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JPRS Report

Telecommunications

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NIGERIA

NITEL Establishes Body To Check Illegal Use of Radio Frequencies

AB3107113090 Dakar PANA in English 1112 GMT 31 Jul 90

[Text] Lagos 31 July (NAN/PANA)—The Nigerian Telecommunications Authority (NITEL), has established a body at management level to check the illegal use of radio frequencies in Nigeria, NITEL sources told the NEWS AGENCY OF NIGERIA in a report received in Dakar on Tuesday.

The sources said in Lagos at the weekend that NITEL now had 1,125 registered licences throughout Nigeria and of this, private operator licence holders hold a total of 12,963 radio frequencies of all categories.

The sources said the licences, for use by aircraft and ship owners as well as humanitarian services, cover high frequency (HF), very high frequency (VHF) and ultra high frequency (UHF) operations.

Communications for Missile, Satellite Launching

HK0308053990 Beijing JIEFANGJUN BAO in Chinese 20 Jun 90 p 1

[Report by Correspondent Li Yang [2621 7122]: "Commission of Science, Technology, and Industry for National Defense Speeds Up Modernization of Telecommunications"]

[Text] It was reported on 5 July that the communications system of the Commission of Science, Technology, and Industry for National Defense has made major contributions to the successful fulfillment of the tasks of testing missiles and conventional weapons and launching satellites over the past 30 years. The modern three-dimensional communications network has become an important component part of the testing capacity for the development of sophisticated weapons and astronautics technology.

In recent years, the Commission of Science, Technology, and Industry set up 18 satellite ground communication stations. They can carry out the communications tasks 24 hours-a-day in any weather conditions without suspension, thus ensuring the data conveyed in high-tech tests and meeting the needs in information exchanges. Beginning in 1988, they replaced the step-by-step exchangers with the program-controlled automatic exchangers, and adopted the advanced optical-fiber communication technology, the mobile communication technology, and other new technologies. They actively expanded the communication sub-networks around the testing grounds and further upgraded the property of the networks.

HONG KONG

Hong Kong Expands IDD Service to More Mainland Cities

OW3107054690 Beijing XINHUA in English 0041 GMT 31 Jul 90

[Text] Hong Kong, July 31 (XINHUA)—Hong Kong Telephone, a telecom company, will expand its International Direct Dialing (IDD) service to 69 more cities in the Chinese mainland.

As from August 1 this year, customers can make IDD calls to Yangjiang in Guangdong Province and 68 more cities including Baoding in Hebei Province, Yangzhou in Jiangsu Province, Hohhot in the Inner Mongolia Autonomous Region, Datong in Shanxi Province and Fenghua in Zhejiang Province.

This will bring the number of cities in the mainland reached by Hong Kong Telephone's IDD service to 284.

INDONESIA

Decoder System for TV Programs To Be Abolished

BK2907102590 Jakarta THE JAKARTA POST in English 16 Jul 90 p 7

[Text] Jakarta (JP): Decoders will no longer be necessary for reception of programs broadcast by privately-run commercial television stations as of August 24, the 28th anniversary of state-run TVRI [Television of Republic of Indonesia] Minister of Information Harmoko says.

Harmoko told reporters after a meeting with President Suharto over the weekend that the decoders would be withdrawn not only from the commercial station in Jakarta, but from Similar TV stations in Denpasar, Bali, Surabaya, East Java and Bandung, West Java. He said President Suharto had approved the plan.

The decoders were being dispensed with in order to allow wider access to information and knowledge vital to the public, ANTARA NEWS AGENCY quoted the minister as saying.

"This has not been decided because the private commercial stations have been suffering losses," Harmoko clarified in response to reporter's questions.

Asked whether the privately-owned TV stations would not lose money with the withdrawal of the decoders for which subscribers pay a monthly fee, Harmoko responded in the negative. "In fact, with the withdrawal of the decoders and the availability of the broadcasts to a much wider segment of society the private stations are expected to receive more advertisements," he said. Broadcasts by the private stations would continue to be localized around major cities.

He further said state-run TVRI would continue its policy of not running commercial advertisements during its broadcasts, but would receive a percentage of revenues derived from advertising on the commercial stations. "The percentage to be paid is still under negotiation," he explained. "The funds derived will be used for the expansion and development of TVRI programming."

The President agreed to these plans, but expected the acquired funds would be used to improve the quality of TVRI's broadcats, as well as for the promotion and enhancement of the nation's cultural values, Harmoko said.

"This new policy also means that the privately-run stations will have to reduce the number of foreign programs or films presented on their stations," Harmoko clarified. In response to reporters' questions the minister said RCTI [Rajawali Citra Televisi Indonesia private station] would be expected to produce more of its own programs with the increased income expected from more advertising.

The private stations, however, would be required to limit broadcasts of commercials to 20 percent of programming, Harmoko said. He clarified that this policy was meant to limit the impact of the advertising in terms of increased consumerism in society.

"The broadcast of ads should not cause a negative social impact," Harmoko emphasized.

SOUTH KOREA

Fiber Optics Still Classified 'Strategic'

SK2507011190 Seoul THE KOREA TIMES in English 25 Jul 90 p 3

[Text] Korea will take part in the construction of the 14,000-kilometer Trans-Soviet Line, the Korea Telecommunication Authority [KTA] announced yesterday.

KTA and France Telecom were added to the Trans-Soviet Line Development Corporation (TSL-DC) last week at its steering committee meeting held in Copenhagan, Denmark, a KTA official said.

The official said the huge project, estimated to cost about 500 million U.S. dollars, is divided into four segments.

The first segment will link Denmark with Moscow, the second Moscow with Italy and the third Moscow with Nakhodka, he said, adding that laying of the three segments will cost about 434 million dollars.

Korea and Japan will participate in the 47-million-dollar line stretching some 1,200 kilometers from Nakhodka to Hamada, Japan, via Ulung-do, Korea, the official said.

Besides KTA and France Telecom, TSL-DC includes the Soviet Ministry of Posts and Telecommunications, U.S. West of Colorado, Kokusai Denshin Denwa (KDD) of

Japan, Societa Finanziaria Telefonica (STET) of Italy, British Telecom, OTC of Australia, Denmark's Great Northern Telegraph Company and Telecome Denmark and Deutsche Bundespost Telekom of West Germany.

Korea will be able to have access to the shortest land communication link to Europe through its participation, the KTA official said, as now Korea must route its communications with Europe through Japan.

Korea is also hoping to take part in the 10,000-kilometer Moscow-Nakhodka project which will be divided into 60 subsections. The KTA official said that the prospective contractors, U.S. West and the Soviet ministry, are hoping Korea will help in its construction as well as furnish fiber optic cables.

Construction of the first three segments are scheduled to be completed by the end of 1992, the official said, and the last segment in 1995.

However, he envisions a possible delay, because the 500 mega bit per second fiber optic cables, needed for the project are still classified as a strategic item whose export to communist nations is banned under regulations adopted by COCOM (the Coordinating Committee for Multilateral Export Controls).

The official said the TSL-DC steering committee would hold its coming meetings in Rome this October and in Seoul next February.

ROK, USSR to Open Direct Telephone Lines

SK2207234590 Seoul CHUNGANG ILBO in Korean 20 Jul 90 p 2

[Text] International telephone lines and telex are likely to open between the ROK and the Soviet Union as early as August.

Communications ministry is planning to actively study participation of the ROK in the project of cross-Siberia optical cables (TSL) [acronym as published], which the Soviet Union is currently pushing ahead, and to positively step up export of home- made electronic switchboard (TDX) [acronym as published] to the Soviet Union. For this, the communications ministry decided to offer a TDX with 2,000-circuit capacity as an advance example for service purpose.

Holding discussions with (Kerman I Korneyev), Soviet vice communications minister now visiting the ROK, on communications issues between the two countries on 19 July, the communications ministry agreed to open four direct circuits between the ROK and the Soviet Union which the two sides had agreed to in May.

Accordingly, the direct ROK-USSR international telephone line, which was possible only through England, Greece and Italy in the past, will be available through a communication satellite over the Indian Ocean.

It has been learned that as soon as the Soviet side completes the ongoing project of expanding switchboards within the Soviet Union, the Soviet Union will open direct international telephone lines with the ROK without delay.

The study on participation in the project of installing optical cables is being made at the direct request of vice minister (Korneyev).

During the conference for readjusting the circuits of international communication satellites for 1990 held in the Headquarters of International Communication Satellite Organ in Washington from 6 to 15 May, the ROK and the Soviet Union agreed to open four direct international telephone line circuits and 12 telex circuits.

Since manual telephone lines were opened between the ROK and the Soviet Union for the first time in 1979, automatic telephone via a third country was opened in August 1988. However, calls from the Soviet Union have been connected through manual devices.

The telephone traffic between the two countries marked a total of 7,881 calls from our country and 2,166 incoming calls last year, showing 11 times and five times increase respectively from that in 1988. Thus, the demand for telephone service is in drastic increase following the improvement of relations between the ROK and the Soviet Union.

LAOS

Australian-Built Groundstation, Aid Reported

90WT0112A Vientiane PASASON in Lao 23 May 90 pp 1,4

[Text] The Australian government provided Australian $1,780,000 of assistance to Laos at no cost for construction and assembly in the first stage of the project to set up a groundstation for communication via the "Vidstar" satellite which is in the "Intellsat" system. The Posts and Telecommunications Enterprise provided about 20 million kip for the project. The O.T.C. Company received the contract for the construction, which lasted from 1 February 1990 to 6 May. It was completed according to schedule, and there was an official presentation ceremony in the evening of 21 May. Mr. Bobdan, the head of the Australian Organization for International Assistance represented the Australian government and made the presentation. Mr. Bouathong, the Minister of Communications, Posts and Construction, represented the Lao government in receiving the aid. There were several Lao deputy ministers present who had been involved. And Mr. Michael Dukkatman, the Australian Ambassador to Laos, and a number of invited guests joined the ceremony.

The satellite groundstation is small. It can carry only 15 telephone channels. It can be used for telephone, telegraph, teleprinters and fax 24 hours a day throughout the world.This accomplishment is considered an important step for the Posts and Telecommunications Enterprise, which developed this system for telecommunications with other countries using modern technology. It will be able to serve its customers quickly; there will only be a five to 10 minute wait.

In addition to developing this system for telecommunications with other countries, the enterprise is rushing to develope a domestic telecommunications system and will soon start using a 1 kilowatt "practice" radio system between Vientiane and Luang Prabang, Thakhek, Savannakhet and Pakse. It will be able to handle telephone and teleprinters 24 hours a day.

The enterprise will also expand the telephone connections in municiple Vientiane by 1,000.

In 1989-1990 the Australian government provided assistance to LPDR [Lao People's Democratic Republic] worth a total of Australian $6.8 million (equivalent to U.S.$5.2 million) for the project to maintain heavy machinery, the Lao-Australian irrigation project, the Lao-Australian project to develope veterinary medicine, the Lao-Australian animal feed project, the job training and education project, and the project to construct and set up this satellite groundstation.

VIETNAM

Construction of Microwave Communications Network Begins

BK3007101590 Hanoi VNA in English 0729 GMT 30 Jul 90

[Text] Hanoi VNA July 30—The construction of a multiplex microwave communications network linking North and South Vietnam has started.

This Vietnamese-Soviet joint venture project has an investment of about 30 million rubles, 17 million U.S. dollars and 50 billion Vietnamese dong. When completed, the project will have 49 antennas erected along the sea coast from Hanoi to Ho Chi Minh City. Each antenna averages 128.33 meters in height and can stand winds of up to 12 degrees on the Beaufort scale.

This 1,000-channel communications network will enable the population to watch TV programs of all stations across the country. Moreover all central and local newspapers can be printed simultaneously in the main cities and direct phone calls made among those cities.

Broadcasting Cooperation With Australia Promoted

BK3007112890 Hanoi VNA in English 0744 GMT 30 Jul 90

[Text] Hanoi VNA July 30—Minute of cooperation between the Voice of Vietnam [VOV] and Radio Australia has been signed here by Phan Quang and Richard P. Broinowski, director general of the VOV and Radio Australia respectively.

Under the document, the two sides will exchange broadcasting programs on culture, education, sciences, and technologies as well as personnel working for the two radios.

It also provides that Radio Australia will help the Vietnamese side in technical equipment and personnel training.

The Radio Australia delegation paid a working visit to Vietnam from July 25-28. While here, it met with the VOV editorial board and leading officials of the Ministry of Culture, Information, Sports, and Tourism, and toured broacasting stations in Hanoi and Ho Chi Minh City.

On July 27, the Australian guests were received by Nguyen Co Thach, vice chairman of the Council of Ministers and foreign minister, who then granted an interview to Radio Australia.

Nationwide Telecommunications Network Described

902E0230Z Hanoi QUAN DOI NHAN DAN in Vietnamese 10 Jun 90 pp 1, 4

[Article by Hoai Nam: "North-South Axis Telecommunications in Our Country"]

[Text] The national telecommunications network in our country now covers 100 percent of the provinces, cities, districts, and towns, and 24 percent of the villages throughout the nation. The country has three international communications centers (Hanoi, Da Nang, and Ho Chi Minh City), 44 provincial and municipal-level communications centers, and 501 district, town and village-level communications centers. Playing a mainstay role in the national telecommunications network is the north-south communications axis between the primary means of telecommunications interchange of barewire carrier wave and satellite communications.

Since reunification, communications between the northern and southern parts of the country have been a constant problem of foremost importance to the posts and telecommunications sector. Shortwave radio communications have many weaknesses and are unable to answer increasingly higher quality and quantity requirements. To swiftly establish a safe and reliable means of communications supporting the two sections with specific capital, material, technical, and other important

conditions, on 5 July 1977, the Premier approved plans for a Hanoi-Ho Chi Minh City-Minh Hai telephone project. This was the first bare-wire communications line built in Vietnam with 2,080 kilometers on poles, 11,900 kilometers of paired cable, and 104,000 kilometers of telephone channel carrier wave.

In June 1984, the project was considered basically completed. Construction required 44,000 concrete poles, 132,000 crossbars, and hundreds of thousands of insulators scattered over 2,000 kilometers. On the line are more than 40 river-crossing poles 22 to 94 meters high. Some sections of the line cross rivers more than a kilometer wide and are strung 40 meters below the surface; and there are 29 technical stations and 50 maintenance stations over the entire line with 330 carrier wave sets of various types, including terminal carrier wave and repeater sets, all transistorized with microcircuit and distant-feed technology.

The Hanoi-Ho Chi Minh City-Minh Hai carrier wave bare-wire communications project shouldered much of the communications volume on the north-south axis. Immediately from the first quarter of 1983, 80 percent of the north-south telephone forces were shifted to this line, developing an effect on the entire national telecommunications network. However, after more than 10 years of use under all conditions, increasingly greater weaknesses and limitations were revealed on this carrier wave bare-wire communications line. Large quantities of expensive materials were required and the line was easily damaged by floods, readily stolen, inefficient, etc.

To support the flow of north-south carrier wave communications, the posts and telecommunications sector recognized the need for a different, economically superior, and technologically better method: satellite communications, originating in the mid sixties, now undergoing extremely rapid development and in use by many other countries. On 3 November 1978, an intergovernmental agreement between Vietnam and the Soviet Union was reached in which the party, government and people of the Soviet Union presented the party, government, and people of Vietnam with a satellite communications earth station.

After a survey period, Soviet and Vietnamese specialists at the beginning of June 1980 urgently installed equipment for a parabolic mirror antenna and antenna mast 124.8 meters high at Kha Lieu. At 1700 on 27 June 1980, after many tests and adjustments, the equipment operated satisfactorily and the board of directors of the Intersputnik organization permitted station Hoa Sen [Lotus] I to begin test operations. With the Hoa Sen I satellite communications earth station operating through the Stationan 5 N geosynchronous satellite of the Intersputnik system over the Indian Ocean, our communications with other countries have been expanded. To coordinate the general demands of society in international communications and television for the southern provinces and north-south intercommunications, in November 1984, Hoa Sen II was constructed in Ho Chi Minh City. The Hoa Sen II satellite communications earth station, operating in the Intersputnik system, is more modernly equipped than Hoa Sen I.

In June 1985, both Hoa Sen I and Hoa Sen II were shifted to operate on Channel 10 of the Stativiar-13 satellite at 80 degrees longitude over the Indian Ocean, initiating north-south intercommunications with a reliable and high-quality means of communications under the severe climatic conditions of our country. Since then, besides the 66 voice channels of the carrier wave telephone communications line, our country's north-south intercommunications route has had an additional 19 voice channels via satellite communications. Besides that, a number of shortwave radio communications channels established immediately after the south was liberated are still in use.

In the world, in addition to the Intersputnik satellite communications system, there is also the Intelsat system in which we also participate. Now at the end of the eighties, the Intelsat system has more than 650 earth stations in 165 countries operating through 13 geosynchronous satellites. The issue presented was that our construction of a satellite communications earth station in the Intelsat system for direct communications through the Intelsat system would be both economically beneficial and of high technical quality. The posts and telecommunications sector of our country signed an agreement with the Australian Overseas Telecommunications Corporation (OTC) to construct a satellite communications earth station for the Intelsat system. The station was built in Ho Chi Minh City and named Huong Duong [Sunflower].

On 12 August 1989, Ho Chi Minh City Intelsat earth station SAG-1A was inaugurated. In April 1990, the A-level communications earth station HAN-1A was also inaugurated in Hanoi. Thus, we now have two major international telecommunications windows. The introduction of two Intelsat system satellite earth stations, besides permitting direct transmission of voice and television signals through an Intelsat satellite to all countries with earth stations operating through satellites in the Indian Ocean area (according to Intelsat statistical data calculated to June 1989, the number of satellite communications earth stations working with the 60 degrees longitude satellite in the Indian Ocean area, the satellite with which our HAN-1A operates, there are 76 stations from 66 countries), there are also 30 voice telephone channels between Hanoi and Ho Chi Minh City. Therefore, the north-south communications axis of our country will have nearly 40 voice telephone channels by satellite communications and the communications and liaison situation between the two sections will surely be improved. We no longer need shortwave communications because, when the Da Nang Intelsat earth station is inaugurated in the near future, a number of direct Hanoi-Da Nang and Da Nang-Ho Chi Minh City voice telephone channels will exist. At the end of this June, a narrow-band microwave system will be extended to Da Nang and the number of intercommunications channels

between south and north will become increasingly greater, answering every communications operations requirement of society.

Today, the scientific and technical revolution is exploding. Communications and liaison technology is developing in an extremely rapid manner. Although just beginning and with many superiorities over carrier wave bare-wire communications, satellite communications also have many shortcomings, clearly in their interference and their assurance of secrecy. To meet the technical and quality standards of communications and liaison at the present time, the posts and telecommunications sector has plans for studying the establishment of new telecommunications methods on the north-south communications axis. First of all is the establishment of optical cable and wideband carrier wave communications. At that time, all requirements of domestic and foreign users in diversified individuality and quality of communications services will be answered in a rapid, complete and high-quality manner.

POLAND

Rzeszow Radio, TV Center Begins Operations

LD0108202790 Warsaw PAP in English 1929 GMT 1 Aug 90

[Text] Rzeszow, Aug 1,—The Rzeszow Independent Polish Radio and TV Centre started operating today. It is made up of a regional radio station station combined with the hitherto Krakow tv branch.

The tv-sat resovia will be received in south-eastern Poland. Starting from September 1990, it will relay satellite broadcasts in the third tv channel.

The Rzeszow Centre establishes cooperation with the Europa-2 French radiostation and the Brutel Belgian tv station. It is planned that the Belgian tv station would set up a joint venture with a radio and tv foundation, to be established soon here.

New Private Telecommunications Network

AU0208195090 Warsaw GAZETA WYBORCZA in Polish 31 Jul 90 p 3

['J.M.' report: "Super Business Telephone"]

[Text] The telecommunications problems suffered by international businessmen in Warsaw will soon end. The "Komertel" international telephone exchange is to become operational this August, together with a telecommunications network independent of the existing one, with room for 2,000 subscribers.

"Komertel" users will have access to four great international exchanges—in Frankfurt, London, Pittsburgh, and the "Intelsat" exchange. That means that the United States, Canada, South America, Japan, Australia, and many other countries will be available through direct dialling.

The connection charge is expected to be 10 million zlotys, plus technical costs. The monthly subscription is to be 500,000 zlotys. One can expect to be connected to "Komertel" one month after applying.

BRAZIL

Space Research Policy Reviewed

PY3107171990 Sao Paulo FOLHA DE SAO PAULO in Portuguese 27 Jul 90 p A-5

[By Roberto Lopez]

[Text] Serious international obstacles and the need to reduce spending have forced the Ministry of Aeronautics to reconsider its space research policy. Minister Socrates Monteiro will no longer insist that the first Brazilian satellite—which is being developed at the National Institute of Space Research (INPE)—be launched into orbit by the rocket known as the satellite launching vehicle (VLS), which is being built by the aerospace technology center (CTA) in Sao Jose dos Campos, Sao Paulo.

In 1988, a simple suggestion to this effect would have provoked indignation in the Aeronautics Ministry. The VLS will now continue to be developed, but with another philosophy, which should open the project to partnerships between Brazilian industries and foreign enterprises. In view of this new situation, the CTA arranged the merger of its space activities institute (IAE)—which was in charge of the VLS—and the research and development institute, which is also subordinated to the CTA.

Two weeks ago, a group created by the Brazilian Commission of Space Activities began to prepare a list of foreign enterprises that have rockets that could launch the INPE satellite in the first half of 1992. The Scout and Pegasus rockets (of the United States), the European Arianespace enterprise, and the PRC and Soviet suppliers will be included in the list. The group is headed by Brigadier Jose Marconi, of the department of research and development of the Aeronautics Ministry, and is made up of Marcio Barbosa, INPE director, and Henrique Valle, who has the rank of ambassador.

Another problem for the ministry is the fate of the Sao Paulo company Orbita, which was created through a partnership between Embraer [Brazilian Aeronautics Company] (a plane manufacturer linked with the Aeronautics Ministry), Engesa [specialized engineers, inc), and a group of smaller industries, to produce missiles and rockets. In three years, Orbita has built no rockets. Embraer superintendent Ozilio Silva wanted to keep Orbita as a small-size enterprise dedicated to engineering systems. After the worsening of Engesa's financial crisis, the Aeronautics Ministry has begun to consider the possibility of Embraer buying part of Engesa. Engesa and Embraer each own 40 percent of Orbita's shares.

The first indication that Engesa might be pulled out of Orbita has been given by Orbita Superintendent Sergio Coeli do Prado—a trusted man of Engesa Vice President Vito de Grassi—who has resigned. Ozilio Silva has refused to make any comments. Through an assistant, he merely said: "The law has prevented Embraer from increasing its participation in Orbita."

The crisis began in 1988, after FOLHA reported that the flight of a Sonda-4 rocket—which was used for testing the VLS—failed in October 1987. Then INPE Director Marco Antonio Ruapp was accused—within the Aeronautics Ministry—of having supplied the information to FOLHA.

The Aeronautics Ministry was following the steps by Ruapp with concern. Aware of the technical difficulties that the IAE was facing with the development of the VLS, the INPE director began to consider the possibility of buying a foreign rocket for launching the first Brazilian satellite. This irritated the Brigadiers. Paulo Camarinha, then chief of the Armed Forces Staff charged Ruapp with attempting to "sabotage" the Brazilian space program. Ruapp was dismissed at the beginning of 1989.

The technical difficulties that have prevented the conclusion of the VLS program are for the most part the result of an international blockade that great powers have imposed on the Third World's access to the field of rockets. In 1989, the CTA turned to France and Germany to solve the problems of the sensitive parts of the VLS. The CTA obtained promises, but the promises were not fulfilled.

INDIA

National Satellite Becomes Operational

All Systems Function

BK1707163390 Delhi Domestic Service in English 1530 GMT 17 Jul 90

[Text] The Indian national satellite—INSAT-1D—was today declared operational after 37 days of its successful launch. It will now provide the country satellite links in place of INSAT-1B for telecommunications, television, radio, and meteorological data. According to the Indian Space Research Organization in Bangalore, INSAT-1D will serve the country for the next scheduled seven to eight years of its life. The satellite is equipped with two transponders for radio and television and 12 telecommunication transponders. The satellite also has one data transponder relay and one very high frequency radio meter for meteorological purposes. All the on-board systems of the satellite are functioning normally.

Television Service Begins 17 July

BK1407043690 Delhi Domestic Service in English 0240 GMT 14 Jul 90

[Text] Doordarshan [television] is to switch over to INSAT-1D for its S-band national service from Tuesday [17 July] morning. It will be available on the F-1 transponder of the satellite located in geostationary orbit at 83 degree east.

Communications Minister on Telecom Policy

55500083 New Delhi PATRIOT in English 26 May 90 p 6

[Text] The National Front Government's telecommunications policy draft was nearing completion and would be placed before parliamentary Consultative Committee members, Minister of State for Communications Janeshwar Mishra said in the Capital on Friday.

Addressing the Consultative Committee meeting of members of his ministry, Mr Mishra listed achievements of the departments—in telecommunications and postal sectors wherein 4.16 lakh telephone connections were provided during 1989-90 and 6.61 lakh lines of switching capacity added.

Mr Mishra said the Kerala telecom circle was the first in the country to complete automisation of the network, while the western and northern project telecom circles commissioned the entire New Delhi-Bombay wide band digital optical fibre link.

He said by the end of the Eighth Plan, the switching capacity would be raised to 111.7 lakh lines against 52.7 lakh now. The total investment during the Eighth Plan on telecommunications was likely to be Rs 200,000 crore, the minister said.

During the Eighth Plan, it would be the endeavour of the government to provide telephones on demand in telephone exchanges of less than 5,000 lines capacity and also to contain the waiting list to 1 year period in exchanges of same capacity.

One of the major thrust areas was to provide telephone facility to all 2,18,500 gram panchayats of the country against 30,180 gram panchayats provided with the facility now, Mr Mishra said.

For providing reliable and efficient subscribers trunk dialling services, the department would provide digital automatic exchanges at 217 locations in the country.

Long distance network would be modernised by installation of 21,750 route km of digital optical fibre network, about 50,000 route km of digital coaxial, microwave and ultra high frequency network and 50 satellite earth stations, Mr Mishra said.

Papers Give Details on Satellite Launch Program

Remote-Sensing Satellite 1B

55000086 New Delhi PATRIOT in English 27 May 90 p 7

[Text] Tirupati, 26 May (UNI)—Indian Remote-Sensing Satellite-1B will be launched in June next year from the Soviet Union, chairman of the Indian Space Research Organisation [ISRO] Prof U.R. Rao said today.

Talking to newsmen here, he said the successive IRS 1C and 1D would be launched in 1993, and 1995 respectively.

The launching pads for the IRS-1C and D has not been finalised, he said and added that facilities could be available in the country itself by then.

He said the Insat-1D would be launched from Kennedy Space Centre, Florida, United States, on 12 June.

He would not be going for the launching but would be monitoring it from Hassan, the satellite control station in Karnataka.

He said the first phase of the mesosphere stratosphere and troposphere [MST] radar at Gadanki near Pakala, 35 km here would be completed by September this year.

He said the radar could be made use of by scientists all over the country.

Gadanki was chosen as the location for the radar station as it was near the equator. The site being surrounded by hills also acted as a noise-barrier.

Prof Rao said the radar, the second most powerful in the world, would help not only to monitor but also in taking remedial measures to minimise atmospheric pollution.

Insat-2 Plans

55500086 Bombay THE TIMES OF INDIA in English 14 Jun 90 p 5

[text] Bombay, 13 June—The first test spacecraft of the indigenously made Indian National Satellite (INSAT-2) is expected to be launched next year and the second one a year later on the Ariane European launcher at Koureu in French Guyana.

According to the Indian Space research Organisation (ISRO), the space segment of INSAT-2 will have three identical multipurpose spacecraft, which contrasts to INSAT-1 which has a twin satellite space segment.

Each of these spacecraft will have a larger service capability than the American-made INSAT-1, the last of the series which blasted off a Delta rocket from the Kennedy space centre yesterday.

With a bigger service capability INSAT-2 will be 50 percent heavier than INSAT-1, according to ISRO officials.

A noteworthy feature of INSAT-2 is that it will have a system for satellite-aided search and rescue mission. The operational INSAT-2 spacecraft will follow two test spacecrafts. The main aim of the flight tests will be to study the indigenous design and the various engineering aspects of INSAT-2.

Speaking at a technical seminar on opportunities in space in December, the project director of the "INSAT-2 test spacecraft project," Mr P. Ramachandran, said: "though no operational dependence is planned on the first of the INSAT-2 test spacecraft it is expected that at least the second INSAT-2 test spacecraft will see operational service and will play an important role in INSAT-1 to operational INSAT-2 space segment transition."

When INSAT-2 moves onto the operational phase it will be used for the country's television broadcasts, communications and meteorological services.

The INSAT-2 programme eventually envisages the launching of these spacecraft by the Indian Geo-Synchronous Satellite Launch Vehicle (GSLV) from Sriharikota, hopefully in 1994.

The approximate investment in the space segment of the INSAT-2 spacecraft is expected to be about Rs 200 crores in the next 5 years. The break-up is as follows—electronics and computers Rs 100 crores; optics related Rs 10 crores; mechanical Rs 50 crores; precision fabrications Rs 10 crores; chemicals and composites Rs 10 crores and other items Rs 10 crores.

The various developments in the field of electronics has advanced spacecraft technology. Electronics constitutes one-third of the total costs of a spacecraft, according to ISRO.

For the development of the INSAT-2 spacecraft project, ISRO is involving a large number of industries. For the fabrication of the spacecraft structure, Hindustan Aeronautics Limited has played a key role. Hindustan Machine Tools and the National Aeronautical Laboratory have been involved in the development of various other parts of the INSAT-2 test spacecraft.

Andhra Sugars is producing the propellants used in the spacecraft and the private sector is producing a number of items connected with the propulsion system.

The Electronics Corporation of India Limited at Hyderabad will make the ground station antenna for IRSO's master control facility at Hassan in Karnataka.

Eighth Plan Targets for Telephone Installation

55500087 New Delhi PATRIOT in English 8 Jun 90 p 7

[Text] The Telecommunication Department plans to quadruple the telephone network in the next 10 years, reports UNI.

According to official sources, there would be nearly 20 million connections by 2000 against the 4.6 million at present.

The department also hopes to provide a telephone in each village within this decade.

During the Eighth Plan, the department aims at doubling the network 9.8 million telephone connections.

This would make a telephone connection available on demand in exchanges with less than 5000 lines and to reduce waiting.

The Eighth Plan target is to provide a telephone for every 100 families in the urban sector besides providing telephone connections in each of the 220,000 panchayats in the country.

During this plan period, all manual exchanges are proposed to be replaced by auto exchanges also, outdated equipment would be replaced by modern electronic equipment.

Telephone exchange equipment with a capacity of 1.4 million lines would be replaced in the next 5 years.

The department also hopes to reduce the fault rate per 100 subscribers per month from the present level of 17 to 8 by the end of the Eighth Plan. It also hopes that it will be possible to clear 90 percent of the faults within 4 hours.

According to the sources, the targets for the Eighth Plan include installation of 3,015 exchanges, laying of 6,783 km of coaxial cable, 17,700 km of microwave transmission lines, and 35,000 km of ultra high frequency long distance transmission and 21,750 fibre optics transmission systems.

Editorial Lauds Performance of Telematics Center

55500085 Bombay THE TIMES OF INDIA in English 29 May 90 p 10

[Text] The performance budget of the Ministry of Communications, tabled in Parliament recently, indicates that the centre for development of telematics (D-DoT) has performed creditably in the development of indigenous digital switching systems. The main automatic exchange, developed by C-DoT, will soon be produced by Indian Telephone Industries. A field trial of the exchange in Delhi Cantonment has proved satisfactory. But the real breakthrough by C-DoT has been in the design and development of a rural automatic exchange. Field trials of this in Hosur, Karnataka, have shown excellent results under adverse conditions in which comparable exchanges designed abroad would almost surely have broken down. The equipment has functioned in heat and dust without the benefit of air conditioning. Its maintenance requirements are minimal and can be met through a marginal increase in the existing infrastructure. In fact, it is through the development of systems like the rural exchange that C-DoT has the potential of becoming India's first telecom multinational. International corporations active in this field, which were only interested in selling outmoded technology to India until the other day, have evinced an interest in purchasing Indian technology for a change. The French were in the forefront of this pack. There is sound business sense in this since it is reasonable to assume that any exchange which works trouble-free under Indian conditions is likely to work in other Third World countries. In the circumstances, it is all the more surprising that the team which steered C-DoT to such achievements continues to be under a cloud as a result of adverse remarks from a committee set up by the same ministry though it has not thought it fit to praise the performance of the organisation.

Private Sector Wants Greater Participation in Telecom Sector

55500084 New Delhi PATRIOT in English 30 May 90 p 10

[Text] The private sector is of the view that it should be allowed to participate more effectively in the telecom sector considering the massive investment of Rs 500 billion required to upgrade the telecom sector to international standards by 2000 AD, reports Unifin.

According to the Federation of Indian Chambers of Commerce and Industry sources this would involve opening up more production areas to the private sector as also permitting them to operate as service providers.

The sources said India is on the threshold of the information age. As has been the experience of developed countries, this primarily requires rapid development in hi-tech areas. While the stage has been set for a take-off, serious constraints frustrate the industry. The main obstacles related to the size of the market, high prices and low margins, low inflow of high technology and export bottlenecks.

Regarding the size of the market, the sources said economies of scale can only be achieved if there was mass production of components. Two problems arise here. One, the investments required for setting up a strong component base are phenomenally large, considering the high technology required in each specific case. Not only technologies change overnight, but continuous upgradation is required in-house to provide state-of-art components for final products. Second, the size of the market as at present does not justify these large scale investments.

Giving an example, the sources said, when Siemens and Philips got together to produce VLSI Chips in Europe, they agreed to pool in $500 million for 5 years. "It is a moot question, where investments of this size can be made available in India to finance individual projects particularly since the market is still in the nascent stage," they said.

The sources said considering the monitor market, at the current 60,000 numbers per annum, and assuming a producer manages to capture 20 percent of the market, it implies just 12,000 numbers per year. Research and development costs are around Rs 10 lakh in such cases and is therefore a serious constraint to the manufacturer. Similar is the case with PCs, where annual demand is 50,000 and the number of manufacturers is around 80, leaving a "very small" market for each.

A high direct fall-out of the limited market is the high prices at which products are made available in the Indian market. For example, a floppy disk drive costing $50 (about Rs 800) in international markets cost Rs 1700, that is more than double in the Indian market. Even with higher prices net margins are 5 percent to 7 percent in the computer industry.

The sources said it is estimated that 60 percent of the cost is accounted for by materials and import of equipment. Ten percent goes for excise duty. The remaining 30 percent is to cover marketing, labour, premises, depreciation and other costs. Given the highly competitive arena and the subsequent high costs of marketing, profit margins work out to less than 10 percent in most cases.

The sources said in all the high-tech areas, the rate of obsolescency of technology was high. The "here today, gone tomorrow" phenomenon of high technology seriously affects the flow of investments by industry. There is a constant threat of projects being rendered unviable due to the fast changing pace of technology in these areas. In most cases also, large multinational corporations are unwilling to share technology developed by them. World leaders in technology like Japan and the United States have voiced concern over investing in India.

The sources said lack of infrastructural facilities, marketing support, poor communications networks, restrictions on high tech imports and bureaucratic hurdles come in the way of pushing up exports in the global market. Marketing costs are considered to be extraordinarily high in the international market. Despite the thrust given to exports of electronic products, these constraints knock the competitive edge of Indian products in the world market.

IRAN

Gharazi on Expansion of Satellite Network

NC0308063990 Tehran ABRAR in Persian 16 Jul 90 p 1

[Text] In order to provide a satellite network for the country's telecommunications services, 70 satellite earth stations will become operational by next year. To feed these stations, the satellite antennae [shakhakha] which are currently being rented by the Islamic Republic of Iran will be used.

Engineer Gharazi, the Post, Telegraph and Telephones Minister, stated this in Semnan, where he went for the opening of the operations and administrative centers of Semnan telecommunications building. He announced: This year 500,000 telephone numbers will be allotted to applicants all over the country.

He added: With the investment that is being made under the Five- year Plan for the expansion of the country's telecommunications network, the present number of telephone numbers will increase from 2.5 to 5 million. He stressed: The plan for the utilization of an independent satellite has been finalized and international tenders have been invited . Within 18 months of the award of the contract, the independent satellite of the Islamic Republic of Iran will be launched into space.

In his remarks, Mr. Gharazi referred to the system of utilizing fiber optics in the country. He said: These networks will be laid to a distance of 300 to 400 km between the telecommunications centers in Tehran this year. During the Five-year Plan, a network of 10,000 km of fiber optics will be installed in the country.

Regarding an increase in the price of telephone installation, he said: In Iran, the rates for providing telephone connections and the cost of telephone calls are very low as compared to the rates in other countries such as Turkey, Pakistan, or Germany.

75,000 Telephones To Be Installed in Mazandaran

90AS0168Z Tehran RESALAT in Persian 13 Jun 90 p 10

[Text] Babol—RESALAT correspondent:

Following the five-year plan goals of the Islamic Republic of Iran, through the State Communications Branch in the Province of Mazandaran, 75,000 telephones will be designated to various localities of that province. At the same time, about 450 villages will be receiving communication offices as well.

The above statement was made by Engineer Fuladi, general director of the Mazandaran Province Communications Department in a special interview with the RESALAT correspondent in Babol.

First, he pointed out the role and position of the International Communications Union and said: At present this union has 124 member countries and cooperates with the Islamic Republic of Iran in the area of communication satellites.

Thereafter he spoke about the government plans for a five-year period and stated: The State Communications Department of Mazandaran will assign 75,000 telephones to the applicants during the said period and also will create communication offices in 450 rural areas. He went on to say: We intend to enhance the intercity communication capabilities of the Gonbad-e Kavus, Sari, Amol, and Chalus centers along with that of the first district of Babol's intercity communication system, so that these cities can, during the five-year plan become the main centers of communication and take on the services of their adjoining cities as well.

He pointed out the change in the area code for the Province of Mazandaran and said: In future, after changing the area code of Mazandaran, its load of communication will decrease appreciably and through new communication centers which employ more modern equipment which makes it possible to increase the number of intercity channels, a larger area can be covered by the system.

Furthermore, he spoke about the completion of the new building which will house the Headquarters of the Communications for the Province of Mazandaran in Babol, and stated: Because of vast communication operations in Babol, the aforementioned department had various buildings throughout the city at its disposal; however, right now all the administrative, technical, and financial personnel are going to work under one roof. He further added: The new building is a three-story office building, each floor with 4,000 square meters of space, all containing 120 offices plus other amenities and various size audience halls. The phase one construction of this building has already been completed. The preliminary cost for construction was 400 million rials, but with regard to the prevalent inflation the final completion has cost 600 million rials. At any rate, right now some of the personnel are in the process of transferring to this new main office building.

Engineer Fuladi also discussed the new activities of the communication system in the Province of Mazandaran and the communication activities of the pre-revolution era and said:

Before the revolution, namely until 1357 [21 March 1978-20 March 1979] only 28 villages had communica-

tion offices while this figure in the year 1368 [21 March 1989-20 March 1990] reached 240. Also the number of designated telephones before the advent of the revolution stood at 53,500, while after the revolution this figure has reached 125,000. This figure shows a growth rate of 150 percent.

Thereafter, Engineer Fuladi in answer to the question by the RESALAT correspondent who asked: What is the status of telephone bills distribution with regard to the improper zip-code and/or lack of adequate address, said: As a result of a lack of proper zip-code or insufficient mailing address information and quick name changes of many streets and avenues, at the beginning we were faced with certain problems. However, with the cooperation of the employees of the Mazandaran Post Office, this difficulty has been overcome. Right now, the situation of the telephone bills' distribution is gradually becoming quite satisfactory and soon our telephone company customers will have no excuse for complaint or non-payment of a bill.

Engineer Fuladi went on to discuss the programs of his office which are under study for 1369 [21 March 1990-20 March 1991] and stated: Our programs have been preapproved and we are going ahead according to the schedule as follows:

- Installation of 9,000 telephones throughout the Province of Mazandaran.
- Installation of 20,000 telephones through self-help and familiarization.
- Opening of 108 communication offices, plus completion of the microwave line system in the northern area of the country.
- Provision and installation of car telephones, where Mazandaran will become the pioneer of this product throughout Iran.

Thereafter, in answer to the question: What are the problems with regard to the intercity telephone systems, he said: Of course, with the changes which have been created in the Mazandaran communication systems, for a period of two months now the intercity connections have become much easier and for this reason two FX lines (direct dial call without a need for dialing the Tehran area code) and in Gorgan one experimental line has been installed which has received wide acceptance, and in the future we intend to give each and every city an FX line.

At this point he mentioned about the expectation of his office from the telephone subscribers, and said: Our expectations are such that will benefit the subscribers. One thing which should be noted here is the fact that they should not use an electric outlet instead of the telephone outlet and at the same time the owners of telephones should not use their phones unjustifiably. Here we are also warning those individuals who make crank calls and pester other people. In case of complaint from our subscribers, these bothersome individuals better become aware of the consequences of their own actions. He further asked the people to safeguard the telephone equipment which are in reality the property of the general public itself and asked the people to desist from vandalizing the public telephones or stop stealing and damaging such public use equipment. Since in the long run it will be the general public who will have to pay for all these vandalism. We in the Islamic Republic should not witness such abhorrent scenes and improper behaviors.

At the end of his interview with RESALAT, Engineer Fuladi said: My office is always ready to receive good suggestions from the people and that at all times my office has had a good relation with the responsible religious and political officials and will always look forward to receiving their constructive guidance.

First Independent Commercial Radio Station To Open Soon

PM3107102090 Copenhagen BERLINGSKE TIDENDE in Danish 25 Jul 90 p 5

[Elisabeth Lumby report: "The Soviet Union's Red Baron Takes to the Air"]

[Text] With the KGB, the Red Army, and civil aviation as its nearest neighbors in the FM band, the Soviet Union's first independent commercial radio station, "Radio ROKS," will begin broadcasting by 15 October at the latest, but perhaps as early as September, with Tuborg, Carlsberg, LEGO, Dandy, and Rahbek Fisk as the first interested Danish advertisers.

"The most difficult thing is actually finding premises in Moscow. We have had no success so far," said managing director Andrey Romanchenko, technical director Viktor Goreglyad, and sales director Yuriy Akinshin, who are currently in Copenhagen for talks with director Torben Dhalvad of TD-Consult, which will handle contacts between "Radio ROKS" and advertisers in Western Europe and the United States.

"We will start with 10 hours of broadcasts a day, and after a year we will be broadcasting round the clock: news, weather reports, traffic information, competitions, and horoscopes in the mornings—but music first and foremost.

"It will mostly be music for young people of 25 and over, although some heavy metal will be broadcast for the teenagers," said the three Russian radio pioneers, whose station can be compared to "The Voice" [reference unknown] and whose "red baron" is the 32-year-old Vladimir Sipachev, who has become a millionaire by Western standards by setting up a bank, for example.

Andrey Romanchenko and Yuriy Akinshin speak fluent Norwegian, for they and the majority of the "Radio ROKS" staff, which currently numbers 17, are former members of Radio Moscow's Norwegian section, which now has only two journalists and two secretaries left.

The knowledge of Norwegian is very useful, because the new radio station, which is a joint venture company, will broadcast from a studio with a staff of seven in Oslo via the EUTELSAT 1 satellite to Moscow, where there is a staff of ten, until a studio can be found in Moscow. Initially "Radio ROKS" will also be broadcast to Leningrad, Vilnius, Minsk, Kiev, and Brest—with 40 million potential listeners—and will eventually expand to cover the whole Soviet Union, with a target group of 100 million 25 to 55-year-olds who are eager to buy.

"Our staff have been headhunted. Now that Radio Moscow's Norwegian section has been vacuumed clean, we will start on the other foreign sections. They have the best journalists and the people who are most au fait with what is going on. We pay better wages, but people will have to work harder for them than in a state enterprise," Romanchenko, Akinshin, and Goreglyad said.

"Ten percent of broadcast time will be advertising, chiefly for international firms from Western Europe, the United States, and Asia. There is no point in advertising when there is toilet paper at the local supermarket. It will sell anyway."

One minute of advertising time on "Radio ROKS" will cost around 10,000 kroner. By way of comparison, 30 seconds of advertising time on Denmark's TV 2 costs 80,000 kroner.

The idea for "Radio ROKS" was born as recently as March this year and it will go on the air only a couple of months after the adoption of the Soviet Union's first press law. Gorbachev would like to see a wealth of commercial radio stations started by grassroots movements, political parties, and so on.

And the three directors of "Radio ROKS" look forward to free competition—on the air waves too.

Independent Russian Television, Radio Discussed

LD3007090990 Moscow TASS in English 0647 GMT 30 Jul 90

[By TASS parliamentary correspondent Lev Aksyonov]

[Text] Moscow July 30 TASS—Real power presupposes the availability of one's own news organisations. Therefore "our major task now is to implement the Russian parliament decision on the establishment of Russia's own television and radio," Vyacheslav Bragin, people's deputy of Russia, told TASS.

Bragin is secretary of the Russian parliamentary committee for the media, relations with public organisations, mass movements and the study of the public opinion.

"A material basis for the establishment of Russia's own television is now perhaps the most important issue that must be addressed," Bragin said. The composition of a widely-representative conciliation commission has already been determined, he added.

"During talks with the leadership of the USSR State Committee for Television and Radio Broadcasting, which has held monopoly on telecasting until now, the commission's principal purpose is to raise the question on a practical plane about the separation of power in television and deciding as to what and how should be divided". [sentence as received]

"Three communications satellites should be launched to ensure telecasting at various time zones of Russia. Provision for the necessary funds for that are comtemplated to be made in next year's republican budget.

"Subsequent plans envisage the establishment of a Russian news agency, but we have not yet discussed this question broadly," Bragin added.

The committee also plans to discuss problems concerning a material basis of other news organisations.

Members of parliament intend to tackle this matter by drawing foreign capital as well.

A very complex situation has developed in the Soviet Union in the provision of paper which was distributed in a centralised manner before.

"We want to raise the paper issue with all-union publishing houses, and declare our rights, because forest resources are the property of Russia.

"Apparently we shall have to put pressure. But we are also being pressurised," Bragin said. "One has to state that federal bodies resist our efforts to found Russia's news organisations".

Television, Cable Union Established

LD0108125190 Moscow World Service in English 1100 GMT 1 Aug 90

[Text] A union of cable and conventional television has been set up in Moscow. The Soviet Union has nearly 500 cable television networks servicing over five million viewers. This form of television is gaining ground. Interest is being shown by local authorities, enterprises, and cooperatives.

Associations and consortiums are being formed to facilitate the solution of the problems involved in its development. The union, holding its founding congress in Moscow, is to coordinate that effort.

Military Ownership of Clandestine Station 'Confirmed'

LD0308110290 Vilnius International Service in English 2200 GMT 2 Aug 90

[From the program "Hello DXers Number 38"]

[Text] The clandestine communist radio station Tarybu Lietuva has already been mentioned in editions number 35 and 36 of Hello DXers [long-distance radio listeners], but today its name crops up once again, as more and more information regarding this station is made public. I still use the word clandestine when speaking of this CPSU-owned broadcaster, because no information about the transmitter address and location of Tarybu Lietuva can be received from the station itself. Besides, its frequency is not registered with the Lithuanian Electric Communications Inspection, as is required by the law. That's why the Inspection was the first to radar the underground transmitter; the second, by the way, was my colleague and I. Both results coincided; the station appears to be located within the borders of Vilnius, in its northeastern part, in the training center of the military officers' high school of radio electronics, also based in Vilnius. So the military ownership of the transmitting facilities has finally been confirmed.

Gostelradio Chief Welcomes Cable TV Partnership

LD0108213690 Moscow Television Service in Russian 1700 GMT 1 Aug 90

[Report from the constituent congress of the USSR Union of Cable and Air Television Organizations by Correspondent O. Bobin; including recorded interview with M.F. Nenashev, chairman of USSR Gostelradio; from the "Vremya" newscast]

[Excerpts] The constituent congress of the USSR Union of Cable and Air Television Organizations commenced work in Moscow today.

[Bobin] The independent, financially-autonomous studios are called cable television studios. They are operating in the Urals, Siberia, Moscow, where there are three, at the motor works in Gorkiy, and in Sverdlovsk and Leningrad. [passage omitted]

[Bobin] Mikhail Fedorovich, the press law is coming into force today, and it is symbolic that the cable television conference commenced work here this morning. This question suggests itself literally at once: What is Gosteleradio's stance?

[Nenashev] Cable television is that very alternative television, which is defined by the press law. Speaking about stance, briefly, it amounts to taking all possible measures to encourage and assist the broad development of cable television in all regions in our country. Let me say at once that we are not disinterested here. We are aware that cable television deepens and widens significantly the possiblities of our Central Television and of air television in general, for it can reach all corners of our country. Second, our stance is based on the fact that cable television is a means with potential, possessing enormous possibilities for bringing spirituality to people. We do not have enough centers of culture and means of conveying it today.

[Bobin] You mean, Gosteleradio plus cable television?

[Nenashev] Gosteleradio plus cable television: If we put it as succinctly as that, that is the very alliance which is simply essential. We are not planning to command or control it, we are planning to interact and cooperate with cable television. And it follows from this that we are one of the founders, one of the participants, and one of the partners of this constituent congress. **[Bobin, to viewers]** Thus, the creation of an alternative television commenced at the foot of the Ostankino tower today. [video shows congress in session; bobin with delegate outside, and with nenashev in foyer]

Moscow Radio Links With Santiago, Invites Others

LD3107170190 Moscow World Service in English 1500 GMT 31 Jul 90

[Text] A link-up was established on Monday [30 July] between Radio Moscow and Radio Chilena, a Catholic

radio station in Chile. For two hours people in various parts of that country were offered to ask questions and hear answers about the processes taking place in the Soviet Union.

Senator Ricardo Nunez, who took part in the link-up on the Chilean side, summed up his countrymen's interest in Soviet developments by observering that the policy of perestroyka was having a tangible effect on the dynamics of international development today.

Radio Moscow is inviting other radio stations to organize similar link-ups, which stir considerable interest on the part of listeners.

EUROPEAN AFFAIRS

BMFT Publishes Interim Report on European HDTV Project

90MI0238 Bonn TECHNOLOGIE NACHRICHTEN-MANAGEMENT INFORMATIONEN in German No 526, 27 Apr 90 pp 15-16

[Text] After only three years, the EUREKA [European Research Coordination Agency] HDTV project on high definition television has produced a working European overall system and a joint European draft standard that has been submitted to the international standardization authorities. The European countries have thus succeeded in presenting an alternative to the only proposal presented to date, that of the Japanese. An important milestone has thus been reached in this first phase. Under the joint leadership of Bosch, Philips, Thomson, and Nokia, 30 European companies and research institutes are working on this EUREKA project. The total costs amount to 500 million Duetsche marks [DM]. The governments of France, Great Britain, the Netherlands, and the FRG are contributing between 40 and 50 percent of this sum, the remainder being provided by industry. The BMFT [Federal Ministry of Research and Technology] has granted about DM98 million since 1980 for research and development work on future television systems. The EUREKA HDTV project accounts for the lion's share of this allocation.

This successful first step of Europe's on this strategically important territory must not, however, blind us to the fact that we still have difficult problems to solve before access to the mass market for the television of the future will be open to European industry. Future tasks lie partly in the technological sphere. Technical solutions for the progressive standard are still lacking, as are convincing concepts for inexpensive large-screen reproduction in the home. In addition to overcoming these technological hurdles, some of which will be surmounted during the second phase of the EUREKA project, an HDTV introduction strategy must now be urgently drawn up.

The European governments and the EC Commission are jointly working toward a gradual introduction of the new high definition television system. To this end the EC member states, by EC Council decision of 27 April 1989, have assigned the EC Commission a coordinating role to enable a European market to develop as early as possible on the basis of European standards. The most important part of this decision is the instruction to the Commission to submit a plan of action for the introduction of HDTV. To ensure the necessary coordination with the relevant groups at the national level, and to allow timely incorporation of national interests into the Commission's planning, a national platform will shortly be drawn up.

The creation of a high definition television system is also a major technological challenge. Only the advances made in microelectronics have made it possible to convert the complex technical systems into consumer electronics. The HDTV principle requires a number of highly complex integrated circuits in the receivers that can be cheaply produced using the most up-to-date microelectronics. Because of the high demand for consumer electronics, the mass market that will emerge for HDTV will create an enormous demand for state-of-the-art circuits. This boost in demand will be of the utmost importance for the European microelectronics industry, which, with the EUREKA project JESSI [Joint European Submicron Silicon Initiative], has set out to create a strong European microelectronics base to ensure unlimited supplies for chip users. Even if it achieved brilliant technological feats, JESSI would not have the required economic basis if there were no demand for chips for mass applications such as HDTV and DAB's [display assignment bits].

To this extent, the EUREKA projects complement each other as far as standardization and the strengthening of microelectronics are concerned, and they help Europe to gain gound in important high-export industries against the Far East competition.

An important preliminary decision in the international negotiations on a uniform worldwide HDTV production standard is expected to be made at the CCIR (International Radio Consultative Committee) general assembly to be held in Duesseldorf late this May. The Federal Ministry of Posts and Telecommunications, which is responsible for standardization, is handling preparations for this conference on behalf of the Federal Republic.

In the meantime, the United States, which has withdrawn its initial support for the Japanese proposal, has also been making considerable efforts to develop its own proposal for an HDTV system. Just recently the American subsidiaries of the two leading European consumer electronics concerns, Philips and Thomson, have joined forces with NBC and the David Sarnoff Research Center initially to develop an advanced compatible TV (ACTV) and subsequently, a high definition television system based on it.

Thomson, Philips To Cooperate in HDTV Research

90MI0248X Milan ITALIA OGGI in Italian 16 May 90 p 11

[Article by Alberto Toscano: "Thomson and Philips Join Forces in High Definition TV"]

[Text] Thomson and Philips have decided to join forces in the race toward high definition TV. The two companies reached an important agreement yesterday: "A great premiere," Roger Fauroux, the French industry minister declared emphatically. The French-Netherlands agreement was welcomed by the two governments and involves a five-year joint research program on high definition TV with 20 billion francs [Fr] (4.360 billion lire) in funding.

"High definition is our industrial future," stated Fauroux, "and the agreement between two groups that have

been competing for decades represents the effort Europe needs to catch up with Japan." However, sources from the two companies directly involved in the far-reaching technological research project were much more reserved.

It was no news that the project was under discussion. However, doubts still remained about its rapid development and above all, the amount of funding. Instead, an announcement was made that a large amount will be allocated primarily by the Dutch group (Fr11 billion compared to Thomson's contribution of nine billion). The agreement, announced yesterday by Roger Fauroux, involves, among other things, a program for the development of integrated circuits and electronic components designed to capture images. Thomson and Philips will also carry out joint research in the field of recording and broadcasting equipment for new-generation television programs.

Within the framework of the EC, the French government is the most enthusiastic and determined to support industrial efforts aimed at high definition, which is considered a fundamental development stake. In a meeting with Chancellor Helmut Kohl at the Elysee Palace in Paris on 25 April, President Mitterand firmly emphasized the problem of the joint commitment toward high definition, primarily fearing that Bonn's business world is keeping its distance from Community programs.

On that occasion, Chancellor Kohl reassured Mitterand of the FRG's willingness to pursue joint research in the field of television. In the meantime, however, the French company has strengthened its contacts with the large Netherlands industrial group in view of the intensification of joint research. Paris fears that Japanese companies will compete with European companies on the EC market, and is skeptical of the research carried out over the last few years by other EC countries, Italy included.

Yesterday, speaking at a meeting organized by the Mediterranean Communications Institute, Roger Fauroux stated that Thomson's effort will be supported (to an unprecedented extent in the civilian industry sector) by public authorities as part of a specific contract.

The terms of the agreement between the French government and the publicly-owned Thomson group should be clarified over the next few weeks. Yesterday Fauroux declared: "It is very unusual for the Ministry of Finance to authorize a government commitment of this kind in an R&D agreement," but this exception is justified on the grounds that "high definition is an industrial priority for the French government." The joint research program between European industrial groups in new television technologies was launched within the framework of EUREKA [European Research Coordination Agency] and involved Fr2.5 billion (545 billion lire) in funding over the period 1986-90. This program has led to the development of a complete line of prototypes and the intermediate Mac Paquet standard.

According to a statement made by Fauroux yesterday, Fr3.5 billion (793 billion lire) will be allocated for the second stage of the European program (1990-92). All the terms of the agreement are expected to be finalized next month. Fauroux believes that "Europeans have only four or five years to achieve real high definition and thus catch up with the Japanese."

Next Ariane-4 Launching Scheduled for 24 Jul

Will Carry 2 European Satellites

PA2207174790 Madrid EFE in Spanish 1455 GMT 22 Jul 90

[Text] Kourou (French Guiana), 22 Jul (EFE)—The preparations for the 37th launching of the Ariane-4 European rocket continue without incident at the French space base in French Guiana, from where it will be launched on 24 July carrying two European satellites, it was reported today in Kourou.

Following a standstill that lasted five months due to an explosion a few seconds after the last Ariane lift-off, the next Ariane-4 will be launched into space on the night of 24 July, sometime between 2225 GMT and 2314 GMT.

As is normal in its space flights, the rocket will be carrying two satellites: the French Direct Television TDF-2, which will support its twin, the TDF-1, launched into space in October 1988; and the West German Telecommunications Satellite, DFS Kopernicus-2.

At the moment of lift-off the TDF-2 will weigh 2,096 kg. Once in space, its solar panels will have a length of 19.3 meters, which will serve to pick up the necessary energy for broadcasting the normal D2MAC programming, a first step toward European high-fidelity television.

According to the plans of Arianespace, the company in charge of marketing the European rocket, the TDF-2 will be placed at 36,000 km from the Earth, over the Gulf of Guiana, 19 degrees longitude west from the TDF-1.

Built by Eurosatellite for the French Telebroadcasting Company, this will be the last TDF satellite that is launched into space. French Communications Minister Paul Quiles said that its technology, built 10 years ago, has been surpassed.

Its travelling mate, the DFS Kopernicus-2, of the Deutsche Bundespost Telekom, was built by the West German R-DFS consortium and must cover all of the FRG and Berlin.

This satellite will join its predecessor, the DFS Kopernicus-1, in space and will be placed at a distance of 28.5 degrees longitude east, over Africa.

Its weight at lift-off will be 1,418 kg, and its solar panels will be 15.4 meters long by 3.4 meters high once they are opened.

Following its failure last February, the success of this mission is very important for Arianespace, which is confronted with increasingly stronger international competition, particularly from Japan, the United States, the USSR, and China.

Ariaespace has plans to place 39 satellites in space during the next four years with a budget of 16 billion francs (some $2.8 billion).

Its net profits have increased from 127.4 million francs ($23 million) in 1988 to 135 million francs ($24 million) in 1989.

Launched From Kourou Without Incident

PA2407231390 Hamburg DPA in Spanish 2245 GMT 24 Jul 90

[Text] Kourou, 24 Jul (DPA)—An Ariane rocket was launched this evening from the Kourou Space Center in French Guiana. The European rocket is carrying into orbit a German communications satellite, the Kopernikus II.

The launching, which took place without any difficulty, took place at 2215 GMT. The rocket is also carrying a French communications satellite for the direct broadcasting of television programs.

This is the first Ariane 44L rocket to be launched in five months. On 23 February, a similar rocket exploded shortly after launch when problems in one of its motors put the rocket on a wrong course.

Matra To Build Hispasat Communications System

90AN0218 Paris ELECTRONIQUE HEBDO in French 1 Feb 90 p 2

[text] Matra has been selected to supply the satellite communications system Hispasat. The contract, worth more than Fr 1 billion, covers the construction of two satellites and their control and operational centers. The Spanish Government's decision to choose Matra was the result of an international call for bids to which Hughes, RCA/GE, and MBB responded. Matra Espace is thus strengthened in its position as leader of the European satellites sector. This contract also confirms the success of the Eurostar[1] platform, already selected by the international organizations Inmarsat and Locstar and by the French Government for its Telecom 2 program.

The first satellite will be launched during the second quarter of 1992; the second satellite's launch is planned for the third quarter of 1992. The Spanish aerospace industry will provide 30 percent of the complete system.

Footnotes

1. Eurostar: family of telecommunications satellite platforms jointly designed and developed by Matra and its partner, British Aerospace.

CANADA

Cellular Demand Growing, Major Expansion Underway

90WT0120 Toronto THE GLOBE AND MAIL in English 2 Jul 90 pp B1, B2

[Article by Lawrence Surtees, Telecommunications Reporter]

[Excerpts] As the cellular radio telephone industry celebrates its fifth anniversary on Canada Day, its growth rate continues to surprise even its most ardent supporters.

Robert Latham, president of Bell Cellular Inc., laughs at the five-year projections he presented to the board of directors of Montreal-based BCE Inc.—his parent company—in February 1985.

"I predicted we would have 49 employees by the end of 1989 and we now have 700. I forecast we would spend $500,000 a year on our capital construction budget and we now spend $200-million. And what we forecast we would make in annual revenue, we now make in a single month," Mr Latham told members of the industry and financial analysts at a seminar held by Toronto-Dominion Securities Inc. last week.

George Fierheller, chairman and chief executive of Rogers Cantel Inc. of Toronto, remembers his 1983 prediction that the national cellular operator would serve 60,000 subscribers by 1989—the number of subscribers Cantel served in Toronto alone last year.

Skeptics at smaller telephone companies no longer dismiss cellular phones as an expensive urban toy. Nor do they jokingly predict, as Kenneth Cox, chairman of New Brunswick Telephone Co. Ltd. of Saint John, did five years ago, that cellular wouldn't have a place "until a phone is literally small and cheap enough to be surgically implanted in someone's head."

Demand for cellular service is growing in every province—including New Brunswick—and major expansions are under way in British Columbia and the Atlantic provinces. It is estimated that half a million Canadians will have cellular phones by the end of this year and that one million users will be served by 1992-1993. [passage omitted]

The federal Department of Communications set up a duopoly when it issued cellular licences in December 1983. Cantel won the lucrative national licence, allowing it to compete with cellular subsidiaries of the local telephone companies. The telephone company units have since formed the CellNet consortium to offer comparable nation-wide services.

The stability of the Canadian market is envied by U.S. players.

"By licencing a single national operator instead of many smaller, regional operators, Canada has avoided the chaos and industry shakeouts seen in the United States," says Peter Currie, senior vice-president of McCaw Cellular Communications Inc. of Kirkland, Wash.

More than six million people in 60 countries now use cellular phones. There were 462,000 users in Canada on 1 June, compared with 380,000 at the end of 1989 and 12,000 at the end of 1985, according to estimates from Northern Business Information of Toronto.

More than $250-million worth of cellular phones were sold in Canada last year, adding 177,000 users to the installed base, according to NBI's recent survey of the domestic market.

The value of the hardware market is falling with prices. The average price of a cellular car phone has dropped to $1,000 (some now sell for less than $400) from a price range of $2,500-$3,000 in 1985.

But plummeting prices are fuelling the meteoric growth of the service market.

The combined revenue of operators exceeded $360-million in 1989. The largest market is concentrated in the 1,800-kilometre-long corridor from Windsor, Ont., to the Quebec-New Brunswick border—the longest stretch of continuous coverage in North America.

Toronto has the most concentrated urban cell network in the world, Mr Fierheller said, with cells located less than one kilometre apart as operators cope with the lack of frequency space.

The industry is now introducing higher-capacity digital cellular networks that will solve the problem by converting voice signals into computerized signals allowing more users to be served. New services will also be possible, including high-speed data transmission. [passage omitted]

Mr Fierheller said Cantel currently has 225,000 subscribers, up from 157,000 in 1989. Cantel had $154.8-million in revenue in 1989 and operating income of $33.1-million, compared with revenue of $11.4-million and an operating loss of almost $13-million at the end of 1985, he said.

Cantel's controlling shareholder, cable czar Edward Rogers, has financed Cantel's expansion by selling his U.S. cable companies. Since 1985, he has bought out Cantel's other founding partners, including Montreal-based Telemedia Inc., Vancouver-based First City Financial Corp. Ltd. and Chicago-based American Information Technologies Corp.

Bell Cellular is financed by public offerings and cash flow from its patent, BCE Mobile Communications Inc. of Montreal, which in turn is a unit of BCE. Bell is the largest telephone company operator with 160,000 cellular subscribers in Ontario and Quebec.

It had first-quarter profit of $6.4-million on revenue of $52-million, Mr Latham said, and $156-million in revenue in 1989.

A Cantel customer survey conducted last fall reveals many untapped markets.

For example, 95 per cent of cellular users are male. And more than 70 per cent of corporate users are small businesses with fewer than 50 employees. [passage omitted]

CYPRUS

'Radio Super' To Start Broadcasting 23 July

NC2107125190 Nicosia CYPRUS MAIL in English 21 Jul 90 p 5

[Text] Andreas Khristodhoulidhis the head of Radio Super yesterday announced the beginning of regular broadcasts on Monday, and invited everyone to tune in to FM 100.7.

Khristodhoulidhis was speaking at a press conference in Nicosia to announce the start of broadcasting of a station, the main shareholder of which is the Lanitis group of companies.

Programmes will be transmitted 24 hours a day and the station will need 35,000 Cyprus pounds a month from advertisers to cover the cost entailed in running it. The station covers two floors of a building in the Akropolis area of Nicosia and is equipped with the most up to date equipment in the world.

The newsroom puts to shame many newspapers on the island with countless information receiving and storage/processing units. It is headed by Khristos Mikhailidhis who recently worked on the Greek service of the BBC.

The station's disc jockeys are some of the best known on the island, many from the local disco circuit.

Research was carried out by the station in order to determine exactly who is where, at what time of day, and what they are doing so that programmes are aimed, at different times of day at various sections of the public.

Programmes which may interest housewives, for example are to be transmitted in the morning and ones to keep lonely night workers company, in the wee hours.

Khristodhoulidhis said: "We believe it will be successful from the start as we will offer Cypriots something they have never had before."

The station maintains it will not be influenced politically but will be used as a battleground to air views.

FRANCE

New Broadcast Satellite Programming Detailed

LD2507112890 Paris Domestic Service in French 0600 GMT 25 Jul 90

[Excerpt] [Passage omitted] Frederic d'Allest is going to quit his post as chairman of Arianespace, which he has held since 1980. Minister of Telecommunications and Space Paul quiles paid tribute to him at Kourou yesterday evening, right after the successful launch of the Ariane rocket. Frederic d'Allest reportedly is going to join Matra soon.

In a few days, the French TDF2 satellite will have reached its final orbit at an altitude of 36,000 kilometers. Technicians then will begin tests to check that it is functioning correctly. French radio listeners and television viewers then will become aware of the virtues of the conquest of space. Bruno Rougier reports:

[Rougier] After the successful launch of the live television satellite TDF2 last night, France now finds itself at the head of an extremely high-performance system. TDF2—like its twin brother TDF1, which has been in orbit since November 1988—will broadcast high-definition pictures using the D2 Mac Packets standard. In addition to the Radio France channels Hector and Victor, and the broadcasting of Radio France International programs in the French language, TDF1 and TDF2 will send six television channels to France: two channels not encoded—Euromusique and the cultural channel La Sept and four encoded channels—Canal Plus and Canal Plus Germany, as well as two new channels that will begin their programs about two months from now—Canal Enfants, which will broadcast programs for young people, and a sports channel. The promoters of the broadcasting of live television by satellite have announced furthermore that the decoders needed to receive these various channels will be available beginning in September. [passage omitted]

ITALY

Italy To Help Improve Soviet Telecommunications

AU2607132690 Rome ANSA in English 1230 GMT 26 Jul 90

[Text] (ANSA) Moscow, July 26—Italy is working for the Soviet Union's economic recovery with plans for the modernization of the country's telecommunications system and for aid to former communist countries to help boost soviet exports to Eastern Europe, Italian Foreign Minister Gianni de Michelis said last night.

Speaking to reporters aboard the flight on his way to Moscow, where he (?meets) today with his soviet counterpart, Eduard Shevardnadze, De Michelis said that although the trip is motivated by Italy's duty presidency of the European Community, it will provide a chance to discuss bilateral relations and plans for Italian projects in the Soviet Union.

The projects, he said, were discussed with Gorbachev during the latter's visit to Rome last November, and they now need a decisive push forward.

The Soviet telecommunications system, the Italian diplomatic chief noted, is outdated, and communications difficulties seriously hinder the development of the nation's foreign trade. Major obstacles to Western contributions in the sector were only removed a few months ago, he added, when some limits to sophisticated technology exports were lifted.

"It would involve investments in the billions of dollars," he went on, "but finding the money should not be a problem. Giving the Soviet Union a good foreign telecommunications network would have guaranteed financial returns."

This especially, he noted, if there is the possibility to give management of the networks to the companies involved in their construction. A similar plan has been proposed in the energy sector by the Netherlands.

Another plan Italy is particularly interested in developing, he revealed, is to increase Western commitment to aid allowing Central and Eastern European countries to pay for their Soviet imports in cash. According to De Michelis this would also help the Soviet Union's economic reforms in the long run.

He mentioned a previous Italian proposal to set aside one-fourth of one percent of the European Community's gross national product, about $15 billion, for such aid to Eastern Europe.

SWEDEN

Ericsson Gets Orders From Norway, Mexico

90WT0109B Stockholm DAGENS NYHETER in Swedish 4 Jul 90 p 13

[Article by Asa Mathson: "Ericsson Gets Norwegian Orders"]

[Text] Ericsson has gotten two big Norwegian orders, worth almost 2.8 billion kronor combined. The orders have come from the Norwegian Televerket and the Norwegian military.

The biggest order, worth 2 billion, comes from the Norwegian Televerket. Management at the agency chose Ericsson Telecom's Norwegian company as its principal supplier of AXE offices between 1991 and 1994.

"Our Norwegian company now has a chance to develop and expand," said Torbjorn Andersson, Nordic regional chief at Ericsson Telecom.

Ericsson beat out the French Alcatel's Norwegian company and the German firm Siemens.

Between 1991 and 1994, Ericsson's AXE offices will give 900,000 Norwegian subscribers access to Televerket's new services.

Previously Ericsson supplied the Norwegian telecommunications system but was beat out in 1983 by Alcatel. Alcatel is now only a partial supplier to service "its" parts of the telecommunications system.

The second order, of slightly more than 800 million Norwegian kroner, will go to Ericsson's Norwegian subsidiary, Ericsson Communication ANS. The order is to develop and supply a new troop radio system to the Norwegian military.

The agreement also covers several subcontractors, among them Ericsson Radio Systems.

Price Rose

The Norwegian orders are the latest in a series of major orders which Ericsson has gotten this spring. Among [other] orders are AXE switches to Mexico for one billion kronor and AXE switches to the American state of New York.

On Tuesday the price of Ericsson's free B shares rose 25 kronor to 1,400 kronor.

Televerket Announces Three-Year Investment Plan

90WT0109A Stockholm SVENSKA DAGBLADET in Swedish 27 Jun 90 p 2

[Article from TIDNINGARNAS TELEGRAMBYRA: "Major Investment By Televerket: 30 Billion"]

[Text] According to a three-year plan submitted Tuesday to the government, Televerket will invest slightly more than 30 billion kronor between 1992 and 1994.

Most of the investment will go into expanding and modernizing its line system and telecommunications offices.

Expansion of the AXE system will be greatly speeded up. According to the three-year plan, it is expected to be ready by the end of the century.

A particular effort will be made to expand the telecommunications network in thinly populated areas using new small-scale technology.

Televerket estimates that use of the cordless mobile telephone will greatly expand during the 90's

For this reason slightly more than 3.5 billion will be invested to expand mobile telecommunications services.

In its three-year plan Televerket has also proposed making the agency as economically profitable as comparable corporations are expected to be. This will include requiring the telecommunications agency to be more cost-effective.

"We think that the state, as owner, should demand the same cost-effectiveness of Televerket as any other owner. In practice that means that we need better cost-effectiveness at Televerket than we currently have," said Stig Arne Larsson, [Televerket's] chief economic officer.

"At present, proceeds on all our capital are slightly more than 10 percent, and we think this is not good enough."

Henceforth Televerket will decide on all rate increases itself.