordanian minister made this statement during his talks with Egyptian Minister of Information Safwat al-Sharif. Al-Sharif said that an international plan is being worked out to establish a new Arab media system that will adhere to the fundamental principles of freedom and the preservation of Arab tradition, while remaining capable of facing challenges.

The two ministers affirmed that President Husni Mubarak and King Husayn are interested in the role the media will play in the near future in serving both countries and the two brotherly peoples.

Al-Sharif said that Egypt has completed its transmission tests to Jordan. We are now awaiting the Jordanian tests, he added. He said that contacts are now underway with the aim of extending the microwave system between Egypt and Jordan to Iraq in order to boost media cooperation between the three countries.

The two ministers toured the television and radio studios. The Jordanian minister also visited the al-Ahram establishment, where Ibrahim Nafi', the doyen of journalists, chairman of the board of directors, and editor-in-chief, explained to him the method of operations in the institution and the most up-to-date and scientific methods being used in the editorial and printing presses.

## INDIA

### Cabinet Defers Decision on Telecommunications Panel

55500023 Bombay THE TIMES OF INDIA in English  
9 Oct 88 p 9

[Article by Bharat Bhushan: "Cloud Over Telecom Panel"]

[Text] New Delhi, October 8—The Union cabinet has deferred its decision on the setting up of the telecom commission.

At a meeting held yesterday, the Union cabinet chose to refer the telecom commission proposal to a group of ministers.

The proposal, which envisaged the setting up of a commission like the space commission and the Atomic Energy Commission, went to the Union cabinet after nearly 14 months of discussion at official levels and a discussion at a meeting of the committee of secretaries.

According to the proposal, the telecom commission was to have full autonomy in matters of finance and personnel. The proposal is understood to have been opposed by the finance and the personnel ministries at today's meeting of the Union cabinet.

Mr Sam Pitroda was widely tipped to be the chairman of the proposed telecom commission. Mr Pitroda incidentally is also the originator of the proposal. He claimed this afternoon that he was not aware of the fate of the telecom commission or what transpired at the cabinet meeting. However, he said, "if it has indeed been referred to a group of ministers then I suppose the group would get back to the cabinet after a few weeks."

### Radical Ideas

Asked why the proposal was running into rough weather, Mr Pitroda said: "The proposal contained a number of radical ideas. And our system is not used to radical ideas. Everyone wants to hold on to whatever power they have."

Mr Pitroda's first formal proposal for setting up the telecom commission was modified in July this year and was discussed by the committee of secretaries on August 16, 1988. The proposal was further modified after that.

As of now, under the proposal besides the chairman, the commission is to consist of four full-time members—looking after services, production, technology and finance. In addition, the three part-time members of the commission would be the secretaries of the department of electronics, finance, economic affairs and the secretary, planning commission.

After the commission came into being, the telecom board would stand abolished. The Centre for development of telematics (C-dot) and the telecommunications research centre (TRC) would report to the commission through the member (technology).

The telecom commission was to be the nodal agency for developing the telecommunication system related industry. The application for industrial licences, import of items, foreign collaboration, import of capital goods, etc., relating to telecommunication were to be examined and approved by the telecom commission—although, licences were to continue to be issued by the department of industrial development.

The department of electronics would have had no power to process any applications regarding the licensing of manufacturing capacity for telecom equipment.

However, it now remains to be seen whether the telecom commission will come into being in this form or not. Although Mr Pitroda seems optimistic, others in the government feel that referring the proposal to a group of ministers is the surest way of not doing anything about the proposal.

### Space Chief Discusses Prospects of INSAT-1C Operation

55500021 Bombay THE TIMES OF INDIA in English  
11 Oct 88 p 15

[Text] Bangalore, October 10 (PTI)—The INSAT-1C satellite will work for its designed nine-year life despite the onboard power problem that has reduced its capacity by half, according to Prof U.R. Rao, chairman of the space commission.

He told PTI that insurance claim would be lodged by January end "after taking stock of the satellite's functional capacity at that time".

Mr Rao said the Indian Space Research Organisation (ISRO), abandoned its efforts to rectify the short circuit in one of the power buses, following an assessment that the operation would be risky.

The available capacity of the satellite was put into operational phase on Saturday.

Mr Rao said the Ford Aerospace corporation, that built the satellite, had been asked to appropriately modify the design of the INSAT-1D satellite, scheduled to be launched from the United States in May next year. This would replace the INSAT-1B, whose life is expected to expire any time after June next year.

He assured that the reduced capacity of the INSAT-1C would have no impact on existing services like telecommunications, television and weather monitoring.

He said that doubts about thermal imbalance, consequent on the partial power breakdown, had been put to rest after the satellite's satisfactory performance during the eclipses when the spacecraft passed through the earth's shadow.

The only worry now is the absence of redundancy in respect of vital operations like telecommand and telemetry, Mr Rao said.

If for any reason the telemetry failed, the satellite would become useless as the back-up system onboard is connected to the damaged power bus, he said.

Mr Rao said, ISRO's efforts to lease transponders from the Intelsat satellite had failed since it had no space capacity.

Meanwhile, hopes are pinned on the indigenous INSAT-2 satellites, which, Mr Rao said, would be bigger and heavier and have larger capacity.

For the first time, Japan has entered the Indian space market with some hardware for INSAT-2. A spokesman for a Japanese firm said his company would supply parts of transponders, and possibly antenna and solar array, for which negotiations are on.

Mr Rao said Indian-made solar cells could not be used because of lower efficiency. Otherwise, most of the systems for INSAT-2 and are designed and built in India, he added. [sentence as published]

### Tasks of New Telecommunications Research Center Defined

55500020 Madras THE HINDU in English  
29 Sep 88 p 7

[Text]The newly-formed Telecommunications Research Centre (TRC) as an autonomous organization following the bifurcation last month of the original TRC, the other being the Telecommunications Engineering Centre (TEC), has drawn up a Rs 100-crore research and development (R & D) programme which is likely to generate indigenous production of equipment valued at Rs 4000 crores in the Eighth Plan and Rs 8000 crores in the Ninth Plan.

At the time of Independence, the telecommunication service in the country was confined to a few large cities and in all there were 100,000 lines served by a total of 320 telephone exchanges. Rural areas had practically no telecom facilities. In order to restore balance and select techniques that suited the country, the then Posts and Telegraphs Department (now separated as Department of Posts and Department of Telecommunications) set up the TRC in 1956.

For over three decades, the TRC did useful work in both R & D and provided support to actual production of telecom equipment. However, with rapid growth of telecommunication sector, the two roles got blurred with the result the design and development work suffered and the project time-frame prolonged. Very often adequate attention was not available for converting the designs into practical usable products.

Bifurcation: To remedy the shortcomings and accord greater autonomy especially in R & D area, the Government bifurcated the TRC into two wings in August 1988. While one wing called the TEC was set up to handle the engineering support role to the DOT, the other wing, named the new TRC, was formed as an autonomous research centre.

According to official sources, the new TRC and the Centre for Development of Telematics (C-DOT) will be in a way two sides of the same coin. While C-DOT will be mainly engaged in digital switching systems, the TRC will concentrate on digital transmission system. Over a period of time, the TRC and C-DOT will together constitute an institution which will have prestigious status in India just as the Bell Laboratory has in the US.

The new TRC will be structured on the pattern of renowned telecommunication research laboratories in the world. It will carry out basic studies in advanced technologies and initiate specific projects which will result in the production of equipment that will find application in the Indian telecom network.

The task: Initially, the TRC will take over the continuing projects some of which are 'technology mission' oriented. It is proposed to complete these development projects and pass on the technology for final product models to indigenous manufacturers. Simultaneously it will take up designs and development work for new projects which are of immediate relevance to DOT's needs.

The projects which are now proposed to be undertaken by the TRC fall into eight major functional divisions of activity. These are optical, multiplex, radio, satellite, rural communication, digital switching for E-10B, external plant and propagation studies. The TRC will also finalize production documentation and transfer the technology to indigenous manufacturers.

To carry out its work the TRC will be setting up centres in different parts of the country. The basic studies as well as policy formulation will be carried out at the national Centre in Delhi. The studies include signal processing techniques, transmission techniques, network design, documentation centre, stowger [as published] and crossbar, improvements, electronic devices and components reliability. In all it will carry out 33 project studies of which six relate to optical division, 12 to multiplex, six to radio, two to satellite, four to rural and cellular and another four to E-10B.

Project centres: To forge close coordination between the Centre and the production units, the TRC will set up project centres near the major production units of DOT in Bangalore, Allahabad and Lucknow. In the case of Bangalore, the prototypes to be made include those relating to satellite rural telecommunication, ISDN interfaces, prototype production centre and optical line equipment. In Lucknow, the project centre will be engaged in work relating to enhancement of call handling capacity of E-10B, subscribers line testing equipment etc. The Allahabad centre will work on digital rural radio, rural cordless phones and cellular telephones.

New laboratory: In telecommunication system, external plant accounts for 60 per cent of the telecom assets. New types of connectors, distribution frames, DP boxes,

different types of cable enclosures have contributed to improved reliability of the external plant network thus providing for better subscriber connections. The new TRC has, therefore, decided to set up a new laboratory for external plant in Hyderabad where there will also be a separate optical fibre lab.

Propagation centre: Since propagation phenomenon is an important factor in the engineering of radio relay systems and as DOT is also considering introduction of digital radio systems, it is proposed to set up a new propagation centre in Madras. This centre will carry out systematic studies and analysis of data gathered on a number of critical hops set up all over the country. These hops will be in different areas so as to include coastal, desert, mountainous, high rainfall and flat terrain areas. The propagation study will cover the multipath characterization and also earth-space propagation studies. These experiments are likely to cost over Rs 6 crores, with a foreign exchange component of Rs 5 crores.

At present, there is considerable delay in procuring components including those not available indigenously. The new TRC, therefore, proposes to establish liaison offices which will serve as nodal agencies for procurement of components, sub-system, software and other vital items. It is proposed to set up a suitable agency to do the liaison work. In addition to the purchase work, the liaison office will also serve as a window to the external world in the high tech areas and will continuously monitor and report back to the TRC the new developments in the world of telecommunications.

#### **New Earth Station To Be Set Up in Bangalore** *5550022 Bombay THE TIMES OF INDIA in English* *14 Oct 88 p 7*

[Text] Bangalore, October 13—An earth station to manage the satellite-aided search and rescue in aircraft and ship mishaps, will be set up in the city for the first time in the country, according to Mr Pramod Kale, director, Space Application Centre, Indian Space Research Organisation (ISRO).

Delivering a talk of the "Future satellite communication system in India" at the department of communications, Bangalore University here today, he noted that the satellite would pick up distress signal from aircraft or ship involved in accidents and pass them on the earth station.

The ISRO, which will set up the earth station in the city soon, will also instal a similar station in Lucknow. Mr Kale said the satellite could even receive signals from motor vehicles involved in accidents, if they contain beacons.

Giving a detailed report of the ISRO's plans for the future, Mr Kale said two systems would be installed in the coastal areas of Tamil Nadu and Andhra Pradesh, which would receive warning signals and send alarms in

case of floods and cyclones. These two states were chosen as they were prone to floods. Similar systems would be installed in the flood-prone areas of northern India, he added.

These systems would be in close touch with the weather data. He said the University Grants Commission had sought ISRO's help in providing library service called "Inflibnet" (information and library network). Through this satellite-linked network, the 160-odd universities in the country could be provided with library services, he added.

The scientist said this could be done by having a personal computer, a direct reception set, a VCR and a close-circuit TV. The entire system would cost at present rates, Rs 6 lakhs.

Mr Kale said students using computers could, in future, ask questions even when they were receiving signals. This would be possible through the augmented direct reception sets.

#### **Lag in Telephone Switching System Production Reported**

55500024 Madras *THE HINDU* in English  
17 Oct 88 p 9

[Text] An Inter-Departmental Committee, constituted by the Telecommunications Secretary to assess the performance of C-DOT, particularly the different product ranges that are to be readied for bulk production, has noticed serious time over-runs.

With the result, some of the product ranges which were to have been inducted into the DOT (Department of Telecommunications) system are yet to go through environmental clearance and quality assurance tests. In one instance, the DOT has been reportedly asked to tone down the specification, the committee set up early this year, has said in its report.

The Centre for Development of Telematics (C-DOT) was set up in August 1984 to develop a state-of-art digital switching system within 36 months at a cost of Rs. 35 crores. It was also to develop the production technology for the commercial manufacture of the switching system. In January 1985 the technical specifications of the switching system were drawn up by the DOT in consultation with C-DOT.

In June next year, a Committee made a fair-bet estimate of the commercial production of four C-DOT items—128-port non-DOT, 128-port DOT, 512-port DOT and Main Automatic Exchange—respectively by February, March and December of 1987 and April 1989.

Following a second review, bulk production of 128-port PABX (non-DOT) was commenced and that of 128-port RAX (Rural Automatic Exchange) is in an advanced stage of inspection by the DOT. However, the bulk

manufacture of 512-port DOT version is now likely to commence only by 1989-90 and that of the Main Automatic Exchange (MAX) by 1990-91.

The Committee has noted that if the dates estimated for the commencement of bulk production are to be realised, "it is necessary to take timely action to ensure unhindered supply of the requisite raw materials and components of the right quality and in quantities required for production." It has, however, noted with satisfaction the C-DOT efforts to prepare a list of approved vendors for these items.

#### **Fully Configured**

A 512-port MAX was fabricated at the C-DOT's pilot production facility and installed at Delhi Cantonment in December 1987, for extended laboratory trials under live-traffic conditions. After the trials, the exchange has now 347 subscribers and 100 trunks. According to C-DOT, with this equipment, the exchange is almost fully configured and caters to around 700 extensions, considering that many of these lines are connected to PBXs.

As per C-DOT's plan, pilot production by ITI is expected to commence later this year and bulk production in 1989-90. As much as 50,000 lines are expected to be delivered by 1989-90 and another 100,000 lines are to be given by 1990-91.

The crucial factor for the exchange's success depends on the Busy Hour Calling Attempts (BHCA). As per the technical specification the BHCA of the 512-port exchange was to be 10,000. In the laboratory, a BHCA capacity of 6000 was reported to have been achieved by C-DOT in April 1988. This is expected to go up to 8000 BHCA at 80 per cent processor-occupancy shortly.

Though the Committee could not verify it physically even in April, the September issue of *TELEMATICS*, the official C-DOT newsletter, has reported that a maximum of 5400 BHA has been recorded while the system is in a stable condition and is giving good performance. Incidentally, the 6000 BHCA capacity version of the software is likely to be tried out at Delhi Cantonment by June 1988.

According to *TELEMATICS* the MAX-512 port has now all the features for the C-DOT to apply to the DOT for production clearance. The DOT has already started the quality assurance (QA) tests and environmental testing, and sources said the bulk production of yet another version MAX-16000 port would depend on the 512 model.

The 16000 port exchange has been designed to meet the high capacity and traffic needs of metropolitan areas. It can start with a minimum capacity of 400 subscriber lines and can grow up to 20,000 lines. This exchange will use the 512 port MAX Base Module as the basic building

block. Thirty-two such Base Modules, when combined to a Central Module, will give a 16000-port MAX. According to the DOT sources, the success of 16000-port MAX would depend on the success achieved in increasing of the BHCA of the 512-port exchange.

The 12-member committee submitted its report in July 1988 and its members included representatives of DOT, TRC, Department of Electronics, ITI and two representatives of C-DOT—Mr. G.B. Mimamsi, Executive Director, and Mr. D.R. Mahajan, Director.

One of the members was of the strong view that the C-DOT may not be able to achieve its ultimate objective of 16000 ports, incorporating the software needed for installation, maintenance and operational requirements as defined in the specification. Taking all factors into account, the committee felt that the theoretical overall BHCA capacity of the system could be expected to be around 1,80,000 as against 2,60,000 projected in June 1986.

#### Charring Tracks

In association with the ITI and DOT, C-DOT launched a programme for the installation of one RAX-a-day effective from April 1988. But the prototype itself was submitted to DOT for environmental tests and QA only by March-end. The tests, however, failed and the results showed charring of tracks in the PCB. These were subsequently corrected.

As of September, 75 such exchanges have been produced by ITI under the RAX-a-day programme. Of this 60 have been subjected to QA tests. Sixteen RAXs have been installed in Karnataka, Andhra Pradesh, Kerala and Tamil Nadu. In all, 19 RAXs have since been commissioned.

In the case of PBX-128 port, while the non-DOT version is already in bulk production and are being sold, the DOT version is being subjected to environmental tests by the DOT. According to the C-DOT, once the clearance is obtained, the C-DOT PBX manufacturers will be in a position to file tenders with the DOT and other big organisations.

## FINLAND

### Telecommunications Administration Orders Nokia System

55002422 Helsinki HUFVUDSTADSBLADET in Swedish 19 Nov 88 p 15

[Text] The Postal and Telecommunications Administration is purchasing a telephone—including cables, mobile phone switching equipment and cellular base stations—for around 150 million markkas from Nokia. The contract was signed in Helsinki on Friday [18 November].

Nokia won the order in tough international competition. Nokia Data, Telenokia, and Nokia Kabel are delivering the installations and respective cables mainly in the years 1989 and 1990. The parties also reached agreement on testing a so-called ISDN switching service around the end of 1989 and start of 1990.

One of the cables included in the contract is for optic cables which allow transmitting of voice, image, and data.

Telenokia is delivering a switching station for the NMT 900 mobile phone net in March of next year, and is expanding the base stations for the NMT 450 net. This work will start this month and continue until June of next year. The Postal and Telecommunications Administration also intends to increase its annual investments in the telecommunications network from the current figure of 900 million markkas to 13 billion. It is planned to invest around 400 million markkas yearly in the mobile phone net. Investments in also the long-distance and local nets are to be raised in order to assure continued reliable and efficient functioning, according to an Administration spokesman.

## PORTUGAL

### Digital Phone System Obtained From Finland

55002419 Helsinki HELSINGIN SANOMAT in Finnish 15 Nov 88 p 33

[Text] Telenokia [of Finland] has achieved a major penetration into the Portuguese market by selling that country's telecommunications authority digital channelization and optical switching equipment. The equipment will be installed between now and 1990. The value of the sale is around ten million markkas. The order involves Telenokia's new generation of Linecard switching devices and Muxcard channelling devices. Telenokia's digital switching devices are now used in over forty countries.

## SWEDEN

### Ericsson Planning Major Mobile Phone Effort in North America

55002413 Stockholm DAGENS NYHETER in Swedish 18 Oct 88 p 16

[Article by Torun Nilsson: "Mobile Telephones: Ericsson Goes for a U.S. Plant"]

[Text] Ericsson is considering launching the manufacture of mobile telephone systems in North America in view of the sales volume which mobile telephones have attained in Canada and the United States.

Lars Ramqvist, newly appointed chief of commercial radio communications, says in the firm's newspaper that Ericsson can also think of setting itself up as a private "telecommunications authority" and of participating in systems management.

If market growth continues, the firm will constantly need additional production capacity. Lars Ramqvist is considering opening a plant in North America.

"We already have such large volumes in the United States and Canada that production would probably be profitable there."

Regarding manufacturing the mobile telephones themselves, he says that Ericsson will continue that as long as it is profitable. One of the more important decisions that Lars Ramqvist must arrive at during the next year is whether Ericsson should increase the production of mobile telephones. Price competition and simpler products necessitate different volumes in order to attain a profit.

### Niches

"But it is of course possible that the market will gradually break up. We need to search continually for niches where we can find a profit, as regards both products and markets. Perhaps we can come upon a production technology that will make us less sensitive to competition and to wage costs."

Up to now, Ericsson has concentrated above all on manufacturing switchboards and base stations for the mobile telephone industry, which is to say the mobile telephone system itself. Ericsson began large scale manufacture and sales of telephones (Hot Line) in the Nordic countries 2 years ago.

According to Lars Jonsteg, chief of information for radio communications, Ericsson is now developing mobile telephones (the telephone parts themselves), so as to be able also to manufacture for systems other than the Nordic telephone network (NMT), for example, the Pan-European digital network which will be ready in the early 1990's.

"Mobile telephones are different from ordinary telephones," Lars Jonsteg says. "They are technically much more complex. The entire radio unit, the part that makes the cordless telephone possible, is housed in the mobile telephone. Today, manufacture of mobile telephones is tidily profitable."

#### Service Obligation

However, telephone sales entail selling directly to the consumer, a type of sales that requires among other things extensive service obligations. According to the firm's chief of information, Nils-Ingvar Lundin, the decision has therefore been made not to start production in the United States.

Lars Ramqvist also has visions of Ericsson setting itself up as a management company within the mobile telephone industry when telecommunications are deregulated.

"We, of course, participate in and finance the companies that have mobile telephone operating licenses and they, of course, buy our equipment. We have been offered joint ownership. Therefore, I do not want to exclude the idea of Ericsson as a management firm from my visions."

Management firms have grown very rapidly in value in the United States.

#### Growing Market

The mobile telephone industry is a very rapidly growing market. The Nordic countries are among the areas where the network is most developed in proportion to the population; this is because the Nordic telecommunications administrations invested early on in the mobile telephone industry and agreed on a common standard. This has favored Ericsson, which today is the world's leading supplier of exchanges and base stations, measured by the number of subscribers who use the system.

The market is expected to continue growing very quickly, or at a rate of 25 percent annually, according to Lars Ramqvist. On the one hand, expansion of analog networks is continuing. On the other hand, many countries are investing in digital nets.

Ericsson's goal in the long run is to acquire 30 percent of the growing market. Today, it has 40 percent of the world market for systems. In the United States, it has 25 percent. In regard to mobile telephones, however, it has less than 10 percent.

The largest competitors as regards systems are Motorola, Mobira and, to some extent, Mitsubishi, according to Lars Jonsteg. With regard to telephones, they are principally Nokia Mobira, Motorola, and Japanese firms.

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