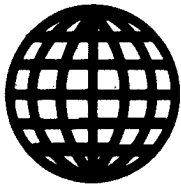


JPRS-TTP-90-020  
13 DECEMBER 1990



**FOREIGN  
BROADCAST  
INFORMATION  
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# ***JPRS Report***

# **Telecommunications**

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# Telecommunications

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"Once suitable satellite capacity exists, Grinsat will be supplying very small aperture terminals for data, voice and business television networks," reports MD Thomas van der Watt.

"These networks will provide reliable communication with remotely configurable capacities of 9,600 bits a second to 64 kilobits a second.

"Such networks could be under the full control of corporate users and network terminals can be readily added to or re-deployed without significant additional expenses," he says.

An advanced real-time fleet management system, supplied and supported by Grinsat, enables a fleet owner to control the whereabouts of his vehicles anywhere in South Africa.

Today, the daily loss as a result of highjacks is estimated at five heavy vehicles and their cargoes, valued at R10-million.

A data and text communication system is also fitted to the vehicle to keep in touch with the driver at all times.

"In the satellite television field which is tailored for the exacting requirements of commercial clients, including hotels, embassies, mining houses and industry, Grinsat is awaiting licensing procedures from the Post Office.

"The Radio Act was amended this year in parliament to make provision for licensing," reports Van der Watt.

Grinaker sponsors the chair in satellite engineering at the University of Stellenbosch to establish a technology base in this field. Prof Garth Milne is the lecturer.

It is also assisting with the development of Kleinsat, the small satellite being built by the universities of Stellenbosch and Cape Town.

According to Dr Arnold Schoonwinkel of the Bureau of Systems Engineering at the University of Stellenbosch, analysis management systems assisted with the solar panel design.

SABC chief Prof Christo Viljoen tells THE ENGINEERING NEWS that the corporation is investigating the possibility of acquiring satellite capacity for regional service in South Africa.

"We can get a spot beam if we take five transponders.

"We will have to negotiate with other users in South Africa because the SABC will only need three transponders.

"The cabinet board will have to approve extension of all services by broadcasters in South Africa before we can go ahead," explains Viljoen.

## TANZANIA

### Radio Transmitter To Undergo Power Load Increase

*EA0712094090 Dar es Salaam Domestic Service in Swahili 1300 GMT 6 Dec 90*

[Text] Dar es Salaam—The Radio Tanzania Dar es Salaam transmitter at Mabibo will be closed for two days beginning tomorrow, 7 December in order to enable Tanzania Electricity Supply Company, to increase the power load of that transmitter. According to a statement issued by the department of information of Radio Tanzania, listeners who will be affected with the closure of Mabibo transmitter are listeners who use the shortwave band in the 4785 khz, 60 meter band, 6105 khz, 40 meter band, and 9685 khz, in the 31 meter band. Listeners who receive their broadcasts through Pugu station, Kunduchi, and inland stations such as Dodoma, Mwanza, Kigoma, Arusha, and Mbeya will not be affected by the closure of the Mabibo station which is due back on the air on Sunday, 9 December.

**PRC-Launched Pakistani Satellite Malfunctions**

*OW1112130090 Beijing XINHUA in English  
0817 GMT 11 Dec 90*

[Text] Islamabad, December 11 (XINHUA)—Pakistan's first satellite "Badar-1", which was launched into the orbit by China's "Long March" rocket on July 16 this year, has stopped functioning since August 20, local newspaper "MUSLIM" reported today.

The report quoted highly-placed sources as saying that the satellite, which was designed by the Pakistan Space and Upper Atmospheric Research Organization (Suparco), remained operational for only about a month and finally on August 20 it lost all radio and telecommunication contacts with the ground stations set up in Karachi, capital of Sindh Province, and Lahore, capital of Punjab Province.

An official of the Suparco told the newspaper through telephone that "we have lost all contacts with Badar-1. Our scientists are making efforts to reactivate the satellite".

A space scientist was quoted as saying that the satellite Badar-1 was designed to perform four functions: simple radio transmission, tele-command, tele-monitoring, meaning regular transmission of information to the ground centres regarding the health and maintenance of the satellite itself with remote repair and data storage and release system through up-linking and down-linking with ground centres.

The scientist added that "I have great doubts the satellite discharged all the four functions after its launching. Only one system worked and that was keeping the tele-command intact, but that too failed finally."

"Much depends on the ground handling of the satellite. Its tracking was not done by the ground centres and the same went for the health of the satellite while it was in the orbit," he said.

**Weather Satellites Use Gallium Arsenide Solar Cells**

*OW0512034890 Shanghai WEN HUI BAO in Chinese  
27 Nov 90 p 1*

[By reporter Qian Weihua [6929 4580 5478]]

[Text] China has achieved another success in developing electrical power used in space. According to the latest information from the experimental meteorological satellite, "Fengyun No. 1," which has circled the earth more than 1,000 times, the gallium arsenide solar cells used on the satellite have proven practical for use in space. The cells are developed jointly by the Shanghai Xinyu [New Universe] Power Plant and the Shanghai Institute of Metallurgy under the Chinese Academy of Sciences based on international high-technology development. Thus, following the Soviet Union, the United States, and

Japan, China has become another country able to collect information about space flight experiments powered by gallium arsenide solar cells.

It is learned that the photoelectric conversion efficiency of the silicon solar cells, the most commonly used solar cells used in space, is 12-13 percent but that the efficiency of the gallium arsenide cells developed in Shanghai has reached 16-17 percent. The precision rating of the gallium arsenide solar cells tested on the "Fengyun No. 1" satellite launched on 7 September 1988 reached 0.24 percent, exceeding that of the solar cells used by U.S. space ship at that time. The second "Fengyun No. 1" launched on 3 September this year also tested the 4W power components of the gallium arsenide cells. The two satellites, each of which had operated in space for nearly three months, show that these cells' components are functionally sound; the power they produce is normal and shows no signs of weakening.

**Color Three-D TV System Passes State-Level Appraisal**

*OW0712182690 Beijing XINHUA in English  
1526 GMT 7 Dec 90*

[Text] Ningpo, December 7 (XINHUA)—Using a special pair of glasses, TV viewers can enjoy three-dimensional TV programs, shot with a refitted TV camera, on ordinary color TV.

The new system, invented by Three-D Technology Institute under Ningpo Polytechnical Institute, passed state appraisal in Ningpo, Zhejiang Province, today.

Experts say the new system is compatible with all kinds of TV systems, TV recording, transmitting and receiving equipment that is being used in China.

Experts believe that its technology is up to or even better than relevant international standards.

**Medium-Wave Relay Station Built in Liaoning County**

*SK1212045590 Shenyang Liaoning Provincial Service  
in Mandarin 2300 GMT 11 Dec 90*

[Text] The Dandong City 332 medium-wave relay station built in the Kuandian Manchu Autonomous County went into trial operation on 11 December, thus putting an end to the period when people in the mountain areas of Kuandian were unable to receive the programs of the Liaoning People's Broadcasting Station. Construction of the relay station started in 1987, and the investment in it totaled more than 800,000 yuan. Its power is 10 kilowatts. Areas within 50 km around the county seat will be able to clearly receive the programs of the Liaoning Broadcasting Station. The 332 relay station currently relays only the first set of programs of the Liaoning Broadcasting Station. In the Eighth Five-Year Plan period, it will be able to relay simultaneously the first and second sets of programs of the Central People's

Broadcasting Station, and the programs of the Liaoning and Dandong Broadcasting Stations.

**Liaoning Radio-Television Broadcast Results Reported**

*SK1012135190 Shenyang Liaoning Provincial Service in Mandarin 2300 GMT 7 Dec 90*

[Summary] During the Seventh Five-Year Plan period, Liaoning Province has achieved rapid development in the undertakings of radio and television broadcasting. During the period, the province has invested more than 81 million yuan in developing radio and television broadcasting undertakings. At present, the province has 16 radio broadcasting stations whose coverage rate of audience in the province reaches 74.2 percent. It has 20 television broadcasting stations and the number of stations in charge of recording and relaying the television

programs has increased from 67 in 1985 to 248 at present. Rural areas across the province are equipped with 2.68 million wired broadcasting facilities. The province's annual radio programs rank the province sixth in the country in this regard and its television program rank the province second in the country.

Over the past five years, the province's 92 broadcasting programs have won national prizes. The province's television programs which have been provided for the central television station have ranked the province first in this regard in the country over the past nine years. Of 178 television dramas which have been manufactured since 1984, 37 have won the domestic and international grand prizes and almost 100 television dramas have been broadcasted by the stations of more than 100 countries and regions in the world.

**INTER-ASIAN AFFAIRS****Lucky-Goldstar Wins Cable Contract in Pakistan**

*SK1012061890 Seoul YONHAP in English 0550 GMT  
10 Dec 90*

[Text] Seoul, Dec. 10 (YONHAP)—South Korea's Lucky-Goldstar International Corp. has won a contract from Pakistan Telegraph and Telephone (PT&T) for 16 million U.S. dollars of jelly-filled cable, the company said Monday.

Lucky-Goldstar bid for PT&T's 5th cable expansion project early this year and walked away with the contract over bidders from Taiwan, Saudi Arabia, Turkey, Yugoslavia, Germany, China and Zambia, the company said.

Lucky-Goldstar will ship the cable by the end of the first half of 1991.

**LAOS****Protocol With France Signed on Wireless Beam, Telex**

*BK0612125390 Vientiane KPL in English 0917 GMT  
6 Dec 90*

[Text] Vientiane, Dec 6 (KPL)—A french mission led by Mr. Xavier Blandin, deputy director in charge of bilateral affairs of the treasury, Ministry of Economy, Finance and Budget, ended a 3-day talk here on

December 4-6 with a Lao delegation led by Mr. Thongphachan Sonmanisin, director of cabinet, Ministry of Foreign Economic relations.

The sides signed a protocol on the French government's 25 million francs aid to Laos concerning the projects of socioeconomic development. They are namely central telex, wireless beam, improvement of the training centre of the Electricite du Laos, and study of hydro-power dam, all designed to facilitate Laos' economic development.

The sides were satisfied with their talk. They considered that the result of the talk represented an additional factor for the strengthening of economic cooperation between the two countries. This will facilitate the working out of future projects of common interest.

**VIETNAM****Lam Dong Province Installs Television Receiver**

*BK0412135690 Hanoi Domestic Service in Vietnamese  
1100 GMT 2 Dec 90*

[Text] With the assistance of a Phu Yen Province electronic company and the National Industrial Institute, the Lam Dong Radio and Television Station has finished installation and put into operation a satellite receiving station with a rotating antenna, which can rotate to receive signals from satellite and the desired channels. At present the receiver can get good signals from many television channels.

The Lam Dong Television Station is actively preparing conditions to effectively use this receiving station to serve the ethnic minorities in the province.

## INTRABLOC AFFAIRS

### Telecommunications Contracts With West Reviewed

91AN0050 Chichester TELEFACTS in English Sep 90  
pp 15-20

[Article: "Developments in the Eastern Bloc"]

[Text] In the March issue of TELEFACTS, Volume II, Issue 3, a round-up of contracts won by Western companies in the Eastern Bloc was presented. This month, TELEFACTS updates the situation and provides an overview of contracts and agreements signed to date. The initial rush to report contracts and agreements is now tailing off, and the number of reports has been declining from two to three per week in the first six months of the year to perhaps just one per week since the middle of the summer.

However, there have been significant developments in most of the Eastern Bloc markets and these will be documented.

#### Czechoslovakia

Siemens announced in July that it is to set up switching equipment manufacturing facilities in Prague.

The West German company has entered into an agreement with Prague-based Tesla Kerlin to manufacture EWSD digital switches which will be used to modernise and rebuild the country's network.

Siemens will invest DM50 million in the venture which plans to begin production in 1991, reaching levels of 350,000 access lines. Within a few years, production capacity will rise to 500,000 EWSD lines a year.

The Government of the Czechoslovakia and Slovak Federative Republic has given its approval for two telecommunications modernisation projects to be carried out by a consortium comprising the Czechoslovakian Ministry of Posts and Telecommunications (MPT), Bell Atlantic, and U.S. West.

The Government has accepted a bid submitted by the two RBOCs to form a joint venture with the MPT to build and operate an analogue cellular mobile network. The new company, owned 51 percent by the MPT and 49 percent by the two RBOCs, will also assist in developing a long-term programme for modernising the country's telecommunications infrastructure.

Construction of the cellular network is scheduled to begin in the third quarter of this year with initial service available in mid-1991. Currently, there are 2.2 million telephone lines in the country serving a population of 15.5 million.

Bell Atlantic indicated that its participation in the venture will be funded entirely from internal resources. A

joint \$60-million investment over 10 years in the cellular network is envisaged by the American partners.

The Czech Government's selection of the two Bells is another blow to Rogers Cantel, which had submitted proposals to the government in a second attempt to gain entry into Europe.

Last year it was part of the celtel (sic) consortium bidding to build the D-Net2 network in West Germany. Deutsche Bundespost Telekom (DBT) is also thought to have bid for the Czechoslovakian network.

A matter of days after agreeing on the construction of the cellular network, the three parties agreed to form a joint packet-switched venture company to build a public data network to introduce business communications services that will support the Czechoslovakian move to a market-based economy.

The data network will offer both dedicated and dial-up access for data transmission and will adhere to international standards. The initial configuration of the network will connect Prague, Bratislava, and Brno with future extensions to most cities in the country.

As reported in TELEFACTS Volume II, Issue 7, the Italian telecommunications manufacturer Telettra has signed a contract to supply the Czechoslovakian Electric Energy Production and Distribution Company with a private telephone and data network, based on digital microwave and optical fibre technology.

Ericsson received two further orders for its MD110 digital PBX system. The contracts call for Ericsson to supply networks for metallurgical factories in the cities of Kosice and Vitkovice. The orders were for 8,400- and 10,200-line systems respectively and were placed with Nikola Tesla Telekomunikacije of Zagreb, Yugoslavia. Nikola Tesla undertakes MD110 hardware manufacture and software development under license from Ericsson Business Communications and is responsible for sales in several Eastern European countries. Tesla has sold over 42,000 lines of MD110 equipment since it obtained the license in 1987.

A third order was also received from Kemopetrol in Litvinov for a 4,300-line MD110 system by Austria's Schrack Telecom AG which has a license to produce the system in Austria.

Ericsson won its first Czechoslovakian order for MD110 equipment last year as a result of participation in the Brno Fairs.

PTT Telecom and SPA Praha are to set up an information technology services company, Telecompsol. This new venture will concentrate on consultancy and project management work on infrastructural developments in western Czechoslovakia.

**Germany**

In May, Ericsson announced that it had won an order from Axel Springer, one of West Germany's leading publishing companies, for an MD110 network of 6,300 lines. The order is interesting in that it is understood that some of the network's five main nodes will be installed in East Germany, although the precise locations are not known. It is also thought that the network will use DPNSS.

East German Post Minister Emil Schnell said the development of his country's network will not live up to the English translation of his name. Although new telephone lines are being installed, he said it could take up to seven years to bring the network up to Western standards.

Racal-Milgo indicated that its Omnimode and VP12422PA modems were being used to extend West Germany's computerised banking system into East Germany as part of the economic unification exercise. Potential sales in excess of DM1.5 million are estimated.

Racal-Milgo GmbH, the company's subsidiary based in Neu Isenburg, West Germany, has established a joint venture with a business and computerised operations centre, Datenverarbeitungszentrum of Potsdam, East Germany to provide support and in services East Germany.

Dresdner Bank will use 600 modems throughout its network, which collects data from across both countries. Deutsche Bank ordered 100 modems for its expansion into East Germany.

At the end of June, Siemens indicated that it would invest DM1,000 million in East Germany over the next few years mainly in the fields of telecommunications and data processing, energy and transport technology, factory automation, medical technology, and environmental protection.

In July, DBT announced that it is planning a \$60-million fibre-optic cable—Central Trecke—to link eastern and western Europe. The telecommunications artery would run between Moscow, Warsaw, and Berlin to Frankfurt in West Germany.

In August, the DBT revealed a breakdown of its planned investment in the East German telecommunications network, indicating that East Germany would have to raise DM30,000 million to finance improvements, either directly on capital markets or in the form of loans from DBT. Total investment required over the period 1991-97 is now estimated at DM55,000 million.

**Investment in East Germany, 1991-97**

Year	Amount (DM million)
1991	5,000
1992	6,500
1993	8,500

1994	9,000
1995	9,000
1996	9,000
1997	8,000
Total	55,000

Source: Bundesministerium fuer Post und Telekommunikation

The Bundesministerium fuer Post und Telekommunikation and the East German Posts and Telephone Ministry jointly selected Mannesmann AG to be invited to provide digital cellular mobile telephony services in East Germany. Mannesmann has already been selected to build DNet-2, the digital cellular system which will compete with the digital network of DBT (DNet-1).

There are already plans to expand coverage of the DNet-1 service into East Germany.

The Hungarian company BHG Telecommunications is reported to have won a contract from the Bundespost to supply upgraded public switching equipment for the East German network in preparation for its amalgamation with the West German network. BHG will manufacture exchanges with a coupling device which will allow its exchanges to be connected to those of Siemens operating in the West German network.

The contract is reported to be worth DM8 million to BHG and took effect from the beginning of August with a scheduled completion date of the end of 1991. BHG will initially supply upgraded exchanges for the cities of Chemnitz, Rostock, and Dresden. The company has been a major supplier of public exchanges to the East German market since 1972.

This month, Siemens announced plans to invest \$13.5 million on implementing modern telecommunications equipment production facilities in East Germany.

The company has joined forces with Greifswald GmbH, an East German telecommunications equipment manufacturer, to manufacture PCM transmission systems based on Siemens' technology, specifically for the expansion of East Germany's telecommunications network.

The companies expect to produce 800 PCM 30-3 systems by the end of this year.

An agreement has been reached between the Data and Information Systems Group of Siemens AG and the recently-formed Computer Elektronik Dresden GmbH (CED) to cooperate in the development and production of computer hardware.

CED, successor to the computer and workstation maker Robotron Elektronik Dresden (RED), will begin producing Siemens MS-DOS, Sinix, and BS2000 computers in Dresden next month (October). The products being manufactured under license include PCD-2 personal

computers, Sinix MX 300 multi-user systems, and 7.500-H60 central processing units.

CED's first shipments are scheduled for the end of this year. The products will be sold through Siemens' sales network and new sales companies serving East Germany, the Soviet Union, and other east European countries.

### Hungary

Alcatel has announced a further joint venture in Hungary since that country was profiled in March 1990.

Alcatel's first two joint ventures paired SEL Alcatel and Videoton to produce System-12 exchanges at the end of last year and Alcatel AFTH with Finommechanikai Vallat to manufacture microwave transmission equipment.

In May, Alcatel Austria announced that it had agreed to form a joint-venture manufacturing company with a Hungarian partner Hivadastechnika Szovetkezet of Budapest to form AHT Hivadastechnika I Koralatolt Felelossegu Tarasag (AHT Communications Ltd), which will manufacture and market Alcatel's digital PABXs and other business systems products.

By 1991, capital investment in AHT will amount to ECU 1.6 million with the Austrian partners holding 53 percent of the company—Alcatel Austria 48 percent and Creditanstalt 5 percent as a trustee—and the Hungarian partners holding 47 percent—Hivadastechnika 42 percent and Budapest Bank 5 percent. The new company will be jointly managed by the two companies.

Alcatel said it is aiming for a 1992 sales target of ECU 10 million which represents a 30-percent market share—100,000 lines per year—of the Hungarian market. The products will be sold through the local PTT's existing sales network and via new distributors.

In June, the Hungarian Government set out regulations covering the sale of a 25-30 percent minority interest in the state-owned Hungarian Telephone Company in what would be the first such privatisation of an eastern European carrier.

Western companies reported to be interested include the familiar names: Bell Atlantic; Nynex; U.S. West, and Cable & Wireless.

Once ratified by their new Hungarian Parliament, deals can be considered in the light of the Hungarian company's \$830-million or so asset valuation.

Fifty percent state-ownership will be maintained with the balance of stock going to private interests in the country. As things are, Hungary's telecommunications situation shows 1.2 million subscribers out of a total population of 10 million, with at least 600,000 people waiting for telephone services.

Telecommunications spending was \$197.5 million in 1986 with 252 million budgeted for 1990. A proportion

of the capital expenditure over the next few years will be underwritten by a \$100-120 million World Bank loan.

Contel was awarded a 15-year concession—with a five-year renewal option—to build and operate a national cellular telecommunications system in Hungary.

The Hungarian Government awarded the concession to Contel Hungaria Kft, a joint-venture company to be equally-owned by Contel and Hungarian partners within Hungaria Telekom Kft. The concession took effect in May and expires in June 2010 if the extension period is included. This award was reported in some depth in TELEFACTS Volume II, Issue 6.

Subsequently, Motorola's European Cellular Subscriber Division announced that it would be supplying Hungarian Radio Telephone with the cellular telephones it intends to use on its Budapest network when it becomes available this autumn. HRT is the joint-venture company created by U.S. West and Magyar Posta (now Hungarian Telecommunications Company) and licensed to provide public cellular services in Hungary. Ericsson has been awarded a contract to supply switching equipment to the NMT 450 standard.

This award may position Motorola nicely in the Hungarian cellular market. The second system to be constructed by Contel and its partners—identified as BRG and Teknika (both local, state-owned manufacturing companies), Centro-invest, Co-opinvest, and Systems Consulting—will operate to the TACS-900 specification.

In the data communications area, Infotron Systems recently appointed the Hungarian company Supra as distributor for its complete range of products throughout Hungary.

### Poland

In April 1990, a report in the FINANCIAL TIMES newspaper revealed that major reforms to demonopolise the Polish Post, Telegraph and Telephone Company (PPTT) would be finalised in the very near future. The plans are expected to involve breaking the monopoly of the PPTT in all sectors and to license new companies for international long-distance, local, mobile, and data services in competition with the PPTT.

Expansion and modernisation of the telecoms network is a priority if the rest of the Polish economy is to advance. The report listed the key elements of Poland's plans to modernise telecommunications as:

—The approval by the end of the year of a \$100-million World Bank loan to modernise the PPTT's long-distance and international network;

—Joint venture negotiations between Polish telecommunications manufacturers and Alcatel CIT of France, Alcatel SESA of Spain, Siemens of West Germany, and Ericsson of Sweden to manufacture digital exchanges;

—The award of two cellular licenses this year—one to a private consortium and the other to a consortium in alliance with the PPTT; and,

—Once the programme has been agreed by the Government, Poland's Parliament will be asked to amend the law which currently guarantees the PPTT monopoly.

The article also revealed that over the next two years, the PPTT is likely to be split into three separate enterprises—covering postal, telecommunications, and radio communications services.

Bellcore of the United States recently announced that it is to provide technical assistance in the areas of network planning and regulatory and business management to the PPTT.

Two months after this report was published, Swedish Telecom announced that it was to seek its fortunes outside its native country with the formation of an international division—Swedish Telecom International. In a consortium with British Telecom and P&T Finland, STI has bid for a cellular telephone network operators' license in Poland in partnership with British Telecom and P&T Finland. If it is successful, the network would be based on the Nordic Mobile Telecommunications (NMT) standard operating at 450 MHz. The first step would be to build a system in Warsaw and some rural areas. STI said it would expect to have the system operational one year after the Polish authorities' decision, with national coverage being achieved over a five-year period.

Tailoring technology for Eastern European nations has resulted in a major export win for a British start-up PABX manufacturer. Expander Systems Limited of Basingstoke announced in April that it is to supply "more than 100" of its EX8-64 systems to Poland. The PABXs are headed for Warsaw for distribution throughout the Eastern Bloc to hotels and guest houses.

Expander Systems claims that the system is unique among modern PABX systems in that it is based on analogue circuitry, yet uses time division multiplex techniques to provide an easily-expandable, non-blocking 64-port switch. There was no difficulty in gaining an export license for East Europe as the Cocom committee regards analogue systems as "last year's technology" and thus, compared with digital systems, "non-strategic."

However, the system did need some adjustment to meet Polish approval requirements.

Expander Systems was formed in July 1989 especially to make analogue time division PABX systems. The EX8-64 is the company's first product. The company said other East European countries are also about to place orders.

In July, Siemens announced that it had formed a joint venture with Warsaw-based Zwut, Poland's largest producer of electromechanical public telephone equipment, to set up a switching equipment manufacturing plant.

The facility will have a capacity to produce one million EWSD digital lines a year. Production is expected to commence early next year.

The venture, which will be owned 51 percent by Zwut and 49 percent by Siemens, will involve a DM50-million investment. At around the same time as this announcement, Alcatel CIT revealed that it is to install Poland's first nationwide public packet-switched data network and an associated electronic messaging service for the Polish Ministry of Posts and Telecommunications.

Under a contract signed by the Unitra Company, the Polpac X.25 data network will be based on Alcatel's DPS2500 and DPX400 systems which support a variety of applications including X.400 electronic messaging, Signal System 7, intelligent networks, etc. The technology is designed to cater for the users' future needs such as access to integrated services digital network technology (ISDN), value-added networks (VANs), etc.

Polpac will consist of 18 switches and concentrators installed in Warsaw, Katowice, Krakow, Poznan, Wroclaw, Gdansk, Szczecin, and Lublin. It will have a capacity for 1,200 ports and will be capable of transmitting several thousand packets of data per second. The entire network will be supervised by a Management Centre in Warsaw.

Equipment for the network is expected to be delivered this year and be fully operational by the spring of 1991.

With links to the data network, the X.400 public message services will have a capacity for 2,000 subscribers which will serve almost 25,000 users.

### Romania

With Romania's telecommunications infrastructure described as "abysmal" by a recent United States Government/industry task force on East European telecommunications, Romanian PTT officials are seeking a rapid upgrade to support export-orientated market business.

Satellite communications will be improved following announcements in May that Romania's membership in Intelsat (the International Telecommunications Satellite Organisation) and Eutelsat (the European Telecommunications Satellite Organisation) had been approved. New earth stations are an urgent requirement to back up the country's two antennae transmitting to the Intelsat satellites over the Indian and Atlantic Oceans. Romania is the first East European country to join Intelsat. Romania is also expected to seek membership to Inmarsat.

In March, Romania gave Siemens of West Germany a contract for a digital international gateway switch. Domestically, 300,000 to 400,000 digital telephone lines a year need to be installed over the next decade. The cost? \$150 million a year. Romania now has only 2.3 million analogue lines for its 23 million people—and

negotiations are under way with Siemens for its EWSD switch and with Alcatel for the E10 and System-12 switches.

As part of these major upgrade plans and negotiations, Alcatel FACE received a contract in July from the Romanian Ministry of Telecommunications to supply and install a 3,000-line digital System-12 exchange. Installation will take place in the country's most important tourist resort, Brasov. The contract will be extended in the near future to include an additional 7,000 lines.

Projects being studied for Romania include a 100-km fibre-optic link between Bucharest and Pitesti, a new mobile radio system, and a data communications network. While basic telecommunications networks will remain state-owned, cellular, data, and terminal markets are considered suitable for private participation.

#### Yugoslavia

A new Yugoslavian telecommunications manufacturer was created in the final days of April—Alcatel EI GTS Yugoslavia. The new joint venture will be located in Belgrade and will initially have capacity to manufacture 100,000 lines of Alcatel's E10 exchange equipment annually. Over the next 10 years, Serbia Post and Telecommunications will order more than one million digital exchange lines from the joint venture.

The finalising of the agreement followed an announcement of intention earlier this year. Alcatel will hold 51 percent of the joint venture with its Yugoslavian partner, Elektronska Industrija, holding the balance.

Telettra of Italy is also reported to have won contracts in Yugoslavia recently. The Italian Government granted Yugoslavian authorities a credit totalling some \$4.3 million with which to purchase telecommunications equipment from Telettra. The purchases were made by the Post and Telephone Enterprise of Titograd and are destined to upgrade facilities in Montenegro.

## YUGOSLAVIA

### YUTEL Transmissions Prevented in Serbia

*LD0712212690 Belgrade TANJUG Domestic Service in Serbo-Croatian 1422 GMT 7 Dec 90*

[Text] Belgrade, 7 Dec (TANJUG)—Bodies of the Serbian Secretariat for Internal Affairs [SUP] and the Vojvodina SUP once more prevented transmission of YUTEL programs on Serbian territory. Workers of the Serbian SUP have once again disconnected the aggregate contained in a special transmission vehicle stationed on Mt. Avala, and taken it away. Thus, they prevented YUTEL programs from being relayed via that transmitter.

They also specified that last night around 2100, a strong force of the Vojvodina SUP prevented engineers and technicians from relaying YUTEL programs from Mt. Fruska Gora by beaming light on a vehicle containing transmission equipment.

We apologize to viewers in Serbia who could not receive YUTEL programs last night, a YUTEL apology states, and notes further that such conduct by the Serbian authorities, which are not enforcing federal laws, is in contradiction with public declarations for the rule of law.

## INTER-AMERICAN AFFAIRS

### Ecuadoran, Peruvian Negotiations Detailed

91WT0031A *Guayaquil EL UNIVERSO in Spanish*  
20 Oct 90 p 9

[Report by Jacinto Castro]

[Text] Machala—With the submission of final reports drafted by the three working groups appointed for the purpose, the results of which are regarded as very positive, the Sixth Bilateral Meeting on Ecuadoran-Peruvian Telecommunications held in this city concluded its work yesterday.

The regional director of the IETEL [Ecuadoran Telecommunications Institute], Engineer Carlos Ramirez, presided at the closing session. He stressed the fact that the final reports represent the results of the studies carried out concerning technical, commercial, and operational matters.

#### Resolutions

The results and resolutions of this Sixth Meeting include a recommendation by the Technical Affairs Commission, headed by Engineers Ernesto Molineros of Ecuador and Alfredo Grandez of Peru, that the Tumbes-Huaquillas system be maintained. In this connection, two Huaquillas numbers are operative in Tumbes, and vice versa, with access to direct national dialing blocked. In addition, the Guayaquil-Trujillo link is in use.

As to the expansion of the existing bases, it was decided that two manual circuits with Piura be maintained, and that a coordination channel for Quito be activated, along with Guayaquil, Piura, Trujillo, and Lima. In addition, they decided to activate a remote Machala telephone in the city of Piura, with access to direct national dialing blocked, and a remote Piura coordinating telephone in Aguas Verdes and Machala, also with access to direct national dialing blocked, except for Piura and Tumbes. This activation will be in effect in January 1991.

#### New Links

In connection with the establishment of new hookups linking Loja, Macara, Sullana, and Piura, an ASETA [Association of Andean State Telecommunications Enterprises] report says that the Ecuadoran foreign ministry has indicated interest in establishing new border hookups in the mountain region. This idea has been accepted by both countries.

In the opinion of the commission, linking the exchanges handling communications between Machala and Piura will make it possible to handle all of the telephone traffic along the border area, including the Loja-Macara-Sullana-Piura zone.

The Commercial Affairs Commission, determined that a number of agreements have been carried out, including those pertaining to liquidations, exchanges of accounts

and balances pending payment in international services, and the establishment of a facsimile and international television service via land links.

Similarly, it was recommended that the Andean Telecommunications Rates Committee undertake the establishment of preferential rates for government communications as soon as possible.

#### Telephone Communications Traffic

Finally, the Operational Affairs Commission decided to provide the most satisfactory handling of telephone communications with the implementation of hookup circuits—four circuits for Guayaquil-Trujillo, six for Guayaquil-Lima, four for Trujillo-Guayaquil, and six for Lima-Guayaquil.

## BRAZIL

### Sonda 3 Rocket Launched From Alcantara Launching Center

PY0512142890 *Sao Paulo O ESTADO DE SAO PAULO in Portuguese* 1 Dec 90 p 19

[by Alvaro Caropreso]

[Text] Alcantara, Maranhao—The Alcantara Launching Center [Centro de Lancamentos de Alcantara] (CLA) in Maranhao State was effectively inaugurated with the launching of a Sonda 3 rocket yesterday at 1530 (Brasilia time) [1730 GMT]. After two successive countdown interruptions because of strong winds in the atmosphere's highest regions, the two-stage rocket soared to an altitude of 405 km carrying a 142-kg payload designed to test an automatic system of opening the retractile antennas of a scientific instrument that is under construction at the National Institute of Space Research (INPE) in Sao Jose dos Campos and that is scheduled to be launched in March 1991 by a rocket of the same type.

The mission's main objective, however, was to test the facilities and the equipment of the CLA Operations Control Center [Centro de Controle de Operacoes], where the experts monitor and direct all the procedures prior to the launchings and collect the information sent by the electronic instruments on the rocket and by its payload during the flight. The CLA was officially inaugurated on 21 February 1990 by the then President Jose Sarney, who is from Maranhao State. On that occasion, a one-stage Sonda 2 rocket was launched. A CLA technician has said: "That, however, was just fireworks to bid farewell to the president." At that time, the control center had not been completed.

The launching of the Sonda 3 rocket was also part of an operation initiated on 13 November to train the CLA ground teams. Since then 11 Sbat rockets have been launched. The Sbat actually is a small 70-cm [as published] missile that was developed from the Sonda 1 rocket. The Sbat rocket was developed in the late 1960's by the Aerospace Technology Center (CTA) to test the

so-called "optical post" ["posto optico"], a radar system that monitors the climb of the rockets and guides the ground antennas that receive information on speed, acceleration, thrust, vibration, and 62 other sources of data. In addition to the small Sbats, a Sonda 2 was also launched on Monday 26 November, with the same objectives.

According to Lieutenant Colonel Tiago da Silva Ribeiro, who led the CTA operations that culminated with yesterday's launching, the 1991 schedule foresees the construction in Alcantara of facilities for the preparation of the scientific instruments that are installed on the rockets. If the problems of the Brazilian economy do not disturb the flow of budgeted funds, the launching platform of the Satellite Launching Vehicle (VLS) will finally be completed by 1993. The VLS is a rocket that should put into orbit the first satellite built in our country. According to Lt. Col. Silva Ribeiro, in October 1992 two launchings will be carried out involving a new type of rocket, the VS40, which has been developed by the CTA to test the engine of the VLS's fourth stage.

#### **Amazon Region Communication Contract Signed With Italy**

*PY0512132890 Brasilia Domestic Service in Portuguese  
2100 GMT 4 Dec 90*

[Text] Brazil and Italy have signed a memorandum of intent to install the first satellite telecommunication system in the Amazon region. This project is being developed by Telebras [Brazilian Telecommunications Inc] with technology provided by the Italian enterprise Telespazio [expansion unknown].

This project will cost \$80 million will provide telecommunication services to all the Amazon region. It foresees the installation of 50 ground stations to serve 100 localities. National Communications Secretary Joel Marciano Rauber has said that the great advantage of the satellite system is that it does not harm the environment.

[Begin Rauber recording] The first advantage is found in the technological-operational aspect and the other advantage, if the ecosystem is considered, is the preservation of the Amazon ecology. The system will provide communications to the people living in the Amazon without harming the environment. [end recording]

The contract to install the satellite telecommunication system in the Amazon region will be signed by 15 March 1991 and the project will be operational within three years.

### **PERU**

#### **Romanian Company To Provide Telephone Equipment**

*PY0912011690 Lima Television Peruana in Spanish  
0100 GMT 5 Dec 90*

[Excerpt] In order to improve telephone service in metropolitan Lima, the Peruvian Telephone Company has signed a contract with the Romanian company (Ice-Electrolum). In this contract the Peruvian company will purchase new analog equipment for the (Penta-Contax) exchanges to make telephone communications faster and easier. The new equipment will be installed at the Chorrillos, Callao, Rimac, Monterrico, Miraflores and Lince exchanges. The contract was signed by Emilio Cassina, Peruvian Telephone Company general manager, and (Ion Idrascu), representative of (Ice-Electrolum).

[Begin recording] [Unidentified reporter] What are the terms of payment under this contract?

[Cassina] The contract with the Romanian company (Ice-Electrolum) will be paid over three years with an interest rate of four percent per annum. The total amount involved is \$2.5 million, which will be paid largely through a counter-trade system. In fact, 75 percent of the amount will be paid in kind by exporting Peruvian goods to Romania. [passage omitted] [end recording]

**BANGLADESH****Reasons for Faults in Dhaka Phone System Told**

91WD0165 Dhaka THE BANGLADESH OBSERVER  
in English 2 Oct 90 pp 1, 10

[Text] The faulty cable laying system in Dhaka metropolitan city results in frequent dislocation in telephone system. The subscribers suffer due to faults in underground cables which are laid on the earth without any cover around to protect them from rain water.

The proposal for duct cable network in Dhaka city was never considered seriously which is the fault-free system in all developed countries. PVC duct cable network can protect the whole system from hazards.

There are 100,000 telephone connections in Dhaka city. Out of these 26,000 are digital. The development wing of telephone board suggested for PVC duct cable network for digital lines costing about 300 crore taka in foreign exchange. The digital telephone network has been set up in Dhaka at a cost of 6 billion yen (Taka 150 crore) Japanese assistance. The PVC cable network would have cost only 12 billion yen (Taka 300 crore). But the policy makers did not give serious consideration to this proposal.

According to a source in T&T Board, an amount of Taka 1000 crore will be needed to bring the entire city telephone network under PVC duct system. The source indicated that many of the donor countries are willing to provide fund for the project. The source could not say the reason why the telephone department bosses are so unwilling to accept the proposal to improve the telephone system in the city.

The woes of the Dhaka telephone subscribers need not be exaggerated. The sufferers know the real sufferings. The subscribers suffer more due to frequent change of cables by digging trenches on the roads. The contractors damage the cables in times digging trenches.

**EGYPT****Mubarak Inaugurates Satellite Television Channel****Preliminary Reportage**

NC1012135390 Cairo MENA in Arabic 1208 GMT  
10 Dec 90

[Also see JPRS-TTP-90-019, 4 December 1990, pg 12]

[Text] Cairo, 10 Dec (MENA)—President Husni Mubarak will inaugurate the Egyptian satellite television channel operating off the Arab satellite by addressing a message to Arab and European viewers in the next few days.

This was stated today by Information Minister Safwat al-Sharif, who said the inauguration of the channel will represent a landmark in Arab and foreign media. He

added that all Gulf countries will receive the channel on inauguration day at home, and not only by earth stations. He pointed out that the process will be undertaken in full cooperation with the sister Bahraini state.

The information minister asserted that our soldiers and armed forces in Saudi Arabia and the United Arab Emirates will receive the channel's transmission and listen to President Mubarak's speech on the occasion, in which he will address the joint Arab forces.

Minister al-Sharif noted that working teams have been stationed in Saudi Arabia, Bahrain, and the United Arab Emirates, in addition to certain European countries. He added that other working teams have been sent to Egyptian regions which do not receive television transmissions. These teams are working hard to complete the installation of the satellite dishes necessary to receive transmissions from the space transponder on inauguration day.

The information minister noted that the fifth channel of the Egyptian television, which will cover Alexandria and most regions in al-Buhayrah governorate, will also be inaugurated in the next few days. Programs transmitted through this channel will reach al-'Alamayn, Rosetta, Damanhur, and al-Dilinjat in al-Buhayrah. They will also reach Marsa Matruh in the future.

Al-Sharif noted that the experimental transmission of the space transponder is currently received irregularly in the areas in which our armed troops are deployed, in Bahrain, and in several European countries.

On receiving CNN in Egypt, al-Sharif said subscriptions will be accepted as of mid-January and that transmission will begin next March. He said subscription priority will be given to journalists and men of the media.

He added that the Egyptian Radio and Television Union will contribute 60 percent of the capital of the company which will relay CNN programs in Egypt.

**Satellite Channel Inaugurated**

NC1212201890 Cairo MENA in Arabic 1817 GMT  
12 Dec 90

[Excerpts] Cairo, 12 Dec (MENA)—President Muhammad Husni Mubarak has inaugurated the Egyptian satellite channel. The channel will transmit daily programs to all the countries of the region from 1000 until the end of transmission of the Egyptian television's first channel.

President Mubarak expressed great satisfaction on this occasion saying he is one of the happiest people, just like every other Egyptian citizen, to see that we are keeping abreast with the world's technological progress and that we are transmitting our programs via satellite to our sons and brothers in the Arab world and abroad. [passage omitted]

President Mubarak addressed a message to the members of the Egyptian Armed Forces in the Gulf to commemorate the fact that Egyptian television is now reaching them. The president said that when he previously visited the Egyptian troops in Hafar al-Batin in Saudi Arabia and in al-Shariqah in the United Arab Emirates [UAE], he was pained by the fact that they could not receive radio and television broadcasts and consequently could not clearly hear and see Egypt's news. [passage omitted]

The president instructed the information minister to speed up the implementation of satellite dish installations to transmit television broadcasts via the satellite channel to Libya. The information minister said that the president's instructions will be carried out immediately.

The information minister added that Bahrain has signed an agreement with Egypt to receive Egyptian broadcasts via the new channel and retransmit them on its own channels. He explained that Qatar and large areas in the UAE, except al-Shariqah, and Kuwait and Iraq (the Basrah area) are now receiving Egyptian television broadcasts via this channel. He added that viewers in al-Dammam and the Eastern Province in Saudi Arabia will also be able to receive the transmission. He noted that this is the first stage.

Safwat al-Sharif said that 15 African countries are scheduled to receive Egyptian television broadcasts and noted that the number will later increase to 35 countries. He said that stations will be built there to receive Egyptian broadcasts and retransmit selections from them. [passage omitted]

Al-Sharif added that in the future the channel will transmit 24 hours a day and in this way it will be possible to serve Europe and Africa and broadcast news bulletins in these countries' languages. [passage omitted]

#### **Satellite Channel Company Formed for Subscriptions**

*NC1212183290 Cairo MENA in Arabic 1815 GMT  
12 Dec 90*

[Text] Cairo, 12 Dec (MENA)—Information Minister Safwat al-Sharif has announced that a company dealing with the Egyptian satellite channel, opened by President Mubarak today, has been established.

Al-Sharif said that the company will be ready to receive subscriptions as of January 1991. He pointed out that the channel will begin its full transmission as of March.

## **INDIA**

### **India Seeks Soviet Space Technology**

*OW0412120490 Beijing XINHUA in English  
1146 GMT 4 Dec 90*

[Text] New Delhi, December (XINHUA)—India is trying to obtain the technology for the cryogenic stage of the geo-synchronous launch vehicle (GSLV) from the Soviet Union.

According to a report by "THE TIMES OF INDIA" today, a high-level Soviet team has visited the Indian Space Research Organization (ISRO) centers in Bangalore, capital of the southern state of Karnataka, and Trivandrum, capital of the southwestern state of Kerala, for discussions recently.

The report quoted reliable sources as saying that the technology transfer deal is likely to be finalized in the next few months.

The sources said that though Japan, France and the United States have been approached for the technology, it is the Soviet terms which are most attractive.

India is planning to develop GSLV in the 1990s, which will enable India to launch the 2000-kilogram Insat-2 series of communication satellites.

The sources also said that the ISRO has sought Soviet help in doing the wind tunnel tests on the ASLV (augmented satellite launch vehicle) and PSLV (polar satellite launch vehicle). The Soviet Union is expected to cooperate in this too.

ISRO, the sources claimed, has approached Holland for the tests but the Dutch have refused.

### **Department To Launch Satellite for Rural Development**

*BK0712083690 Delhi Domestic Service in English  
0730 GMT 7 Dec 90*

[Text] The Department of Space proposes to launch a satellite to help in rural development. The chairman of the Space Commission in the department, Mr. U.R. Rao, said that the satellite called GRAMSAT will cover programs in 18 languages. Special emphasis will be given on eradication of illiteracy in the country. Mr. Rao said this can also be used for improving professional skills of industrial workers to achieve better productivity through education.

**Terminal for Satellite News Gathering in Ahmedabad**

91WD0203 Bombay THE TIMES OF INDIA  
in English 27 Oct 90 p 8

[Text] Ahmedabad, Oct 26 (UNI)—The Development of a Satellite News Gathering (SNG) Terminal by the Space Application Centre (SAC), Ahmedabad, has opened the possibilities of directly transmitting news feeds for broadcasting in the National Network of Doordarshan from remote locations through Insat-1B/1D.

The SNG will also enable Doordarshan to show visuals from remote locations on the same day of happening of any event.

**ISRAEL****Israel Purchases Three Channels in Communications Satellite**

TA0512175590 Jerusalem Domestic Service in Hebrew  
1700 GMT 5 Dec 90

[Text] The finance minister and the communications minister have undertaken to purchase three channels on the Israeli communications satellite Amos, to the tune of \$15 million a year for 10 years. Our correspondent Mor Suliman reports that a European country has also expressed interest in the purchase of a satellite channel. The Israel Aircraft Industries has already signed a memorandum of understanding with two companies in Germany and the United States, and an agreement on the construction of the Amos satellite at \$200 million is expected soon.

### New Gostelradio Chairman Kravchenko Interviewed on Reorganization

LD0312140190 Moscow GOVORIT I POKAZYVAYET  
MOSKVA in Russian 3 Dec 90 p 2, 14

[Interview with L.P. Kravchenko, chairman of USSR State Committee for Television and Radio Broadcasting, by correspondent V. Sprinsyan; place and date not given; headlined "I Believe in Professionalism and Decency". Also see earlier Kravchenko interview in JPRS-TTP-90-019, 4 December 1990, pp 14-16]

[Excerpts] As has already been reported, Comrade L.P. Kravchenko has been appointed chairman of the USSR State Committee for Television and Radio Broadcasting by Decree of the USSR president. [passage omitted] In connection with L.P. Kravchenko's appointment as chairman of the USSR State Committee for Television and Radio Broadcasting, V. Sprinsyan, one of our paper's correspondents, asked him to answer a few questions.

[Sprinsyan] Leonid Petrovich! The presidential decree instructs you to present the USSR Council of Ministers with proposals on reorganizing USSR Gostelradio aimed at dividing television and radio broadcasting and at making them function autonomously. What comment would you make on this decree?

[Kravchenko] Naturally I understand that the USSR president's decree could give rise to several questions. Careful readers will obviously have noticed that the decree does not mention that the president's decision must be approved in the USSR Supreme Soviet. The point is that what I have to present to parliament amounts only to proposals on abolishing the State Committee for Television and Radio Broadcasting and my post as chairman of the committee

The decree envisages a definite framework for the forthcoming reorganization. We will have to set up independent all-union state companies for television and for radio. The proposals for this have already been worked out. The status of these companies should be no lower than that of the current state committee. Each of them will have its own administrative apparatus with its own independent structures and, of course, its own creative sections. The difficulties of the forthcoming reorganization lie not in creating these companies but in not destroying what has already been created. The country's television and radio broadcasting system has already changed in some ways. In reality our powers can no longer be extended to cover the republics. In practice the union-republican committee no longer exists. Perhaps that is one of the main reasons for carrying out the reorganization.

A representative commission which was set up concluded that it would be advisable to have a State Scientific and Technical Association (SSTA) as well. In our view there should be a coordinating council to preside over all these structures. This council would be headed

by the chief of the television company and his deputy would be the head of the radio company.

[Sprinsyan] Who would be on the coordinating council and what would be its functions?

[Kravchenko] The heads of state television and radio companies and of the SSTA. Heads of republican television and radio organizations and of Moscow and Leningrad television and radio should also be equal members of this Council. This would be in accordance with current ideas on the federal structure of the USSR. The council would handle a very wide range of issues from common technical policy, to coordinating the broadcasting of television and radio programs from the union republics on Central Television and All Union radio, to international ties and so forth.

[Sprinsyan] In your view what should be the guiding principles of a television and radio company as a state broadcasting service?

[Kravchenko] Nowadays the mass media, including television and radio, is working in completely new conditions, in conditions of a multiparty system which is now taking shape and in conditions where the political realities are new. Of course we must be ever mindful of the differences which exists between state information systems and; systems representing various parties or other public associations, cooperatives and groups. We shall be guided by the Press Law and in future by the law on television and radio broadcasting which is now being formulated. The main thing which it is our duty to remember is our very great responsibility before the state and before the people.

Our society, our people is today completely fired up when it comes to politics. I would say that television and radio have made a definite "contribution" to that. Unfortunately journalists too have often been drawn into the hostilities between parties, movements and tendencies and have sometimes represented the interests of one side or another. And this is dangerous. I am profoundly convinced that we must act today to neutralize all forms of extremism, both right wing and left wing. Extremism is causing concern in various sections of the population. For people are dying and there are already hundreds of thousands of refugees in our country.

We must show an enormous level of responsibility for everything concerning relations between nationalities in order not to throw fuel on the fire but to find wise approaches and the required ways of covering events, since one false step could have unpredictable consequences. I am certain that state television must come to be an instrument for this process of stabilization, an instrument for civil accord and the consolidation of all the healthy forces in society.

In my view people expect television and radio to carry profound and serious discussion of all problems connected with the market economy. They expect decisive

moves against economic sabotage and speculation and against everything connected with the black market, crime and the drugs trade.

**[Sprinsyan]** Leonid Petrovich! What are the plans for organizing broadcasting within the framework of television and radio companies? What does this concept involve?

**[Kravchenko]** Broadcasting will be on a network of channels, each one of which should have its own concept, content, and perhaps, form. This will promote creative competition between programs and channels. For example, we see television's channel one as a news and arts channel. Every three hours or so there will be news, and the time between bulletins will be filled with arts programs—films, shows, concerts, and so on. Arts broadcasts must be the priority, for nowadays hours and hours of relays from congresses and sessions along with other sociopolitical programs have for no good reason squeezed out feature films, shows, and music programs. And when a person comes home worn out after work or all fired up after a meeting or after wandering around empty shops, that person just wants to sit down in front of the television and watch an interesting arts program and relax, maybe even find some comfort in what's on.

The educational channel should also have its own special features, its own style. The Moscow television channel has its own character, mixing news and arts features which are viewed as parts of a whole. Many people watch and like the Leningrad channel. It has its own character, its own style. Sometimes very controversial.

I want to dwell now on news. In my opinion the main thing here is respect for the facts and events and not interpreting them from the standpoints of socio-political movements, parties, factions or groups. It must not be forgotten that we are working for state television and radio broadcasting. If someone wants to have opposition television or radio then let that person go ahead and set it up. It is perfectly legal. Any citizen can found it if he has the funds and the ability. but state television must not be allowed to be turned against the interests of the state or against the power structures which represent state interests. That is how things are throughout the civilized world, that is the practice worldwide, that is experience worldwide.

**[Sprinsyan]** You have said that broadcasting has become excessively political. But there is the other extreme about which our readers write indignantly. I mean violence and cruelty on television as well as eroticism and sometimes even pornography.

**[Kravchenko]** My position on this will be firm. I shall not be drawn into the sorts of discussion into which people have already tried to draw me on such things as what is the difference between eroticism and pornography and where the boundary between them lies. Strange as it may seem sometimes the same people who advocate these shameful ways also call for the people's spiritual health to be improved. I am neither a reactionary nor a bigot

but I am profoundly convinced that television must provide lasting protection from this sort of thing. We must place higher demands on ourselves and shield people from filth.

**[Sprinsyan]** What is your view of the relationship between central television and radio broadcasting and the newly set up all-Russian television and radio company and television and radio companies in other republics?

**[Kravchenko]** Fourteen union republics have long had their own television and radio committees. I shall do all I can to assist the establishment of the all-Russian television and radio company and to help it organize its own broadcasts. I think that its television programs could have a worthy place on Channel Two. But the television organizations of other union republics and Russian Socialist Federated Soviet Republics [RSFSR] television and radio committees have to use this channel for their program, too. It would be a mistake to refuse to show sports programs on this channel. I think that the many millions of fans would not forgive us if we did.

We shall discuss all these issues again with the SFSR Ministry for Press and Information and with the management of the new television and radio company in an effort to find a sensible way of using the channels. [passage omitted]

### **Military Reportedly Equipping Estonian TV, Radio**

*LD0812230190 Vilnius International Service in English  
2230 GMT 7 Dec 90*

**[Text]** In Tallinn yesterday, Estonian Prime Minister Edgar Savisaar met leaders of 30 parties and movements. All spoke unanimously against the Union treaty Estonia is being pressed to sign. The participants in the meeting looked for ways to dodge the Soviet Union's pressure. Meanwhile, the member of the Estonian Interfront are preparing a new action. Once again, Zela Petay.

It's a little calmer in Tallinn, there are fewer military movements around Estonia [word indistinct] there have been in Lithuania and elsewhere. So, I think there has been less of a conflict with the military so far. I guess the government in Estonia hopes to keep it that way, although there have been people demonstrating against the military who wanted to stop supplying the military.

Another important issue is the fact that the military is helping the intermovement set up its own radio and its own television. The radio was set up about a month ago, and now they say by the end of the year they will set up an Intermovement television station and broadcast two, or two and a half, hours a day of Intermovement programs and pro-Soviet [word indistinct] propaganda. That's being directly, apparently directly, helped by the military. They are bring in the transmission equipment which as been withdrawn from Eastern Europe and they

are just transferring it to Estonia to set up this radio and television. I think that issue is very serious.

#### **Weather Satellite Complex For Tashkent**

*LD1112195990 Tashkent Domestic Service in Russian  
1300 GMT 11 Dec 90*

[Summary from poor reception] Scientists and specialists from the USSR, United States, Japan, India, and the PRC, and representatives from the world meteorological organization, the international European organization and European [words indistinct] agency participated in the meeting of the coordination bureau of the [word indistinct] and meteorological satellite, which opened in

Tashkent. The coordination group was established in 1972, to specialize in the study of meteorological satellites. The participants in the current meeting have gathered in Tashkent in connection with the construction of a complex for the reception of satellite information here. The [word indistinct] satellite will be put into orbit next year. Tashkent will become one of the major regional centers for the reception of data from this satellite. The satellite will provide information every half-hour on the state of the surface of the earth and cloudiness, and will assist in providing more accurate weather forecasts. Such satellites are currently effectively used in the field of telecommunications.

## CANADA

**Satellite Firm Signs Joint-Venture Agreement With USSR**

91WT0045 Toronto *THE TORONTO STAR* in English  
31 Oct 90 p C1

[Article by Philip DeMont]

[Text] A Canadian satellite company has signed a joint-venture agreement with the soviet government to provide international satellite service between Europe and North America.

Mississauga-based Canadian Satellite Communications Inc. said yesterday the Soviets will build and launch the satellites while the Canadian company will manage the system's operations.

Spar Aerospace Ltd of Canada will participate in making the innards of the satellites, while Intersputnik, the soviet Union's international space agency, will make the casings.

Claude Lewis, Cancom's executive vice-president, said the financial details have yet to be worked out.

But, he said, the agreement should be a winner for Cancom.

"This is a very viable venture on its own without government help," he said.

Countries are allocated positions in the earth's orbit in which they can place satellites by an international agency, Lewis said. The Soviet government had orbiting slots that it couldn't use.

Cancom has a chance, through this deal, to snap up three such slots, Lewis said. Three satellites should be in orbit by 1995.

He also said companies probably will use the system initially to send broadcast and video signals. But the network could be used to send other kinds of electronic traffic such as data.

Firms from any country will be able to use the system, Lewis said.

While Cancom likely will wind up putting money into the satellite network, the Soviet government may contribute services rather than hard currency, Lewis said.

The Soviet government will want to make a profit from its investment just like the other participants, he added.

**Colville Named To Succeed Spicer as CRTC Chairman**

91WT0046 Toronto *THE GLOBE AND MAIL*  
in English 3 Nov 90 pp B1, B2

[Article by John Partridge]

[Text] Canada's new chief communications watchdog, David Colville, plans to continue all the policy initiatives his predecessor launched and sees no reason to

delay major telecommunications and cable-television hearings already set for early next year.

Mr. Colville also plans to press ahead with "valuable" moves begun by Keith Spicer to reform and improve the internal workings of the Canadian Radio-Television and Telecommunications Commission.

"My appointment, I believe, won't be disruptive in terms of either the internal or external operations of the commission," he said yesterday.

But despite this commitment to continuity and even though his term as CRTC chairman is set to expire next June 30, Mr Colville said he does not see himself as a mere caretaker.

"I'm approaching this on the basis that I've been asked to take over as chair and operate the commission and deal with the issues ... not as some sort of caretaker," he said in a telephone interview from Ottawa.

The federal government announced Mr Colville's appointment late Thursday evening, a few hours after Mr Spicer, CRTC chairman for only 14 months, confirmed that he had resigned his post to head up a new commission on national unity set up by Prime Minister Brian Mulroney.

Industry executives indicated Thursday that some heavyweights in broadcasting, cable and telecommunications and, indeed, some CRTC commissioners, unhappy with Mr Spicer's performance, had been pushing for his removal.

There also have been loud rumblings in industry circles that relations between Mr Spicer and his fellow commissioners had grown increasingly stormy.

And opinion is widespread that, despite statements to the contrary by the Prime Minister and Mr Spicer himself, he will not in fact resume his duties at the CRTC next summer when the new commission is supposed to have finished its work.

However, Mr Colville said yesterday that he has received no indication or undertaking that his term will be extended.

Mr Colville's elevation to the top job at the CRTC was an even bigger surprise than Mr Spicer's departure. Unlike Mr Spicer, he is not bilingual, and he was appointed to a seven-year term as a full-time CRTC commissioner only a month and a half ago.

Broadcasting, cable TV and telecommunications executives were only just beginning to get used to Mr Spicer—and he with the regulatory process.

However, Mr Colville, 45, has an extensive background in communications and government. Before coming to

the CRTC, he spent 12 years as senior policy adviser on communications to the Nova Scotia government and appeared before the CRTC on many issues.

He also spent six years working in the telecommunications industry, for both Maritime Telegraph and Telephone Co. Ltd. of Halifax and Bell Canada.

"I come here well up on the learning curve," Mr Colville said. "I guess I'd be surprised if (CRTC-regulated industries) complained they had to start the educational process all over again with me."

The cable-TV industry has been up in arms about Mr Spicer since last May, when in the first major decision in which he participated, the CRTC clamped the lid on cable rates and suggested the industry's profits are too high.

Mr Colville said yesterday that he "fully supported" the commission's May decision, adding that it was "almost a match" for the position Nova Scotia had expressed at the public hearing that preceded it.

On the telecommunications front, Mr Colville said the CRTC's legal department is still trying to determine whether there might be a conflict of interest if he were to take part in a hearing set for next April at which Unitel Communications Inc. will try to persuade the commission to let it break into the long-distance telephone business, currently a phone-company monopoly.

The possible conflict stems from the fact that Mr Colville signed the documents that registered Nova Scotia as an interested party in the long-distance hearing. The CRTC's lawyers are trying to determine whether Mr Colville would have to wait for a certain period before taking part in the proceedings. He said he expects a report on the matter "probably some time next week."

CRTC staff and industry sources indicated Thursday that they were expecting CRTC vice-chairman Fernand Belisle to get the nod to succeed Mr Spicer.

However, if Mr Belisle's nose—or that of any other commissioner—is out of joint, Mr Colville wasn't letting on yesterday.

Although he acknowledged that there have been some "differences of opinion on some issues" in the past, he said: "I have today received from all of the commissioners their acknowledgment of utmost support and I'm confident we're going to be able to work together as a team to address these important issues we are coming to grips with. I know that sounds like a lot of motherhood, but I don't believe it is... I think anything of that nature has been put to rest."

## CYPRUS

### CyBC Considering Linkup With EUTELSAT

NC0512122490 Nicosia CYPRUS MAIL in English  
5 Dec 90 p 4

[Report by Jean Khristou]

[Text] CyBC [Cyprus Broadcasting Corporation] is studying the possibility of a link up with the European Telecommunication and Satellite Organisation (EUTELSAT) which if implemented will bring Cypriot viewers a choice of a further eight television channels.

Odhisneas Angelidhis, CyBC's head of planning and installations said yesterday that the corporation is considering the possibility of broadcasting a number of European stations which have recently launched new satellites. However he also added that no time scale for the broadcasts could be determined at the present time. He denied recent press reports that they would be ready to broadcast by mid-1991.

Some of the stations on the list are CNN from America, Horizon from the Soviet Union, Italy's RAI and specialised channels such as Eurosport and MTV, the American "round the clock" music video station. "It is unlikely that Cypriot viewers will be receiving BBC", Angelidhis said.

A spokesman for CyTA [Cyprus Telecommunications Authority], the telecommunications authority said yesterday that they are a shareholder in EUTELSAT and that it was through this that the link up with Greek television occurred. "I cannot say for certain what the CyBC's plans are for the broadcasting of the other channels", he said "but CyTA is not involved at the present time".

According to Angelidhis the cost of the special aerial needed to receive the new channels will be only fifty pounds, "the total cost of the link up is not prohibitive", he said.

## FRANCE

### France Telecom's International Expansion Strategies

91WT0029A Paris TELECOM MAGAZINE in French  
Oct 90 p 40

[Article by Henri Bessieres: "To Maintain Its Position, France Telecom Has No Choice But To Go International"]

[Text] All powerful on the French mainland, France Telecom is virtually nonexistent on the international scene. This is surprising for an industry that "weighs in"

with sales of over 100 billion French francs. Barely 600 million of those francs, however, are generated by its "offshore" activity, that is, by sales outside France's borders. To reverse the trend, France Telecom's Industrial and International Affairs Division (IIAD) has set itself a goal: 10 percent of the group's sales (some 20 billion French francs) will be generated abroad within 10 years, compared to 0.5 to 0.6 percent today.

### Three-Pronged Strategy

"Our strategy has three prongs," explains Mr Michel Combes, staff director for Mr Jean-Jacques Damlamian, the IIAD's "boss": to acquire capital shares in telecommunications companies that are going private in East Europe or South America; to gain skills abroad from new partners (particularly in mobile communications); to grow with our big customers as they expand their networks. "Compared to that of other telecommunications companies, France Telecom's absence on the international scene is not surprising, according to IIAD. "The operators most active abroad are those which were contested in their own homelands," explains Mr Combes. That, moreover, is the case with British Telecom, Cable and Wireless, AT&T, or Baby Bells. In contrast, Deutsche Bundespost (DBP), omnipresent in the Federal Republic of Germany, is non-existent internationally. The case of Telefonica is somewhat special: thanks to its cultural and linguistic affinity with Latin America, the Spanish company is well established there (notably in Chile). "The companies which will play a role in the future will be those which impose themselves internationally," warns Mr Combes.

### Still A Long Way to Go

The IIAD's lucid observation does not stop France Telecom from positioning itself as "an international player of the first rank."<sup>1</sup> An international player whose foreign sales amount to barely 100 million dollars...compared to 15 times more at British Telecom! In fact, the PTT (Post, Telephone, and Telegraph) administration is playing on words. Its turnover from international services (calling from and to France) accounted for 10.5 billion French francs in 1989 (or nearly 10 percent of the group's sales.) But "international service" (since France Telecom has a monopoly within its territory) and sales made abroad are totally distinct concepts. Significant facts: Only two offices (New York and Tokyo) among the score that France Telecom has opened abroad are truly commercial. Likewise, France Telecom employs only fifty or so people in its different offices abroad—nearly as many as British Telecom in Paris alone!

A significant indication of how far France has to go to achieve a good position on the international scene.

## GERMANY

### Bundespost Awards VSAT Network Contract To Dornier

91MI0023 Bonn *TECHNOLOGIE-NACHRICHTEN MANAGEMENT-INFORMATIONEN* in German  
26 Sep 90 pp 22-23

[Text] Deutsche Bundespost (DBP) Telekom has awarded Dornier GmbH, a subsidiary of German Aerospace, the contract to supply 500 VSAT [very small aperture terminal] satellite radio stations for the largest operational communications network yet to be established in Europe. The new system is a satellite-based network for business communications between a central station and a large number of small satellite-to-earth radio stations equipped with 1.80 m-diameter antennas. The 500 stations can be set up directly on the users' premises and are scheduled to be in operation by the middle of 1991; 70 VSAT's have already been installed.

The VSAT system provides data channels of from 300 bps (bits per second) to 64 Kbps and exploits the advantages of satellite technology to exchange, distribute, and gather communications cheaply throughout Europe. DBP-Telekom and Dornier have been testing the new technology with various customers for some time, and it can now be implemented via the operational VSAT service "David." The satellites belonging to the European satellite-operating organization, EUTELSAT, are being used for this purpose. The network that is being created will consist initially of a central station at the Hameln earth station, which has a transmission capacity of 3 x 512 Kbps, and 500 VSAT stations.

Another important attribute of the new network is that Europe-wide connections can be established in a very short time without earthbound communications structures. With sufficient advance planning, a VSAT station can be installed and put into service in just one day.

The "David" service can therefore satisfy the urgent need for short-term telecommunications alternatives, in eastern Germany in particular, but throughout Europe in general as well. There are already a large number of companies interested in the service, especially banks, news agencies, transport and service companies, oil companies, and automobile manufacturers.

## ITALY

### National Network Modernization Analyzed

91WT0029B Paris *TELECOMS MAGAZINE* in French  
Oct 90 pp 62-62

[Article by Didier Pouillot: "Telecommunications Italian Style: How To Break the Impasse"; first paragraph is TELECOMS MAGAZINE introduction]

[Text] The target of fierce criticism, the Italian telecommunications industry is still floundering in great confusion, with four distinct companies and mediocre equipment and service. Industrially, the national champion Italtel was forced to seek outside help... Will Italy finally find a way to reform itself?

The overall efficiency rate of the Italian telecommunications network is a bit over 50 percent. Put differently, nearly half of all telephone calls do not go through. And the figure includes data for local service, much more efficient! For long-distance connections, the rate according to some analysts is probably closer to 30 percent. What handicaps are able to plague the system so?

The Italian telecommunications industry suffers from various ills. Conflicts of interest between multiple players, to start with, for whom all reorganizational plans (SuperStet, SuperSip...) have so far come to grief. Discussions are still underway... As a corollary to those conflicts, the Italian network seems notoriously under-equipped: In an attempt to catch up, Sip<sup>2</sup> has just embarked on a highly ambitious modernization plan. Europe of 1993 is in sight. Finally, industry is also flagging: The agreement between Ataltel and AT&T in 1989 is proof of it. One of the most critical points is undoubtedly the very way the system is organized. In contrast to the sole administrations set up in the big industrial countries, the Italian government opted during the thirties to grant concessions to three different operators, while simultaneously reserving for itself a portion of the services.

The ASST<sup>2</sup>, a government agency directly linked to the Postal and Telecommunications Ministry, takes care of service for the principal long-distance as well as intracontinental connections. Sip manages local service and long-distance connections not handled by the ASST. It is to Sip that individuals or companies must address themselves to get a telephone or fax or to transmit data (specialized hookups, access to the packet-switching network...). Italcable is responsible for extracontinental connections, while Telespazio handles satellite communications. Furthermore, the three concessions are controlled by Stet<sup>2</sup>, a state holding company in charge of telecommunications.

It is clear that the complexity and wooliness of the system generates a certain number of conflicts of interests, of which users are often victim. Sip and the ASST regularly lock horns out in the field, unsure which of the two should serve what customer: In practical terms this can mean that certain applicants wait a very long time to get hooked up. The coexistence, if not competition, of three companies for international service also creates enormous confusion, and the lack of concertation between the different protagonists still causes many redundancies. There is one thing that unites them however: their subordination to public authorities. While the ASST is a direct offshoot of the ministry, the three

concessions are controlled by Stet, itself an 85-percent-owned subsidiary of Iri<sup>2</sup>, a public institute created at the end of the second world war to rebuild the country industrially. That fact has unfortunately not yet made it possible to overcome internal squabbles.

#### Many Improvement Plans

Plans have proliferated over the last few years: Not one has yet actually come to pass. One of them, christened SuperStet, advocated the transfer of the ASST's 14,000 employees to the holding, thereby bringing together all the troops under one banner. Union opposition temporarily thwarted the plan. A second initiative, SuperSip, recommended a merger of the ASST and Italcable within Sip—with no greater success!

Some of these options are resurfacing today, when the inadequacy of telecommunications seems more intolerable than ever (there can be no sustained economic development without a telecommunications network) and with the EC Commission issuing directives ill-adapted to such a fuzzy structure. Even the postal and telecommunications minister, Mr Oscar Mammi, defends the idea of a merging of forces.

A reform of the telecommunications law has already made it possible to combine regulatory functions within a single entity and to draw the boundaries between services under monopoly control and those open to competition. Linked to these organizational problems, Italy is also suffering from under-equipment. Though considerable efforts have been made over the last few years, the number of principal lines barely reached 21.3 million at the end of 1989, or a rate of 36.9 lines per 100 inhabitants. It is a level sharply inferior to that of other industrialized countries. In comparison, France has nearly 50 lines per 100 people. The other networks, notably cellular radiocommunications, are lagging just as badly in neighboring zones.

#### A Necessary Upgrading of the Network

To bring the national network back up to par as quickly as possible, Sip set up a priority program with total funding of 30,000 billion lire in 1988: during its first year (1989) Sip did in fact invest 8,100 billion, up by nearly 40 percent over 1988. The new 1990-93 four-year plan further emphasizes investment, since 9,000 billion are slated to be spent on it annually. Under the circumstances, the number of customer lines could reach 27 million by the end of 1993, France's level in 1989. But investment is also being channeled into modernizing the existing network and developing new services.

Sip has already invested considerably in digitalization of its switching systems: Today the rate of digitalization of telephone exchanges exceeds 25 percent, with Italy ranking third in Europe, right after France (70 percent) and the United Kingdom (38 percent). The introduction of optical fibers is also expected to be stepped up. In addition, Sip plans to launch packet-transmission networks—Itapac<sup>2</sup>—and specialized digital hookups.

For now, various methods of data transmission are offered: specialized analogue or digital circuits, Itapac-dedicated access and, of course, modem access to the switched network. The total number of access points was 240,000 at the end of 1989, 15,000 of them on specialized digital networks and 12,000 linked to packet networks. A very meager number if the French situation is used for comparison: There were 70,000 Transpac hookups at the end of 1989. The difference is explained, however, by the "youth" of Itapac, which opened for business in 1989, while the French network began operating in 1978.

In the area of services, the number of radiotelephone customers could increase tenfold over the same period, climbing from 70,000 at the start of 1990 to over 700,000 by the end of 1993: A new 900-MHz analogue system (Tacs) was introduced at the beginning of 1990, in anticipation of the future pan-European GSM. Experimentation with the RNIS<sup>2</sup> will begin in 1991 in seven pilot cities and the system will made commercially available shortly thereafter. All services, including videotex, are targeted by the Sip project.

#### AT&T to the Rescue

But the success of the plan depends largely on the ability of manufacturers to mobilize themselves. Here too Italy has a few shortcomings. Indeed, Italtel, the national champion and also a member of the Stet family<sup>1</sup>, was afraid it would not be up to the task. The market potential of its Linea UT switching system was confined to national territory: Consequently, the manufacturer could not shoulder the R&D investment alone. These factors led Italtel to seek a partner. AT&T, the final choice of the Italian interests, should thus capture the lion's share of Sip's modernization program.

The other national suppliers hold only minor positions. Fatme (Ericsson's local subsidiary), Telettra (a subsidiary of the Fiat group), Alcatel Face, and Siemens Telecomunicazioni (ex-GTE) share less than half of the market.

Rumors are going round about a resumption of talks between Italtel and Telettra on a plan to join them in closer collaboration that was initiated in 1987 (Telit), and which had stumbled over political disagreements. Will obstination pay off in the end?

#### Key Figures for Italian Telecommunications Companies in 1989 (in billions of lire)

	Sales	Investments	Personnel
Operators:			
Sip	14,882	8,090	85,240
Italcable	660	69	3,500
Telespazio	176	80	848
ASST	nd	nd	14,000
Manufacturers			

Italtel	2,150	133	16,761
Telettra	1,621	94	8,728
Alcatel Face	854.3 [M.Ecu]	nd	10,137
Fatme [Ericsson]	679	37	6,569
Siemens Telecomunicazioni	649	33	5,115

nd: not determined; 1,000 liras = 4.50 French francs; 1 Ecu = 6.95 FF  
(Source: Idate Industrial Analyses)

#### Footnotes

1. As part of a reorganization plan implemented by Iri, STET should retain only service activities. In that case, Italtel would fall under the authority of Finmeccanica, another state holding company combining manufacturing activities.

2. A few acronyms: Iri, Istituto per la Ricostruzione Industriale; Stet, Societa Finanziaria Telefonica; ASST, Azienda di Stato per i Servizi Telefonici; Sip, Societa Italiana per l'Esercizio Telecomunicazioni; Itapac, Italian Packet-Transmission Network (equivalent to Transpac); RNIS, digital network for integrated services.

## TURKEY

### New Television Relay Transmitters Commissioned

#### Konya Relay Station

NC0412142090 Istanbul CUMHURİYET in Turkish  
27 Nov 90 p 4

[Text] Ankara (ANKA)—A new transmitter, which will relay the Turkish Radio and Television Network's TV-3 programs, is being added to the main television relay station in Konya. The Konya relay station serves viewers in Konya, Karaman, and Aksaray Provinces. According to an announcement by the Post, Telephone, and Telegraph Administration, television relay stations in the three provinces will carry TV-3 programs from the main relay station on Channel 35, UHF band. Viewers will not have to readjust their antennas to receive the TV-3 programs.

#### Mugla, Diyarbakir, Bingol

NC0512113490 Istanbul CUMHURİYET in Turkish  
29 Nov 90 p 4

[Text] Ankara, [ANKA]—New transmitters have been commissioned in Mugla's Fethiye and Bekciler Districts and in Diyarbakir's Lice District to relay the Turkish Radio and Television network's TV-1 and TV-2 programs. Meanwhile, new transmitters have also been commissioned in Bingol's Kigi District, Mus' Varto District, and Ankara's Elmadag District to relay the TV-1 programs.

According to a disclosure by the General Directorate of the Post, Telephone, and Telegraph Administration,

viewers in the villages in the Kigi, Yayladere, Nazmiye, and Karakocan Districts should use VHF and UHF antennas to receive TV-1 and TV-2 programs with good reception. The television antennas in these villages must

be turned toward Kigi. Viewers should adjust their receivers to Channel 10 on the VHF band for the TV-1 programs and to Channel 44 on the UHF band for the TV-2 programs.

### France 'Ready' To Transfer Satellite Technology to ROK

SK0612031190 Seoul THE KOREA HERALD  
in English 6 Dec 90 p 3

[Excerpts] France is ready to give Korea its advanced communication satellite technology except ones relating to launching systems which can be used for nonpeaceful purposes if both sides reach agreeable terms, a visiting French official said.

The transfer of space technology is an internationally sensitive issue, but France is willing to negotiate with Korea on the transfer of satellite technology except for launcher-related ones, said Michel Petit, Space Department head of the French Ministry of Post, Telecommunications and Space [name, title as published] in interview with The Korea Herald.

He was responding to a question, "Is France willing to hand over to Korea all of its satellite technology if it is awarded a \$400 million Korean government project to send into orbit its first communications satellite in 1995?"

The top French government official in charge of France's communications satellite programs, Petit, however, did not totally rule out the possibility of a transfer of launching system technology by saying:

"Transfer of launching technology is very difficult at the moment. The prime reason is that such a technology can be used for offensive weapons. But it is not totally impossible.

Petit is heading a 45-member French delegation to a Korea-France symposium for "space technologies" which was held in Seoul Monday and Tuesday. The symposium was jointly sponsored by state-run Korea Aerospace Research Institute and French National Space Study Center (CNES). [passage omitted]

The symposium drew keen attention from French space industries because it came days after the Korean government's announcement about its first communications satellite program. [passage omitted]

A high-ranking official of the French space industry giant Aerospatiale also expressed strong enthusiasm for the Korean satellite program, officially titled "Mugunghwa" (the Korean national flower of the Rose of Sharon) project, displaying willingness to transfer almost all the technology Korea wants.

"I see no problem in transfer of technology as far as the satellite itself is concerned. There is no country in the world which is more open-minded in technology matters than France," said Jean-Jacques Bloch, Aerospatiale's communications satellites marketing manager.

Bloch was optimistic that France will win the Korean satellite project, saying that his country is in the most advantageous position in various aspects.

"When you select a foreign contractor for a space program, you should take into account not only bidding price but also experience, reliability, financial conditions, insurance terms and others," he said. [passage omitted]

### Australian Firm Signs Agreement To Build Longest Optical Fiber Cable

BK0512060690 Hong Kong AFP in English 0549 GMT  
5 Dec 90

[Text] Canberra, Dec 5 (AFP)—Australia's International Communications Network OTC Ltd. Wednesday signed an agreement with 35 other telecommunications carriers to build the world's longest undersea optical fibre cable system.

The 800 million dollar (620 million U.S.) cable, to be built over the next four years, will stretch more than 16,000 kilometres (10,000 miles), linking Sydney with Auckland, New Zealand, and Hawaii and Guam in the Pacific.

OTC will be the biggest shareholder in the South Pacific network that will join an optical fibre network in the North Pacific, forming a loop connecting the Pacific rim nations. Other companies involved include TNI of New Zealand, KDD of Japan and ATT of the United States.

Prime Minister Bob Hawke said at the signing ceremony here that the telecommunications loop would be of enormous economic significance to the region and its interaction with the rest of the world. The link would also provide a conduit for a new privately-owned telecommunications company to compete under new Australian legislation with a merged Telecom and OTC, Mr. Hawke said.

The South Pacific network cable will be able to handle more than 30,000 simultaneous telephone conversations.

Alcatel TCC (Tasman Cable Company) has been awarded contracts worth about 500 million dollars (387 million U.S.) to manufacture and supply much of the submarine cable.

### Soviet-French Fiber-Optic System Contract Signed

LD1212092590 Moscow Television Service in Russian  
1800 GMT 11 Dec 90

[From the "Vremya" newscast]

[Summary] The Alcatel Soviet-French joint venture with (Alcatelbel) and Krasnaya Zarya, called Lenbeltelefon, is to produce 1.5 million digital communication lines per year. A few days ago an agreement was signed in Paris on laying 250 km of optical cable in the USSR. The contract is worth 100 million francs. This section is the last link in a chain of an international optical fiber communications

system in the USSR called the Trans-Soviet line. Fifty km of cable will be laid on the bed of Lake Baykal.

**Daewoo, British Aerospace Sign Technology Package**

*SK1212003690 Seoul THE KOREA TIMES in English  
12 Dec 90 p 8*

[Text] Daweoo Corporation contracted a technology cooperation package with British Aerospace Ltd., a leading European manufacturer of communication satellites, last Saturday.

Daewoo Corp. will be provided with technology related to the development of communication satellites from the British company, gaining an advantageous position to participate in the Korea Telecommunication Authority's project to launch Korea's first telecommunication satellite, "Mugunghwa."

The London-based British Aerospace has more than 60 percent of the communication satellite market in Europe. It has manufactured and launched about 20 communication satellites so far in cooperation with the French company, Matra Space.