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JPRS-TTP-86-019

4 AUGUST 1986

Worldwide Report

TELECOMMUNICATIONS POLICY, RESEARCH, AND DEVELOPMENT

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4 AUGUST 1986

WORLDWIDE REPORT

TELECOMMUNICATIONS POLICY, RESEARCH AND DEVELOPMENT

CONTENTS

ASIA

HONG KONG

Progress in Hong Kong Telephones Reported (John Mulcahy; Hong Kong SOUTH CHINA MORNING POST, 18 Jun 86).....	1
Briefs	
Submarine Cable Links	2

PEOPLE'S REPUBLIC OF CHINA

Sino-UK Meeting on Optical Fiber Communications (Beijing XINHUA, 9 May 86).....	3
Digital Microwave Communications System Developed (Beijing XINHUA Domestic Service, 16 Jun 86).....	5
China To Have 2,000 Stations To Receive Satellite TV This Year (Wang Dongtai; Beijing CHINA DAILY, 18 Jun 86).....	6
Scientists Send 'Computerized Text' via Satellite (Beijing XINHUA Domestic Service, 29 Jun 86).....	8
New Shanghai TV Channel 26 Completed (Shanghai City Service, 30 Jun 86).....	9
Briefs	
Shandong County Broadcasting Station	10
Guangdong, U.S. ITT Cable Project	10
Jilin Long-Distance Communications Cable	10

Medium-Wave Radio Relay Station	11
Shandong TV Ground Station	11
Shanghai Telephone System	11
Satellite Laser Range Finder	11
Telecommunication Facilities Improvement	11
Program-Controlled Exchanges	12

CANADA

International Communications Symposium Held in Vancouver (Vancouver THE SUN, 12 Jun 86).....	13
Satellite Communications System Proposed for Remote Areas (Ann Auman; Toronto THE TORONTO STAR, 24 Jun 86).....	14
International Engineers Communications Society Meets (Toronto THE GLOBE AND MAIL, 24 Jun 86).....	15
Details Given of Task Force Report on Broadcasting (Toronto THE GLOBE AND MAIL, 25 Jun 86; Toronto THE TORONTO STAR, 26 Jun 86).....	16
Call for Broadcast Act, by Harvey Enchin	16
U.S. Cultural Domination, by Martin Cohn	17
CRTC Chairman Uses Broadcasters To Improve Programming (Toronto THE SATURDAY STAR, 28 Jun 86).....	18
Bureau Cleared of Charges of Acting Improperly (Toronto THE SATURDAY STAR, 28 Jun 86).....	19
Bell Canada Balks at Questions on Saudi Deal (Ottawa THE CITIZEN, 12 Jun 86).....	20
Bell Canada Testing Telephone That Takes Pictures (Toronto THE TORONTO STAR, 24 Jun 86).....	21
Halifax To Get Cellular Telephone Service in 1987 (Deborah Jones; Toronto THE GLOBE AND MAIL, 27 Jun 86).....	22
Nortel Offers Portable Device To Splice Fiber-Optic Cable (Lawrence Surtees; Toronto THE GLOBE AND MAIL, 26 Jun 86)...	23

LATIN AMERICA

INTER-AMERICAN AFFAIRS

Briefs	
Canadian Broadcasting to Caribbean	24
Caribbean Digital Network	24

BAHAMAS

ZNS Radio Signal To Cover Family Islands by 1987 (Alexis Wallace; Nassau THE TRIBUNE, 2 Jun 86).....	25
Batelco Signs Contract for Intelsat Earth Station (Nassau THE TRIBUNE, 17 Jun 86).....	26

BRAZIL

Sarney Accepts Reagan's Invitation To Visit (Rio de Janeiro O GLOBO, 3 Jul 86).....	27
Meeting With U.S. on Informatics Ends in Paris (Brasilia Radio Nacional da Amazonia Network, 3, 5 Jul 86).	28
Joint Communique Issued	28
Sarney Denies Joint Ventures	29
Air Force Minister Defends Informatics Policy (Brasilia Domestic Service, 10 Jul 86).....	30
Briefs	
Satellite Program Reported on Schedule	31

JAMAICA

Data Industry 'Booming'; Computer-Duty 'Racket' Cited (Kingston THE DAILY GLEANER, 26 May, 2 Jun 86).....	32
Employment Increases	32
Circumvention of Duty	33
Local Computer Use Becoming More Sophisticated (Don McDowell; Kingston THE DAILY GLEANER, 4 Jun 86).....	34
Local Data Communications Situation Reviewed (Michael Terrelonge; Kingston THE DAILY GLENAER, 4 Jun 86).....	36

PERU

Briefs	
Channel 33 Begins Operations	39

ST LUCIA

TV System Plans Described by Cable, Wireless (Castries THE WEEKEND VOICE, 10 May 86; 7 Jun 86).....	40
Cable Parameters	40
HTS Competition	41

Cable, Wireless Questioned About Transfer of Funds (Castries THE VOICE, 14 May 86).....	42
ST VINCENT AND THE GRENADINES	
Briefs	
TV Booster	43
TURKS AND CAICOS	
Briefs	
New Radio Station	44
NEAR EAST/SOUTH ASIA	
INDIA	
Low Power Transmitters Planned for Remote Areas (New Delhi PATRIOT, 19 Jun 86).....	45
Tough Challenge of Phased Indigenization of ITI (Madras THE HINDU, 5 Jun 86).....	46
Production of Switching Equipment Examined (Madras THE HINDU, 10-11 Jun 86).....	48
Concern Over Import of Telecom Equipment Noted (Editorial; Bombay THE TIMES OF INDIA, 9 Jun 86)	52
Bombay, Dubayy Review Telephone Cable Link System (New Delhi PATRIOT, 13 Jun 86).....	54
Packet-Switched Experimental Data Network Launched (Bombay THE TIMES OF INDIA, 13 Jun 86).....	55
Minister Opens Seminar on Communications Plans (Bombay THE TIMES OF INDIA, 7 Jun 86).....	56
ISRAEL	
Officials Fear TV Commercials Will Supersede Press (Gaby Qessler; Tel Aviv MA'ARIV, 4 May 86).....	58
PAKISTAN	
Briefs	
Agreement Signed With USSR	60

SAUDI ARABIA

Minister on Telecommunications Progress ('Alawi Darwish Kayyal Interview; London AL-SHARQ AL-AWSAT, 13 Apr 86).....	61
--	----

SUB-SAHARAN AFRICA

INTER-AFRICAN AFFAIRS

URTNA Commission on Private Radio-TV Stations (Dakar PANA, 24 Jun 86).....	70
---	----

Briefs ADB Assessing Telecommunications Project	71
--	----

CHAD

Syracuse Earth Station in N'Djamena (Paris AFRICAN DEFENCE JOURNAL, Jun 86).....	72
---	----

GHANA

Briefs Telecommunications Loans With ECOWAS	73
--	----

GUINEA-BISSAU

New FM Transmitter Delivered (Maputo NOTICIAS, 16 May 86).....	74
---	----

NIGERIA

Briefs Abuja Police Commission Communication System	75
--	----

SOUTH AFRICA

Briefs Intelsat Transponder Improves Transmission	76
--	----

WEST EUROPE

EUROPEAN AFFAIRS

EEC Encouraging VANS, Data Exchange System (Luxembourg INFORMATION MARKET, May-Jul 86).....	77
--	----

Ericsson Increases Development of Spanish Market (Luis F. Fidalgo; Madrid EL PAIS, 30 Apr 86).....	79
---	----

Partners in Race Large Screen Project Named (Zellik TECHNIVISIE, 2 Apr 86).....	81
--	----

Briefs	
EEC Studying ISDN Standards	82
EEC Pushing European ISDN	82

FRANCE

ATT-CGE Agreement Put on Hold by Government (Paris LE MONDE, 8/9 Jun 86).....	83
--	----

RELIS Network Seen Benefiting From Esprit (Paris ZETO UN INFORMATIQUE, 14 Apr 86).....	85
---	----

ITALY

Objectives for Expansion of Telecommunications Stated (Rome IL POPOLO, 30 Apr 86; Rome IL TEMPO, 30 Apr 86).....	87
---	----

Minister Explains Ten-Year Plan, by Luciane Burburan	87
Italcable 1985 Profits	87
Telespazio 1985 Profits	89

Italcable's Contribution to Undersea Cable Network (Ugo Monaco; Turin MEDIA DUEMILA, No 30, Apr 86).....	90
---	----

Olivetti, Televas Executives View Prospects for Telematics Network (Elserino Piol, Simone Fubini Interview; Segrate ZEROUNO, May 86).....	95
---	----

Briefs	
Italstat Launch Set	100

SPAIN

Telefonica, Corning Glass To Produce Optical Fibers (Madrid YA, 19 Apr 86).....	101
--	-----

/6539

HONG KONG

PROGRESS IN HONG KONG TELEPHONES REPORTED

Hong Kong SOUTH CHINA MORNING POST in English 18 Jun 86 Supplement p 1

[Article by John Mulcahy]

[Text]

HONGKONG Telephone Co (Telco) has reported a stunning 38 per cent rise in attributable profit for the year ended March 31, due in large part to strong growth in its subsidiaries.

Communication Services Ltd (CSL), Integrated Business Systems Ltd (IBS) and Computasia Ltd are believed to have more than doubled their contribution to earnings for the latest year.

But Telco's managing director, Mr Rod Olsen, declined yesterday to elaborate on the group's profit breakdown, saying further details would be disclosed after the announcement of Cable and Wireless plc's results next week.

It is reliably believed, however, that the \$697 million in profit for the year to March, compared with \$633 million for the 15 months to March 31 last year, included more than \$200 million from the subsidiaries, which are excluded from the Scheme of Control provisions.

Hongkong now has more than 1.7 million telephone lines, and an estimated 2.3 million telephones, although the latter figure has become more difficult to establish since Telco is no longer the sole supplier of receivers.

To the perennial question of whether Hongkong is close to telephone saturation point, Mr Olsen said the network had grown at a consistent 4.5 per cent to 6.5 per cent a year over the past 10 years.

"Hongkong has about 42 telephones for every 100 people; the UK has about 50 for every 100 people and the US is slightly higher. China's ratio is one telephone for every 200 people," Mr Olsen said.

Telco's activities in China are limited, although it does co-operate with holding company Cable and Wireless on certain projects, and Mr Olsen referred to one in Shenzhen last June/July, when the local joint venture was asked to provide 4,000 exchange lines in eight weeks, and was unable to cope with this task on its own.

Telco moved a squad of engineers into the southern Chinese city for two months, complete with Hongkong

Telephone vehicles, and completing the job on time.

Hongkong's domestic telephone company is looking to fibre optics technology to provide the momentum for the period five to 10 years from now.

Already, Telco has completed a feasibility study on cable television and has applied to the Hongkong Government for a licence, but a natural evolution would be into home banking and a range of other services carried through the optical fibre system, Mr Olsen said.

On the outlook, he said Telco's performance tends to reflect what is happening in the Hongkong economy, and prospects for both this year seem reasonably good.

Population growth accounts for some growth in the network, but the huge housing projects under development all over Hongkong will provide the most substantive growth in the years ahead.

Last year, in a single development in Kowloon Bay more than 8,000 flats were completed, with most of them requiring new telephones.

/13104
CSO: 5550/0137

HONG KONG

BRIEFS

SUBMARINE CABLE LINKS--Hongkong's first submarine optical fibre cable system is expected to be operational in 1990, according to Cable and Wireless Hongkong. The company confirmed an agreement has been reached with Kokusai Denshin Denwa of Japan, Korea Telecommunication Authority, American Telephone and Telegraph, Telecommunications Authority of Singapore, to construct a digital optical fibre communication system between Hongkong, Japan and Korea. The network, called the Hongkong-Japan-Korea Cable System, will have a 140 mbps transmission rate, which is equivalent to about 2,000 telephone circuits. Cable and Wireless Hongkong's general manager of international operations and engineering, Mr Peter Forestal, recently attended the first meeting in Korea. The project is estimated to cost US\$200 million, in which Cable and Wireless in Hongkong will have more than 30 per cent share. [Text] [Hong Kong SOUTH CHINA SUNDAY MORNING POST in English 15 Jun 86 Supplement p 1] /13104

CSO: 5550/0138

PEOPLE'S REPUBLIC OF CHINA

SINO-UK MEETING ON OPTICAL FIBER COMMUNICATIONS

OW091013 Beijing XINHUA in English 0932 GMT 9 May 86

[Text] Beijing, 9 May (XINHUA)--In a bid to ease the strain on its telecommunications, China is to build long-span and high-capacity optical fiber networks across the country in the coming five years.

This was announced by Zhu Gaofeng, vice-minister of Posts and Telecommunications, at a three-day Sino-British joint meeting on optical fiber communications which opened here today.

He said preparations are underway and construction will start soon on a 2,000 km optical fiber communications network.

The network will extend from Nanjing, the capital of Jiangsu Province in east China, to Chongqing in southwest China's Sichuan Province, via Wuhan, the capital of Hubei Province. China will import some items of equipment for this project.

With the completion of the project, he said, China will build several more optical fiber communications networks in toerh regions.

The vice-minister said such technology should be widely used in urban telephone communications. Particularly, optical fiber communications should be introduced between telephone offices and cities using computer-controlled switchboards.

In Beijing, one telephone office is now using optical cables and the other four will shortly adopt the system.

The Sino-British joint meeting on optical fiber communications is sponsored by the China Association for Science and Technology, China Institute of Communications and British Fellowship of Engineering. More than 180 specialists from Australia, Britain, China, Federal Germany, France, Japan, the Soviet Union and the United States are participating. They will present 67 papers at the meeting and discuss the new developments in the field.

China began research on optical communications as early as 1964, developing atmospheric free space laser communications then. In the early 1970's, it developed optical fiber communications.

In the past few years China has built more than 50 medium- and short-span optical fiber communications lines in Beijing, Fuzhou, Guangzhou, Shanghai and Xiamen.

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CSO: 5500/4157

PEOPLE'S REPUBLIC OF CHINA

DIGITAL MICROWAVE COMMUNICATIONS SYSTEM DEVELOPED

OW181230 Beijing XINHUA Domestic Service in Chinese 1117 GMT 16 Jun 86

[Text] Beijing, 16 Jun (XINHUA)--This reporter has learned from a department under the Ministry of Posts and Telecommunications that China has successfully developed a digital microwave communications system matching the world technological level of the 1980's. If the present postal and telecommunications facilities in China is an "ordinary highway" for transmission of information, then the new digital microwave communications system would be an "expressway."

This new system can be conveniently controlled by using many kinds of computers, making it possible to increase the efficiency of postal and telecommunications work 10 times. For example, a conventional simulated microwave communications system can only accommodate 16 telephone calls and 1 facsimile transmission at the same time. With new digital microwave communications system, 960 telephone calls and 20 facsimile transmissions can be made simultaneously. This new system, without the aid of other equipment, can also be used to transmit color television programs. With the old system, the equipment needed for transmission of a color television program is equivalent to that required for handling 900 telephone calls.

This system was developed through the collaboration of 13 factories belonging to an associated group of manufacturers of microwave communications equipment. It is composed of a series of receiving, sending, and transmitting equipment, including microwave information receiving and sending systems, telephotographic equipment, computers, telephone sets, and facsimile equipment.

/6662
CSO: 5500/4159

PEOPLE'S REPUBLIC OF CHINA

CHINA TO HAVE 2,000 STATIONS TO RECEIVE SATELLITE TV THIS YEAR

HK241037 Beijing CHINA DAILY (BUSINESS WEEKLY supplement) in English 18 Jun 86 p 1

[Article by staff reporter Wang Dongtai]

[Text] Beijing Wanyuan Industry Corporation, the only domestic manufacturer of automatic selection satellite television receiving stations, plans to turn out at least 200 stations this year, Yu Yupeng, chief of the corporation's development division, told BUSINESS WEEKLY.

By the end of the year, the nation will have about 2,000 ground stations to receive TV signals from satellites, Xi Wenxing, electronics division director of the Ministry of Astronautics, told BUSINESS WEEKLY.

Xi said the ministries of Electronics Industry and Astronautics oversee manufacture of satellite equipment.

Beijing Wanyuan Industry Corporation, also called the First Academy of the Ministry of Astronautics, is one of 23 producers under the management of the Ministry of Astronautics.

"But our products are of better quality than the products of others," Xu Fuhai, another division chief of the corporation, told BUSINESS WEEKLY.

He said his corporation, which mainly produces for the military, began testing and manufacturing satellite TV stations after the State Council decision late last year to modernize television broadcasting to remote areas of the country.

At present, Xu said, only 46 percent of the country's land receives television signals beamed by broadcasting stations or relayed by microwave. Last year, the central government sent 53 satellite stations to remote areas. The stations were the first domestically manufactured stations. Three were built by our corporation, Xu said.

After the 53 stations began operation, local governments across the country asked the central government to do them the same favor. But the State decided it could not afford to give out stations free of charge. Instead, the State announced last October that local governments should buy stations with their own money. The swelling interest gave sudden impetus to TV manufacturers, Xu said.

Many factories and research institutions have experimented with different kinds and sizes of stations. Xu said his corporation made the right choice when it decided to manufacture a six-meter dish able to receive China Central Television's programs from a rented 66 degree satellite, and a 4.5-meter dish able to receive signals for educational TV programs from both rented and domestically launched satellites.

The models were immediate successes. One went to the city of Haikou on Hainan Island, enabling residents to watch same-day news broadcasts for the first time.

Many mayors have contacted the corporation saying that earliest possible delivery of stations is eagerly awaited by the whole city. When one of the corporation's stations was installed in the city of Dakou in Sichuan Province, 15,000 television sets were sold in three days.

The corporation has installed 50 stations in remote ciities and factories most of them the six-meter dish with automatic systems to pick up satellite signals for different programs. The 4.5-meter dish, which doesn't have such a system, is more suitable for receiving educational programs from one satellite.

At present, a six-meter station costs 80,000 yuan, and the 4.5-meter 45,000 yuan. Xu said his factory's prices are higher than those of competitors because the quality is better.

Manufacturing materials are still difficult to obtain. The government has promised to sell some materials to the corporation at reasonable prices, but the offer has yet to materialize.

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CSO: 5500/4157

PEOPLE'S REPUBLIC OF CHINA

SCIENTISTS SEND 'COMPUTERIZED TEXT' VIA SATELLITE

OW011001 Beijing XINHUA Domestic Service in Chinese 0806 GMT 29 Jun 86

[Text] Beijing, 29 Jun (XINHUA)--Scientists of the Academy of Sciences of China computer center and the PLA General Staff headquarters Signal Corps Department recently made use of China's telecommunication, radio, and television satellites and 0520 microcomputers to successfully carry out an experiment of sending computerized texts from Beijing to Kunming and from Beijing to Urumqi. This is another important progress made by China in developing satellite telecommunications following the successful transmission of radio and television programs and telephone signals via satellites.

The use of computers in telecommunications is an integration of computing techniques with telecommunication technology. This is an important part of modern information technology. Linking one computer with other computers via communication satellites has been of great importance in developing communication between computers abroad. It is also of great potential significance in developing communication between computers in China.

In carrying out this experiment, the Chinese scientists successfully made use of ordinary telephone dialing circuits to link satellite signal channels and send texts in Chinese characters as well as in internationally recognized standard codes from one computer to another. They also fully utilized the special characteristics of China's digital communication satellite system to successfully carry out high-speed long-distance data exchange between computers. To successfully carry out the experiment, the department assigned with the task developed the special software needed to send computerized texts via satellite. It also developed the necessary facilities to link computers with the satellite communication satellite system. The entire system functioned properly during the experiment. More than 1 million bytes of data were accurately sent and received.

According to experts, the capacity of China's communication satellites will greatly expand in coming years. With the rapid development of computer application, the development of communications by using computers becomes an increasingly important task. The experiment's success paves the way and open up a broad vista for exchanging computerized messages and information via China's communication, radio, and television satellites.

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CSO: 5500/4159

PEOPLE'S REPUBLIC OF CHINA

NEW SHANGHAI TV CHANNEL 26 COMPLETED

OW301248 Shanghai City Service in Mandarin 0000 GMT 30 Jun 86

[Text] Shanghai Television Station's Channel 26, one of 15 projects planned by the Shanghai Municipal Government, has been completed and is scheduled to officially begin broadcasting 1 July.

In this connection, our station reporter interviewed Shi Min, deputy director of the Shanghai Television Station. Comrade Shi Min said: In order to develop education with greater, faster, better, and more economical results in Shanghai through the modern means of television, the Shanghai Television Station decided to open a special educational channel. Channel 26 was completed after more than a year of construction, increasing the station's capacity for educational programs. In the course of installing educational channels in nine major cities throughout the nation, Shanghai is the first city to have completed this task. The principal tasks of Shanghai's Channel 26 is to train elementary and middle school teachers and develop adult higher education. This will play a positive role in raising the cultural level of the people of Shanghai and in meeting their needs for acquiring education and scientific and specialized knowledge.

Comrade Shi Min also told the reporter that Channel 26 will be used mainly for university course lectures. The original Channel 20 will be used primarily for broadcasting middle school, vocational school, social educational courses, and other specialized courses. Channel 26 will begin broadcasting on 1 July. As preparations for its educational programs are still under way, the Central Television Station's program from its educational channel will be relayed from 1 July to 15 August. Beginning 16 August, Channel 26 will broadcast, according to an overall plan, TV educational courses prepared by both Shanghai and the central authorities.

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CSO: 5500/4159

4 August 1986

PEOPLE'S REPUBLIC OF CHINA

BRIEFS

SHANDONG COUNTY BROADCASTING STATION--The Pingyin County Broadcasting Station was formally renamed the Pingyin County People's Broadcasting Station on 14 June. In addition to relaying central and Shandong provincial radio programs, this station will also broadcast the Pingyin County hookup, evening news, programs on cultural life and service to listeners, and three other special programs. [Text] [Jinan Shandong Provincial Service in Mandarin 2200 GMT 14 Jun 86 SK] /6662

GUANGDONG, U.S. ITT CABLE PROJECT--Yesterday, the Guangdong Provincial Posts and Telecommunications Bureau and U.S. ITT (East Asia) Corporation held a ceremony in the Guangzhou China Hotel to sign a memorandum on the Zhuhai cable project. The memorandum provides that: U.S. ITT (East Asia) Corporation will provide the equipment required and technological services in the third quarter of this year; Guangdong Provincial Posts and Telecommunications Bureau will prepare the site for communications, organize the project design, construction, and installation, and start construction in October; and that the project will be completed and made available to users at the end of this year. [Text] [Guangzhou Guangdong Provincial Service in Mandarin 0300 GMT 19 Jun 86 HK] /6662

JILIN LONG-DISTANCE COMMUNICATIONS CABLE--A 60-channel carrier long-distance HF symmetric communications cable project between Changchun and Jilin cities was formally put into operation today after passing the acceptance and appraisal test. It is the first project of its kind designed and built by the provincial Postal and Telecommunications Department. Upon the completion of this project, 180 long-distance telephone lines will be opened at present with a capacity for an additional 400 telephone lines. The completion of this project not only can alleviate the strains on long-distance telephone lines between Changchun and Jilin and between different counties in Jilin City, but has also created reliable conditions for such new trades serving the areas between Changchun and Jilin and between Changchun and Yanbian Prefecture as automatic long-distance telegrams, data communications, phototelegraphy, computerized communications networks, and meteorological cloud charts. [Text] [Changchun Jilin Provincial Service in Mandarin 0930 GMT 25 Jun 86 SK] /6662

MEDIUM-WAVE RADIO RELAY STATION--Radio Station No 802, a medium-wave radio relay station with currently the biggest transmitting power in Jiangxi, was recently completed in Taihe County. Beginning from 1 July, the station will relay the Jiangxi people's broadcasting station's program No 1. Two medium-power transmitting sets will shortly be put into operation to relay the Central People's Broadcasting Station's programs No 1 and No 2. The completion and operation of Radio Station No 802 will expand the areas capable of receiving medium-wave broadcasts in Jiangxi by 11.8 percent. [Text] [Nanchang Jiangxi Provincial Service in Mandarin 1000 GMT 30 Jun 86 OW] /6662

SHANDONG TV GROUND STATION--A television satellite ground reception station recently was built in (Qingzhou) City, Shandong Province. The city can receive programs broadcast from the central television station after the ground reception station is completed. On 29 June, the name the (Qingzhou) City broadcasting station was formally changed into the (Qingzhou) City People's Broadcasting Station. [Summary] [Jinan Shandong Provincial Service in Mandarin 2200 GMT 3 Jul 86 SK] /6662

SHANGHAI TELEPHONE SYSTEM--["Special to CHINA DAILY by Xue Weici] The Shanghai telephone system will be improved in the next four years by the installation of some 550,000 new switchboards and 750,000 new telephones. When these facilities are installed, switchboards will number 800,000 and telephone one million in China's largest metropolis, with a population of 6.98 million urban residents, according to the Shanghai Telephone Bureau. The bureau plans to invest two billion yuan in the project, which includes building 38 telephone exchanges and enlarging the buildings of 43 old ones. Over half the new switchboards will be automatic instead of manually-operated. When the strain on direct domestic calls in Shanghai is eased, 400 switchboards for direct international calls will be set up. Currently, 20,000 enterprises and individuals are waiting to have telephones installed. Some have been waiting a whole year, according to the bureau. [Text] [Beijing CHINA DAILY in English 7 Jul 86 p 3 HK] /6662

SATELLITE LASER RANGE FINDER--Beijing, 30 Mar (XINHUA)--The first set of a third-generation satellite laser range finder went into operation recently, according to the China Academy of Sciences. Made in Shanghai, the range finder can measure accurately the distance between the satellite and observation station by use of laser beams. It may also be used to measure changes in the revolution of the earth and the movements of the earth crust. The tolerant error when the satellite is 8,500 kilometers from the earth surface is only five centimeters, scientists at the Academy said. [Text] [Beijing XINHUA in English 0249 GMT 30 Mar 86 OW] /9738

TELECOMMUNICATION FACILITIES IMPROVEMENT--Beijing, 12 Jun (XINHUA)--China's Ministry of Posts and Telecommunications said in the next 5 years, it will add 60,000 long distance telephone lines along with 120,000 automatic exchange boards to improve the present telecommunication system. [Text] [Beijing XINHUA in English 0116 GMT 12 Jun 86 OW] /9738

PROGRAM-CONTROLLED EXCHANGES--Xian, 18 Jun (XINHUA)--A system of 13,000-line program-controlled telephone exchanges went into operation today in this capital city of northwest China's Shaanxi Province. Xian is the seventh among China's major cities to install program-controlled exchanges. The other six are Beijing, Tianjin, Guangzhou, Xiamen, Fuzhou and Shenzhen. The exchange systems, totaling about 150,000 lines, have been imported from Japan, the United States, Sweden, France and Belgium since 1980. Fourteen provinces, including Liaoning, Heilongjiang, Guizhou, Jiangsu, and Gansu have also signed contracts to introduce a total of 300,000 lines of program-controlled exchanges from abroad, according to officials at the Ministry of Posts and Telecommunications. [Text] [Beijing XINHUA in English 1424 GMT 18 Jun 86 OW] /9738

CSO: 5500/4157

CANADA

INTERNATIONAL COMMUNICATIONS SYMPOSIUM HELD IN VANCOUVER

Vancouver THE SUN in English 12 Jun 86 p B8

[Text]

Federal Communications Minister Marcel Masse says he supports the idea of lending money for communications networks in underdeveloped countries as a type of foreign aid.

Masse told a news conference winding up a two-day international symposium Wednesday that national economies cannot develop without a good communications network.

While 66 per cent of the world has no telephone service, Canada has one telephone for every two residents. By the turn of the century, Canadians will be instantly linked to the outside world with a telephone in every individual's back pocket, Masse said.

He said the symposium, on the theme "Communications: The Challenge of Change," let communications ministers exchange views on major questions of telecommunications and new technologies.

Communications are closely linked to gross national product and highly industrialized nations have more

than 500 telephones per 1,000 persons while those with a low GNP have fewer than 10 telephones per 1,000 persons.

Industrialized countries must try to maintain their competitive position while creating communications networks that are efficient and affordable, not to leave the others behind, Masse said. At the same time, expanding new services increases the need for greater international cooperation.

Masse said a "Vancouver declaration" agreed to during the symposium recognizes the fundamental rights of sovereign states and establishes responsibilities for the international community in development and communications.

The declaration deals with roles of governments and international organizations in shaping communications and information technologies, and calls for periodic meetings at the ministerial level.

/9274

CSO: 5520/88

CANADA

SATELLITE COMMUNICATIONS SYSTEM PROPOSED FOR REMOTE AREAS

Toronto THE TORONTO STAR in English 24 Jun 86 p E3

[Article by Ann Auman]

[Text]

A Quebec-based native company plans to build a \$30 million satellite communication system to bring education, banking, shopping and a native cultural channel to remote communities.

Seneca Communications Inc. plans to launch the system across Canada in the fall of 1987, says company president Peter Rice, a Mohawk of the Kahnawake reserve near Montreal.

Rice presented details of the system at Seneca's booth on the first day of the Native Business Summit yesterday. The five-day trade show, held at the Metro Convention Centre, has about 140 native and non-native exhibitors.

The system, which took five years to develop, will eventually provide information through satellite receiving dishes in 1,000 communities to as many as 10,000 households, said Rice.

"Too many communities that we visited were almost in hopeless situations. They wanted to know what was happening in the rest of Canada. They were really isolated in many areas."

Seneca will permit everyone to become part of Canada, Rice said.

The company has invested \$1.5 million in the project, which also has received \$300,000 in federal government funds.

In addition, Canada Steamship Lines has invested an undisclosed amount of money in the venture, said Alastair Campbell, director of corporate planning for Canada Steamship.

"We think this is a new kind of transportation — of ideas and images through time and space," he said.

Those who want to send information through the service will be charged an hourly fee. End-users will get the service free provided they have the equipment to receive the information, which will probably be provided by their communities or the government.

/9274
CSO: 5520/89

CANADA

INTERNATIONAL ENGINEERS COMMUNICATIONS SOCIETY MEETS

Toronto THE GLOBE AND MAIL in English 24 Jun 86 p B]

[Text]

Some of the world's leading communications scientists and engineers are meeting in Toronto this week to discuss a common standard for linking their telephone networks.

There are about 600 million phones in the world, but 85 per cent of them are in the hands of 16 per cent of the population. More than two-thirds of people in the world have no access to one.

"A greater share of loans to developing countries will have to be channelled to telecommunications projects if we want to integrate the world through communications," Jean-Claude Delorme, president and chief executive officer of Teleglobe Canada, told the conference yesterday.

Over the next two days, members of the International Electrical and Electronics Engineers Communications Society will wrestle with technical issues of integrating their networks and pore through more than 380 papers.

Many of the papers are devoted to the Integrated Services Digital Network international standard.

Adoption of the ISDN standard — which has been accepted in principle by most equipment makers and phone companies — would allow the variety of currently incompatible products to be plugged into a common jack to send voice, data or images along a telephone wire anywhere in the world. Or at least anywhere there is a telephone.

/9274

CSO: 5520/88

CANADA

DETAILS GIVEN OF TASK FORCE REPORT ON BROADCASTING

Call for Broadcast Act

Toronto THE GLOBE AND MAIL in English 25 Jun 86 p B19

[Article by Harvey Enchin]

[Text]

The long-awaited report of the Task Force on Broadcasting Policy, which will be delivered Thursday to Communications Minister Marcel Masse, contains a clear call for a new broadcasting act, says Gerald Caplan, co-chairman of the task force.

Existing broadcasting legislation, passed in 1968, needs updating, he said.

New technology and developments have rendered much of the current broadcasting act obsolete. "Cable is barely mentioned in the old act."

The report proposes a restructured set of objectives for the entire Canadian broadcasting system. It recommends that each component of the system be charged with certain obligations and suggests how they may be fulfilled, he said.

In 500 pages, grouped in 30 chapters in 10 sections, Canada's broadcasting system is carefully examined, incorporating some of the data gleaned from up to 20 research papers commissioned by the task force. Mr. Caplan estimated the cost of the year-long study at \$2.5-million.

Mr. Masse created the task force in April, 1985, to review the broadcasting industry, particularly the mandate of the Canadian Broadcasting Corp.

Mr. Caplan said Mr. Masse

will receive a "virtually final" manuscript. The text is 97 per cent done and all the recommendations are complete, he said. However, the seven task force members held a telephone conference call Monday and plan another today to clear up several matters.

It could take another six to eight weeks before the translation is finished, the graphs and footnotes are fitted in, and the report is published, he said.

The comprehensive report deals with issues related to provincial broadcasting, the National Film Board, native and ethnic broadcasting and concentration of ownership, and with questions pertinent to free-trade discussions, notably subsidies for cultural industries.

There is a major section devoted to the CBC, dealing with its mandate, financing and programming, and another large section on the private sector. The distinctiveness of Quebec broadcasting is addressed, technology gets considerable attention, and the report attempts to cost its recommendations and suggest means of raising the money to pay for them. Mr. Caplan also promised interesting details on who listens to and watches Canadian programs.

One of the problems the task force encountered was a lack of

data. Mr. Caplan said there has been little research on the economics of the broadcasting system, on its legal aspects or even on programming. "It's been difficult to pull it all together," he said.

Unlike the 1982 Applebaum-Hébert Commission report on federal cultural policy, which was largely ignored by government, the task force report could be acted on quickly, Mr. Caplan said. There are several matters Ottawa wants to resolve without delay, such as Bill C-20, which would extend the regulatory reach of the Canadian Radio-Television and Telecommunications Commission. He predicted the the Government will dispense with the time-consuming formality of a white paper and use the task force report directly for deliberations in the House of Commons communications and culture committee.

The report will be delivered to Mr. Masse without fanfare or ceremony. Task force members decided against a media event because they would be unable to comment on the contents of the report before publication. A press conference is planned when the report is published by the Queen's Printer.

Mr. Caplan said the task force members agreed on most of the contents of the report. "All seven of us are pretty happy," he said. "The report reflects most of what we care passionately about."

U.S. Cultural Domination

Toronto THE TORONTO STAR in English 26 Jun 86 pp A1, A8

[Article by Martin Cohn]

[Text]

OTTAWA — American domination of Canada's cultural industries has left Canadian firms virtually shut out of their own domestic market, says a confidential study prepared for Communications Minister Marcel Masse.

Unless the federal government increases aid to filmmakers, broadcasters and publishers, "their economic situation will be untenable," the study predicts.

Warning that foreign domination of the arts and entertainment industries is greater than in any other major country, the study says Canada's cultural identity could be at risk.

A copy of the study was obtained by The Toronto Star. It was ordered by Masse to buttress his arguments in cabinet about the economic and social importance of Canada's cultural industries, a government source said.

The study, which reports that foreign multinationals are delivering foreign — mostly American — culture, found that:

□ 71 per cent of English TV is American;

□ 98 per cent of films are foreign, mostly American, compared with a minimum of 20 per cent penetration in Britain, France and Australia;

□ Records and video sales are 84 per cent foreign, compared with roughly one-third in Britain and France;

□ 75 per cent of books sold are foreign, compared with less than 20 per cent in France and Britain.

This means that only a fraction of the already small, 25 million-person domestic market is left for struggling Canadian firms.

And without federal government intervention, the outlook is bleak, the study warns.

"In Canada, more than in any other country, the domination of the domestic market by foreign

companies and cultural products creates serious obstacles... to the full expression of our cultural identity," it says.

"Unless the government takes steps to encourage investment in the cultural sector and to help these companies to carve a larger niche for themselves in the Canadian market, they will remain economically weak."

Canada's small population means that domestic producers are "incapable of achieving the economies of scale that they need in order to develop, prosper and grow," the study says.

The real problem is foreign domination, which is so entrenched that Canadian firms are unable to gain more than a fraction of the already small market. They are being squeezed out by powerful, cash-rich, American multinationals with sweeping production and distribution interests, the report says.

"This obstacle is exacerbated by the dominant position of vertically and horizontally integrated foreign companies in the Canadian market, which hinders full access by Canadian cultural industries to their own domestic market," the report warns.

And the size of the domestic market already places these industries "below the threshold of economic profitability and so, if Canadian cultural firms are, in addition, obliged to share this already inadequate market with foreign companies who hold a dominant position, then their economic situation will be untenable."

By contrast, multinational firms, using their large home markets as a base, have the financial resources to expand production in Canada.

"Foreign-owned companies, because of their access to huge markets, are able to reduce their production costs, minimize risks and absorb losses... thereby spreading their risks more widely.

But Canadian firms "are often denied access to the capital neces-

sary for financing of Canadian literary or cultural works. They assume all the risks and costs of selling Canadian products, which foreign companies consider high-risk."

For example, in the publishing industry, foreign multinationals dominate the highly lucrative and stable textbook market. This leaves beleaguered Canadian publishers to risk their precious capital on general-interest literature, which makes up only one-fifth of the domestic market.

Cultural industries — foreign-owned or Canadian — are big business. More than 190,000 people earned nearly \$4 billion in salaries in arts and entertainment in 1981, the last year for which Statistics Canada has figures.

The study estimates that sales, salaries, and direct spinoffs were worth more than \$12 billion to Canada last year. And it cites figures showing that cultural attractions generated \$250 million in revenues and attracted more than 6 million people in Toronto in 1984.

Canadian representation in cultural industries is also vital, the study says, because it is in the area of information transmission — books, records and videos — where future economic growth will come, while traditional industries recede.

Affluent baby boomers with high disposable incomes are major consumers of cultural products, and they will be spending even more in the years ahead because of increased leisure time.

The work week will decline from 32 hours to 25 hours in the next 15 years, giving people 60 hours of leisure time a week in which to indulge their cultural interests.

The study comes in the wake of spirited lobbying by Canadian artists, publishers and producers about the risks of including cultural industries in the current free trade negotiations.

CANADA

CRTC CHAIRMAN USES BROADCASTERS TO IMPROVE PROGRAMMING

Toronto THE SATURDAY STAR in English 28 Jun 86 p A11

[Text]

OTTAWA (CP) — Broadcasters, facing licence renewal hearings this year, have been warned by the CRTC they must be more creative and produce better quality Canadian programming in both radio and television.

Andre Bureau, chairman of the Canadian Radio-television and Telecommunications Commission, says new systems and services demand more from broadcasters than merely a stated commitment to national aims in the broadcast system.

Bureau reported to the House of Commons yesterday that the

broadcasting watchdog will do what it can to bolster Canadian programming but the real onus rests with the broadcasters.

He hinted that holders of CRTC licences will be asked to show firm plans to improve Canadian content.

All the major television networks and many private TV stations are due for licence renewal hearings this year.

But the spread of specialty services and competing U.S. signals has caused concern within the CRTC that Canadian aims must be protected.

Canadian broadcasters "must get in on the ground floor" of the new options in programming, Bureau said, or be left behind in the rush to new services.

"Let it be clear, Canadian TV networks will be expected to do more in terms of programming quality and production creativity

in the future," he said in a statement accompanying the federal agency's annual report to the Commons.

Foreign limits

Bureau also hinted that built-in CRTC protections for Canadian networks, producers and artists may not last forever.

CRTC limits on foreign intrusions into the Canadian broadcasting system "cannot remain in place forever," he said.

Bureau also defended the commission's moves during the past fiscal year toward a looser regulatory system for cable television, AM and FM radio and other consumer services.

He said the CRTC wants to allow market forces freer operation in the telecommunications sector and to "reduce the regulatory burden on industry."

/9274

CSO: 5520/88

BUREAU CLEARED OF CHARGES OF ACTING IMPROPERLY

Toronto TEH SATURDAY STAR in English 28 Jun 86 p A11

[Text]

Andre Bureau, chairman of the Canadian Radio-television and Telecommunications Commission, has been cleared of charges that he acted improperly when he was head of the Cancom satellite-TV company in mid-1983.

An RCMP investigation found no basis for the charges, said Solicitor-General Perrin Beatty.

Cancom delivers TV signals by satellite to cable systems that are too far from TV stations to get clear reception by other means. In 1983, under Bureau, the company negotiated a three-year contract with several Saskatchewan cable firms, offering service at 18 cents per month per channel. But to get them to sign, it offered a 3-cent-per-channel rebate for the first year, to help them finance promotion of the clearer signals to attract more customers.

It was charged recently in the Commons that this was a secret kickback scheme.

/9274

CSO: 5520/88

CANADA

BELL CANADA BALKS AT QUESTIONS ON SAUDI DEAL

Ottawa THE CITIZEN in English 12 Jun 86 p E4

[Text]

TORONTO (CP) — Bell Canada Enterprises Inc. of Montreal has told the Canadian Radio-television and Telecommunications Commission that it has no obligation to answer CRTC questions regarding its \$1.6-billion contract in Saudi Arabia.

Lawyers for BCE offered to allow the CRTC to cross-examine a witness behind closed doors if the testimony would not be used by the commission.

However, CRTC commissioner Jean-Pierre Mongeau turned down the offer Wednesday, leaving the parties at a stalemate.

Lawyers for the commission and Bell are sparring over whether Bell has to provide information about the contract to the regulatory agency.

The commission is in the eighth day of a public hearing to investigate the economic performance of Canada's largest telephone company.

Bell Canada International Inc., the international contract arm of BCE, is in the fourth year of a five-year contract with Saudi Ara-

bia.

The CRTC and other parties to the hearing want details of the contract because BCI hires Bell employees to work in Saudi Arabia under contract.

BCE lawyers escalated the dispute earlier this week when they responded to the May 29 order of CRTC vice-chairman John Lawrence to provide additional information.

Josef Fridman, vice-president and general counsel of BCE, said the company's reply to the May 29 order was being made voluntarily because, in the view of BCE, such information is immaterial to issues before the commission.

Bell Enterprises doesn't provide telecommunications services subject to CRTC regulation.

Because of that, it argues, the transactions of it and its subsidiaries other than Bell Canada are not subject to CRTC investigation or jurisdiction.

BCE's lawyers also argue that the agreement between BCE, BCI and Saudi Arabia does not affect telephone rates.

/9274

CSO: 5520/89

CANADA

BELL CANADA TESTING TELEPHONE THAT TAKES PICTURES

Toronto THE TORONTO STAR in English 24 Jun 86 p E8

[Text]

A telephone that can take "snapshots" is undergoing a test by Bell Canada's Business Communications Group (BCG) to determine the product's acceptance in the market.

The telephone, which was demonstrated yesterday to members of the Ontario Association of Chiefs of Police in Kitchener, could provide an affordable visual link between branch offices, factories, clients and suppliers, says John Farrell, BCG president.

Named Luma, the telephone sends and receives freeze-frame video images over ordinary telephone lines, the company says. A small TV camera sits in a module on top of the phone's base. A tiny full-motion video image of the user appears on the right side of a three-inch split-screen TV. The left side of the screen is reserved for the incoming picture.

Pushing the "send" button on the set transmits the frozen image to a receiving set, according to the company. It takes 1.5 seconds to transmit a small image and 5.5 seconds for a large image.

"Luma is more than a picture phone," notes Diane Long, BCG's director of product management. "It incorporates advanced calling features that include six-button multi-line capability and hands-free calling. The memory directory stores up to 100 numbers for instant automatic dialing."

/9274

CSO: 5520/89

CANADA

HALIFAX TO GET CELLULAR TELEPHONE SERVICE IN 1987

Toronto THE GLOBE AND MAIL in English 27 Jun 86 p B4

[Article by Deborah Jones]

[Text]

HALIFAX

Residents living within 30 miles of Halifax will be able to use Atlantic Canada's first cellular telephone system by early next year, Maritime Telegraph and Telephone Co. Ltd. has announced.

Ivan Duvar, MT&T president, said the company introduced the cellular system because its direct

dial mobile telephone service (which it calls Autotel) is so popular the company cannot accommodate all its metro-area users comfortably with the older technology.

"It makes more sense economically to install cellular technology, which is designed to handle a high volume of users," he said.

Given the acceptance rate of cellular telephones elsewhere in North America, Mr. Duvar predicted that within five years a cellular commu-

nications corridor will run between Halifax, and the New Brunswick cities of Saint John and Moncton.

The cost of installing the system will be about \$2-million. Mr. Duvar estimated it will initially attract about 1,000 customers who will be able to use equipment purchased or leased from MT&T or its competitor, Cantel Inc. of Montreal.

Within a decade, he predicted, 10 per cent of urban residents will find it useful to use a cellular telephone.

Cellular differs from other mobile technologies by using a higher-frequency radio band (800 megahertz, compared with the traditional 150 MHz). The system consists of a series of computerized transmitters located in "cells" in the service area, which automatically track each telephone as it moves from one geographic cell to another.

/9274

CSO: 5520/89

CANADA

NORTEL OFFERS PORTABLE DEVICE TO SPLICE FIBER-OPTIC CABLE

Toronto THE GLOBE AND MAIL in English 26 Jun 86 p B22

[Article by Lawrence Surtees]

[Text]

Northern Telecom Ltd. has developed a portable fusion device to splice fibre-optic cables.

The suitcase-sized device automatically aligns the tiny hair-sized strands of glass and then melts them together with a powerful weld-like arc.

Fibre optics use strands of glass to transmit communications by laser pulses, at much higher speeds than can be reached with copper wire. Fibre-optic cables can also transmit greater amounts of information by much smaller strands.

The NT7L30 is made for the Mississauga, Ont., telecommunications equipment company at a factory in Saskatoon.

The splicer is microprocessor-based and has a liquid crystal display that tells the operator what

steps to perform. It also calculates what tolerances the splice meets.

It takes about 30 seconds to perform a splice. The automated device is much easier for technicians to operate and, as well as taking less time to work, produces a link with less signal loss than those made by similar devices.

The glass strands are placed in a holder so the ends can be viewed through a microscope. The device then melts the ends with its arc, to clean them, and automatically aligns them. The fibre-optic cables aligned have diameters of only 10 microns (a micron is a millionth of a metre).

Northern Telecom hopes the splicer will be used by corporations and institutions that have their own fibre-optic networks. Users would save money because they would not need telephone company technicians to perform the work.

/9274

CSO: 5520/89

INTER-AMERICAN AFFAIRS

BRIEFS

CANADIAN BROADCASTING TO CARIBBEAN--Plymouth, Montserrat, 30 May (CANA)--Radio Canada International, in a move to boost its English-speaking Caribbean listenership, will increase programme relays through the Montserrat-based Radio Antilles from June 2, Radio Antilles said. A statement said every weekday at 0530 hours (Eastern Caribbean time), RCI's edition of the world news will be relayed to the region. A RCI-produced 30-minute Caribbean-oriented programme, Caribbean Magazine, has been relayed through Radio Antilles every day since 1984 when both stations made an agreement. Radio Antilles, with a 200,000 watt transmitter, the most powerful in the region, also serves as a relay station for the Voice of America, and Deutsche Welle, West Germany's international radio service. [Text] [Kingston THE DAILY GLEANER in English 31 May 86 p 3] /9274

CARIBBEAN DIGITAL NETWORK--Bridgetown, Barbados, 6 Jun (CANA)--The next major Caribbean telecommunications success might well be a circuit used for a host of services: telex, video, computers, as well as domestic and overseas telephone calls. This is the goal of eastern Caribbean telecommunications managers who are working towards establishment of what they call an integrated services digital network. To businesses, the benefits include reduced installation costs and a more organised layout--a lot less of those unsightly masses of coloured wires leading from walls to telex machines, telephones and video display terminals. Barbados External Telecommunications Ltd (Bet) in January introduced a 7.5 million dollar (one Bds dollar: 50 US cents) Neax 61 digital international telephone exchange offering an improved quality of service and double installed capacity of 1436 circuits. [Text] [Kingston THE DAILY GLEANER in English 7 Jun 86 p 20] /9274

CSO; 5540/080

BAHAMAS

ZNS RADIO SIGNAL TO COVER FAMILY ISLANDS BY 1987

Nassau THE TRIBUNE in English 2 Jun 86 p 1

[Article by Alexis Wallace]

[Text]

THE Family Islands will soon receive as strong a radio and television signal as Nassau receives, said Deputy Prime Minister Clement Maynard at ZNS's 50th anniversary ball Saturday.

The Deputy Prime Minister also told ZNS to ignore any opposition that it might receive from critics. The threats of bombast, he said, will not be heeded.

"Our dear brothers and sisters in the areas of the commonwealth where the ZNS signal is weak, in the evenings especially, will be pleased to know that the standard of the signal will be upgraded and that they will hear ZNS as clearly as we do in Nassau everywhere in the Bahamas by the end of 1987," he said.

"Over the next few years TV-13 will be reaching more Bahamians also. The next 50 years will bring more technological change than the former. The BCB is gearing itself to meet that change for advancement and benefit the Bahamas," said Mr Maynard.

Adding politics to a supposedly non political evening Mr Maynard said he was proud of the manner in which the young professionals handled the big events of contemporary society. "I refer specifically to political and election coverage," he said.

Referring again to politics, he said in a parliamentary democracy like the Bahamas, it is inevitable that partisan critics will cry havoc, "from time to time, pillorying radio and TV-13 for alleged bias.

"These disparaging words were not rooted in fact, of course, nor are they unique. Indeed, the breast-beating tactics of opposition politicians are quite similar to a musical warming up exercise: 'Me, Me, Me, Me, Me'," he added.

"What I want to say to my young friends at the Broadcasting Corporation of the Bahamas tonight is this: do not be deterred or distracted by the noise in the market and do not worry about the critics, they are always with you. You cannot change them.

"Do what is right and work

hard," he said. "Continue to perform your duties and discharge your responsibility in the usual professional manner. I pledge my full assurance that you need have no fear of mournful doomsayers and noxious demonstrators," he said.

"We will not heed the threats of bombast who find it much easier to be critical than to be correct," Mr Maynard said.

He said that in a little over four months the Bahamas will be the host to the Commonwealth Health Ministers' Conference, "and I shall be looking forward to solid coverage on radio and TV by the talented crew of the Broadcasting Corporation."

Mr Maynard commented that the innovative founder of ZNS in 1936 would have been amazed to witness the evolution of broadcasting from a 500-watt radio station on the air four hours daily to today's network with three radio and television stations and ZNS TV-13, the full-colour television station which was officially opened in 1977 by Queen Elizabeth.

/9274

CSO: 3298/478

BAHAMAS

BATELCO SIGNS CONTRACT FOR INTELSAT EARTH STATION

Nassau THE TRIBUNE in English 17 Jun 86 p 8

[Excerpt]

BY APRIL 1987 local businesses - banking, insurance, hotels and other tourism-related organisations - will have direct communications links by satellite. Yesterday GTE and The Bahamas Telecommunication Corporation (BaTelCo) signed a contract to construct an INTELSAT Standard "A" Earth Station in the Bahamas.

When completed the station will provide international telephone, telex, data, facsimile and television services.

Under the terms of the contract GTE International Systems Corporation (ISC) will design, build, install and supervise turnkey implementation of the station near Nassau. BaTelCo will provide civil works. Its personnel will participate in the station's installation, implementation and subsequent operation and maintenance.

"The Bahamas station represents a break-through in antenna development," said ISC President Glenn H. Sacra. "GTE ISC is the first company to supply an 18-meter antenna under the Standard "A" classification. Although smaller than the previous standard 32-meter configuration, the earth station will carry the same number of channels with greater cost effectiveness."

The project is part of BaTelCo's mission to further national development by providing a complete telecommunications service, consistent with the country's needs.

BRAZIL

SARNEY ACCEPTS REAGAN'S INVITATION TO VISIT

PY050201 Rio de Janeiro O GLOBO in Portuguese 3 Jul 86 p 23

[Text] Brasilia -- President Ronald Reagan yesterday extended an invitation to President Jose Sarney to visit the United States beginning 10 September. According to an Itamaraty source, the purpose of the invitation is to dispel speculation that relations between the two countries have deteriorated over the problem raised by the Brazilian Informatics Law. The source said that the visit will demonstrate the interest of the two countries in maintaining good relations.

Officially, however, Reagan's invitation is meant to reciprocate his visit to Brazil in 1982. Sarney will hold two working meetings with the U.S. President and will be offered a banquet on 10 September. He will spend the next 2 days in New York, fulfilling an as yet undetermined agenda. According to Itamaraty, the Brazilian presidential delegation will be made up of important personalities considering the political importance the two governments attach to the visit.

The two presidents will make an overall review of bilateral relations. Sarney's visit, however, will not interfere with the talks between the Brazilian and U.S. delegations on the Informatics Law. This visit will not obviate a future meeting between Foreign Minister Abreu Sodre and U.S. Secretary of State George Shultz to discuss that matter. Itamaraty denied that the invitation to President Sarney is intended to speed up a solution to the problem and to force the Brazilian Government to take a final position on the question of the reserved market.

The way Brazilian diplomats see it, the initiative by the U.S. President marks the high point of a policy of rapprochement, which began in April, following the Brazilian Government's reaction to the U.S. criticism of and threats of reprisal against the Informatics Law.

/8309

CSO: 5500/2064

BRAZIL

MEETING WITH U.S. ON INFORMATICS ENDS IN PARIS

Joint Communique Issued

PY032010 Brasilia Radio Nacional da Amazonia Network in Portuguese 1000 GMT
3 Jul 86

[Text] Within the next 10 days, the United States will present a list of specific topics with examples of its objections to informatics market reservation law. Brazil then will answer the list item by item.

A joint communique was issued yesterday in Paris, at the close of the talks held by the U.S. and Brazilian delegations throughout the day. The communique said:

During the meeting the two delegations found topics on which they agree, and points of concern for the two countries. The topics on which they agree offer real possibilities for progress.

Ambassador Paulo Tarso Flecha de Lima, who led the Brazilian delegation, said that the atmosphere of the meeting was satisfactory. According to him, the talks were based on the principle established by President Jose Sarney that the Informatics Law is not negotiable.

The meeting gave the U.S. delegation another opportunity to gather information on the details of the Brazilian laws and to ask questions. Three topics are of special interest to the U.S. delegation:

1. The effect on U.S. trade of the system adopted by Brazil for the implementation of the Information Law in the country.
2. The Brazilian legislation for the forming of joint ventures, that is, mixed-economy enterprises, in the informatics sector.
3. The Brazilian position toward the adoption of a body of laws to protect software.

These questions have not yet been answered. They will form part of a document, with precise questions, to be presented by the Americans to Brazilian authorities in 10 days. Another meeting will then be held in August, probably in Paris.

According to a report by Ambassador Flecha de Lima, the dialogue with the Americans is essentially political. He added that during this Paris meeting the Brazilian delegation insisted on making it clear that Brazil has no intention of modifying its information laws. The situation remains open on the possibility of adapting the law in the most convenient way, the communique stated.

Sarney Denies Joint Ventures

PY051803 Brasilia Radio Nacional da Amazonia in Portuguese 1000 GMT 5 Jul 86

[Text] President Jose Sarney denied yesterday having authorized joint ventures with foreign enterprises in the informatics field with the purpose of developing computer programs.

The president asserted that so far no decision has been made, noting that the informatics law will not be modified.

/8309

CSO: 5500/2064

BRAZIL

AIR FORCE MINISTER DEFENDS INFORMATICS POLICY

PY110038 Brasilia Domestic Service in Portuguese 2200 GMT 10 Jul 86

[Text] Air Force Minister Otavio Moreira Lima visited Sao Paulo today. During his stay he defended the informatics reserve market and Brazilian independence in the informatics field.

General Otavio Moreira Lima said today at the Piracunnunga Air Force Academy in Sao Paulo State that the informatics reserve market is fundamental for the technological development of the Brazilian aeronautics industry. Although Gen Otavio Moreira Lima admits there is not complete independence in the field, he is categorically in favor of Brazilian development in the informatics field:

[Begin recording] We must promote the development of Brazilian industry so that we may truly achieve independence. We must achieve a certain degree of independence so that we can have peace of mind and not end up totally relying on imports.

Gen Moreira Lima presided over the ceremony presenting swords to 233 new Air Force cadets, including 4 foreigners. The ceremony was held at the Piracununga Air Force Academy in Sao Paulo. The Air Force minister explained why he defends the reserve market policy in the informatics field:

[Begin recording] It is obvious that the development of our own national technology and the reserve market is fundamental for the development of a vast interrelated national sector. [end recording]

/9274

CSO: 5500/2068

BRAZIL

BRIEFS

SATELLITE PROGRAM REPORTED ON SCHEDULE--The timetable for the construction and installation of a center for the launching of the first all-Brazilian communications satellite is being rigorously followed. This comment was made today in Rio de Janeiro by Admiral Jose Maria do Amaral Oliveira, chief of the Armed Forces Joint Staff [EEMFA] after a lecture he delivered at the Naval War College. He confirmed that the satellite will be launched early in 1989 at a total cost of about \$500 million. He also reviewed the participation of the federal government in the development of scientific research. [Oliveira recording indistinct] The EMFA chief today gave a lecture to officers enrolled in the Naval War College. [Text] [Brasilia Domestic Service in Portuguese 2200 GMT 4 Jul 86] /8309

CSO: 5500/2065

JAMAICA

DATA INDUSTRY 'BOOMING'; COMPUTER-DUTY 'RACKET' CITED

Employment Increases

Kingston THE DAILY GLEANER in English 26 May 86 pp 1, 3

[Text]

THE WORKFORCE IN THE DATA ENTRY industry in Jamaica is being doubled through the setting up of a new group of Jamaican firms which has already attracted US\$6 million in business for operation here in the next twelve months.

Ten companies, each capitalised at over J\$1 million, are already part of the NCR User Group which has a separate company called NCR User Data Ltd. (NUDL) which acts as the conduit to U.S. markets, providing marketing, quality control and the logistics for the local firms in the User Group.

Each firm in the group is entitled to buy shares in the NUDL and has one vote on its Board. Four of the ten companies were formed earlier this year, six are waiting on their hardware to arrive and another ten firms are looking at entry to the group and seeking funding for going into the business.

Training of 340 workers in four existing companies under the Group starts today and the training of some 600 workers in the next few weeks will bring to nearly one thousand the number trained by the company. All 1,000 are already in or assured of jobs and, managing director of NCR Jamaica, Mr. Doug Halsall said the number to be employed by year end should reach 1,500.

Before the start of the year some ten companies had in their employment 1,500 workers in the data entry business. The training is being carried out by Integrated Data System (IDS) of Boston, whose president, Cons-

tance Coward flew into Jamaica yesterday along with two directors who are to carry out the training for three weeks on site in the companies. IDS is also to set up a Jamaican company which should train six Jamaicans to carry out further training and take over from the overseas personnel.

Mr. Halsall, in an interview with the *Gleaner* said that NCR Jamaica which is pioneering the User Group concept has spent some J\$250,000 in developing the concept, on feasibility studies and getting a foothold where individual Jamaican companies were coming up against less than favourable responses in the US data entry market. The User Group concept, he said is already maximising the advantages of Jamaica as a location for offshore data entry and will optimize the costs of each company, through operations of scale, allowing the group as a whole to more effectively compete for contracts in the data entry business which is a US\$30

billion industry.

Mr. Halsall said the Jamaica National Investment Promotions Ltd. (JNIP) has acted as the catalyst for the drive in this direction. By this move NCR Jamaica becomes the first of NCR operations in some 120 countries to get involved in data entry.

The main locations for the data entry industry are The Phillipines, Taiwan, South Korea, Mexico and Haiti. However, Jamaica's nearness, an "accessible and trainable workforce", and the fact that English is spoken here are among the benefits that the group has been exploiting and intends to exploit to their advantage.

Jamaica's labour costs are however at the high range of the industry but by sharing marketing, freight and telecommunication costs and improving the efficiency of workers through training and incentives the User Group intends to establish a record which should bring more business to Jamaica.

Mr. Halsall said that his concern was that the industry in Jamaica could be destroyed by companies which on their own attempt to break into the data entry market by undercutting the job price of each other, with no standard specifications with disastrous consequences for Jamaica.

NUDL has drawn up a contract which the individual members all have to agree to, setting minimum conditions for work in each shop

including: lighting, furniture for workers, rest room facilities and pay. Mr. Halsall said the idea is that the individual entities should not become "sweat shops" but become known for quality and reliability which is the only way that operations here will survive and compete with others elsewhere.

The User Group by having 400

stations (terminals) each run on three 8-hour shifts could take on major jobs and if it continues to develop to the projected 750 stations would become the biggest in the world. This would enable it to drive a harder bargain where the companies and the contract of minimum requirements were shown, Mr. Halsall said.

Circumvention of Duty

Kingston THE DAILY GLEANER in English 2 Jun 86 p 1

[Text]

International computer manufacturing companies with branches in Jamaica, and their distributors, are concerned about "bootleggers" and "grey marketeers" who are bringing in computers without paying the prescribed duties and undercutting the official companies.

The computer companies are also pressing for government to reduce the duties of over 100% on personal computers (PCs) to a level they believe is unjustified and which they say encourages private individuals to find ways to bring in the PCs thereby robbing government of the revenue and hurting the transnational computer companies.

From a canvas by the **Gleaner** of the main companies here, it was learnt that the duty put on PCs is generally over 125% when imported by the companies. However, when individuals bring in the computers in parts to be reassembled or disguised, they attract a relatively small duty in no relation to their cost.

It is estimated that there are between 2,000 and 3,000 personal computers here. Between 30% and 50% of that has come in without

attracting duty, some industry sources suggest. The Jamaica Computer Society, which is this week celebrating Computer Week is attempting to get more information about the number of PCs here as well as trying to get data on other aspects of the growing computer industry. Theme of the week is "There is a computer in your future".

Mr. Charles Bromsfield, marketing manager of IBM, said "between 25% and 33% of PCs come in through companies which are bootlegging." He said normally the duty would be somewhere between \$8,000 and \$10,000 on one PC but a company or an individual might bring in the computer in parts or declare it as a used computer and pay anything from \$500 to \$1,500 to customs.

Mr. Norman Sterling, system and technical service manager of ICL said "quite a lot" of PCs were coming in without duties being paid on them and he estimated this to be 30% to 40% of the total number coming in. A spokesman for Burroughs said, "the major manufacturers are concerned that persons have the ability to bring in diskettes, drives, printers etc" and what they were selling it for

was way below the price the manufacturers could sell for. The spokesman said the manufacturers were very concerned about these "grey marketeers", because they invested little in the country and had put nothing into the development of the computer industry here.

The computer companies and the Jamaica Computer Society are also concerned about the sprouting of assorted computer schools, purporting to offer training in the use of computers. Some of the leading companies have set up their own training programmes for clients and others are arranging programmes for the training of teachers in schools now buying computers to teach computer studies and computer literacy. Mr. Doug Halsall, managing director of NCR said much had been done to build up the industry and his company was seriously intent on giving the proper service to those who bought the machines or who were to teach people how to use them.

Training will also be in focus during the week and on Tuesday a two-day exhibition will be opened by Professor Errol Miller with exhibits by some ten (10) companies involved in computer education.

/9274

CSO: 3298/484

JAMAICA

LOCAL COMPUTER USE BECOMING MORE SOPHISTICATED

Kingston THE DAILY GLEANER in English 4 Jun 86 Computer Industry Supplement
p 23

[Article by Don McDowell, Bsc., FLMI, MJIM, MJCS, MBCS, Dip, M.S.]

[Text]

The Computer industry in Jamaica, now nearing its twenty-fifth year, can certainly be said to have matured over the years, and has to some extent, through now state-of-the-art, is only a few paces behind North America in terms of Commercial Application and Usage.

The first computer installed in Jamaica, in the early 1960s, was an IBM 1401 2nd generation computer (using transistorised circuits), for teaching and research at the U.W.I. From then on to the end of the 1970s was a period of slow and steady growth, though somewhat haphazard, the technology being in many instances ten or more years behind the developed world.

The period of the 1960s to the end of the 1970s saw the development of Computer Service Bureaus primarily providing computer services for the Sugar Industry, Government, Holding Companies with many subsidiaries, and businesses who could not afford to own a computer.

This period also saw the installation of computers in Government, with the establishment of the Central Data Processing Unit now National Computing Centre; in Banking — BNS and RBJ (now Mutual Security Bank) being among the earliest to computerise; in Insurance — a major forerunner being the British American Insurance Co.; in Public Utilities — Electricity, Water and Telephone; in Bauxite; and also in the Distribution Sector.

Computers of the 1960s-1970s were characteristically large mainframes, and mini-computers using punch

cards and paper tape for inputting data. Updating of files was typically weekly or monthly, i.e. in batches, therefore information for decision-making was never current.

A large technical staff (programmers, computer operators, key-punchers) was required, and usage of the computer centered around Payroll, and General Ledger, providing minimal information for strategic planning, policy decisions or general management.

It is estimated that at the end of the 1970s, there were less than 120 computer installations.

Since 1980, the industry has made tremendous strides, propelled by the ubiquitous micro-computer, aggressive marketing postures for the computer hardware, software, and education vendors and a new wave of high-tech entrepreneurship, particularly among the younger professional groups.

The pressures on the industrial, commercial, manufacturing, tourism, and other sectors to perform in a climate of economic stringency, and to earn vitally-needed foreign exchange have also been a major contributor. Accurate, up-to-date, and scientifically derived information is a necessary ingredient to the management and survival of these sectors.

Hence the need for Computerised systems which will provide information not only for the functional applications areas such as Payroll, but also integrated Analytical information to be used by Top and Middle Management for their strategic, tactical, planning and control activities and functions.

Jamaican Managers today are

more aware of the computer, its benefits, and hazards, and are generally attempting to tap its true potential to increase productivity and efficiency, and hopefully reduce costs.

Over the last five years, the number of computer installations has increased significantly. Hundreds of Personal Computers (PCs) have been installed in offices, in factories, and in schools.

With the obsolescences of punch-card and paper-tape technology, many computer installations have phased out their large old mainframes, for smaller state-of-the-art equipment utilising keyboards and screens (terminals connected directly to the computer (on-line)), facilitating fast entry correction, and recall of information; thus information entered can be used to update files immediately.

Advances in telecommunications and data communications technology have also had an impact on the use of computers in Jamaica, particularly in the area of networking, i.e. linking of computers to computers, or computers to remotely-placed terminals, using common communication carriers such as telephone, micro-wave, satellite and optical fibres.

Present Government activities and initiatives have also impacted significantly on the growth and development of the industry, particularly in Data Entry, with the emphasis on the computer as an aid to economic development by provision of employment for semi-skilled individuals, and the earning of foreign exchange.

The planned installation of a tele-

port in Montego Bay, with high-speed transmission of data in groups (packets), augurs well for the Data Entry Industry and general business communications, since access to vast collections of information (data banks) can be gained by both private sector and Government interests.

These are steps in the right direction, in an era of high technology and are commendable.

How are companies and institutions in Jamaica utilising the current technology?

Most banks and lending agencies such as Development Banks and Leasing Companies have computerised their operations to varying degrees. Typical banking applications include processing and updating of Savings, Current, Loans, Mortgage, and Deposit Account transactions.

These are mainly done on mainframes or mini-computers with the capacity for high volume storage, fast processing of cheques, using magnetic ink characters encoded onto the bottom of the cheques.

Some banks have installed teller terminals for updating of savings account transactions as they occur (real time). These terminals are linked from the branches via telephone lines to a central mainframe computer.

Other uses of the computer include Investment Management plus project and cash-flow evaluation for new investments by applicants seeking bank financing. These are largely done using personal computers, having specialised programs (software).

Insurance companies (Life and General) have also installed on-line systems, not only for updating of policy-holder information, but also for policy-holder service functions such as loan and premium processing at the branch office level, via remote terminals.

Building Societies are currently major users of computer network terminology, with island-wide terminal and telephone links to their central computer, providing improved services to their customers. Combinations of leased and switched circuits are used by these institutions, depending on the volume of transactions.

In the distribution sector, on-line Billings and Accounts Receivables with real-time updating of Inventory and Sales information is rapidly becoming common place.

Distribution companies now find it possible to more effectively control and monitor customer debts and collections, in addition to better inventory-planning based on information on fast- and slow-moving items thereby being able to effectively manage stock replenishment, purchasing, and cash utilisation.

Lost sales due to stock-outs can also be monitored.

An islandwide micro-wave is currently being used by one public utility company, facilitating on-line updating of customer accounts, in addition to excellent inquiry into customer accounts in cases where customers might not have copies of bills in their possession.

Personal Computers are currently revolutionising Jamaican offices particularly in Word Processing, and the use of electronic spreadsheets for budgeting, cash-flow management, as well as personnel management. These computers utilise general-purpose programmes, which can be handled by office personnel with minimum training in computers.

Local software houses are primarily concentrating on developing specialised applications, particularly in areas where programmes developed overseas are hopelessly inadequate. In fact, local software houses have already started to develop programmes for North American business, thus earning vital foreign exchange.

The future will see more sophisticated application of computers such as an integrated revenue collection system to ensure compliance by taxpayers in all areas of tax liability. Supermarkets and Retail chains will install Electronic Point-of-Sale terminals, schools will employ computer-assisted training methods to support teachers, teleconferencing facilities will be established.

The potential for computer use in this country is myriad, and one cannot even begin to assess its scope, without a crystal ball.

JAMAICA

LOCAL DATA COMMUNICATIONS SITUATION REVIEWED

Kingston THE DAILY GLEANER in English 4 Jun 86 Computer Industry Supplement
pp 7, 24

[Article by Michael Terrelonges, senior communications engineer, Alcan Jamaica Company]

[Text]

While the purpose or function of computers is to provide facilities to process or manipulate information, the function of telecommunications is to provide a facility to convey or move this information from one geographical location to another.

The phenomenal growth rate of the computer industry is only equalled and, at times surpassed by the growth of the telecommunications industry. These rapid growth rates have been fuelled by the spectacular developments in modern digital electronics, such as the micro-processor and micro-computers. The synergistic expansion of both the computer and telecommunications industries has heralded what may be referred to as the third "information revolution".

This present revolution is expected to have as fundamental an effect on the nature of civilization, as the two previous "information" or "knowledge" revolutions, these being the invention of first writing material and writing by the early Egyptians, and the invention of the printing press in the 15th Century by Gutenberg.

Data communication, another term used for computer telecommunication, is the process of converting information in diverse forms such as text, picture (graphics) or sound, into digitally-coded signals that are transmitted and subsequently regenerated into text, picture or sound at the far end.

Data communications facilities allow vast amounts of information to be moved or accessed around the world instantly, and with a guarantee that there are no errors in what is received at the other end, be it a financial transaction or a newspaper picture. In fact, data communications serves to blur the distinction between the different forms of information. Text or written matter, picture, graphics and sound all just become different forms of the same thing: Information, a precious resource.

The growth of data communications networks is rapidly changing the way society operates. Users of these systems may, from their homes or office desks, access vast repositories of information on anything from corporate or financial information (with proper authorization, of course), transportation schedules such as airline and train time-tables, news or weather reports, electronic mailing services and others.

In fact, since new services come on-line every day, it would be pointless to attempt to list them all. The ultimate aim can only be to make the sum total of all information known to Man accessible via data networks.

In Jamaica, it is difficult to estimate the number of organizations using computerized telecommunications services. The JTC provides data communication services to approximately 500 telex users, who use modern message switching services provided by the JTC. This company also provides about 200 leased ("permanent") data circuits for use by

businesses, Government and other organizations.

Recently, the JTC took over the old telegraph system, with about 200 telegraph machines in over 60 locations islandwide. There are plans to upgrade these old telegraph facilities with advanced messaging features, as well as possibly adding facsimile services at these locations.

Facsimile machines are photocopyers that can transmit their pictures over normal voice telephone lines to another machine where they are reproduced on paper.

There has been much talk in recent years by both the JTC and JAMINTEL about offering "packet-switching" services in Jamaica. Packet-switch data networks have revolutionized computer communication services in metropolitan countries by providing an international standard connection scheme.

These networks provide facilities by which data circuits may be switched between different private users in much the same way as the common voice telephone services may be switched from one user to another by dialling. The delay in offering this service appears to be aggravated by some jostling between the JTC and JAMINTEL as to whom should provide this service locally and thus reap prospectively attractive revenues.

The provision of such a network locally, inter-connected to other international packet-switching networks, would provide a boon to the users of computerized telecommunications services. Both JAMINTEL and the JTC should be trying to

solicit the assistance of other telecommunications carriers in the Caribbean to offer a regional all-Caribbean packet-switching network, (a suitable name could be CARIPAC).

The provision of such a service would provide enormous benefits to the entire region, significantly enhancing regional integration, while fostering the competitiveness of local businesses in the international arena.

The roles of the JTC and JAMINTEL are governed by both the Telecommunications and Post and Telegraph Acts; these companies operate under licence from the Ministry of Public Utilities. Under these legal enactments, the JTC is the sole public provider of local data-communication services, and JAMINTEL is the sole provider of international services, both dial-up (switched) and leased circuits.

JAMINTEL also operates state-of-the-art international "TELEX" services through their message switch.

Both the JTC and JAMINTEL are adequately equipped with fine technical staffs, and both have been making significant strides in upgrading their communications facilities islandwide. They have however

failed to respond to the growing public demand to connect a wide variety of common and inexpensive customer-supplied equipment to the public telephone system.

This situation has occurred principally because the Government/JTC/JAMINTEL have not yet formulated policies for the inter-connection of customer-supplied devices to the JTC public-telephone network.

The development of proper standards and certification of equipment for connection would remedy this situation. Jamaica should take note of the fact that in countries where the public-telephone carriers have reduced the restrictions on attachments to the public telephone system, user applications for these services grow in leaps and bounds.

Until these new inter-connection policies come about, too many users will be encouraged to "cheat", and make their own inter-connection without the knowledge of the JTC. It is not uncommon for users to apply for data connections to the JTC networks and not receive a reply for several years.

This unfortunate state of affairs contributes to the erroneous impression, on the part of some private users, that the less they have to do

with both organizations, the better! The growth of information industries in Jamaica requires close co-operation between public suppliers of telecommunications services and their customers.

It is clear that fresh re-thinking of the roles of the JTC and JAMINTEL is necessary in order for Jamaica to reap the full effects of the information revolution. The marketing efforts by both companies must be improved. In developed countries, Governments have continued to exert strong control over their basic transmission facilities, viewing them as a key national resource in achieving their national objectives.

At the same time, these Governments allow fair competition to private entities supplying value-added services, that actually provide or manipulate the information transmitted by the Government-controlled telecommunication carriers.

A national agency reflecting the concerns of both the Government and private data-communications users is essential. Such an agency would oversee the provision of basic transmission facilities, as well as monitor the customer attachment process

and ensure safeguards.

The future holds much promise for the fostering of the local information industry, and Jamaica is ripe for reaping the benefits which can accrue from these services. The direction of the developed world is clear, so this country has to either get on board or be left far behind.

Many of the problems to be solved are not technical but administrative. In fact, such situations as the recent furor over the provision of a satellite up-link facility in Montego Bay are unfortunate, and unnecessary.

While it is heartening to see Government's concern over fostering the information industry in Jamaica, to the extent of setting-up special facilities for firms heavily dependent on data communications services, one wonders whether the same service could not be provided by JTC and JAMINTEL. If this were the case, the benefits would accrue to data-entry firms, and other users, all over the island, and not just those located in Montego Bay.

The apparent attractiveness of this city to data-entry firms appears to be the very concessionary rates to be charged by the new up-link facility, as well as the still unproved impression that suppliers of the new facility will be more responsive to business needs than the JTC and JAMINTEL.

The setting of rates for communication services, however, is often an arbitrary process, as tax considerations are of primary importance. Government may well

find it prudent to allow both the JTC and JAMINTEL to offer these concessionary rates by adjusting the tariff levels.

There are potential problems in encouraging elaborate technical solutions to bureaucratic problems.

/9274

CSO: 5540/081

PERU

BRIEFS

CHANNEL 33 BEGINS OPERATIONS--Stereo Channel 33, first in Peru to operate on the UHF band, with open signal, begins official transmission on 1 July. General Manager Abraham Zavala announced that the World Goodwill Games being held in Moscow, 5-20 July, will be broadcast. Programming will be light and family oriented and will begin at 3 pm. Three-minute micro-newscasts will begin at 7 pm directed by Javier Mazza, with reporters Marina Lopez Loli and Reynaldo Aragon. [Excerpts] [Lima EL COMERCIO in Spanish 25 Jun 86 p C-4] /6662

CSO: 5500/2066

ST LUCIA

TV SYSTEM PLANS DESCRIBED BY CABLE, WIRELESS

Cable Parameters

Castries THE WEEKEND VOICE in English 10 May 86 p 1

[Excerpt] Plans by Cable and Wireless to provide St. Lucia with a cable television system, are progressing and could begin before year-end.

Cable and Wireless General Manager Ian Boatman says the company plans to offer 10 channels at the beginning with a wide variety of programmes.

Details of the proposed service can be heard tomorrow on Radio St. Lucia, in the Government Information Service programme.

Boatman said that Cable and Wireless planned to offer St. Lucians 10 channels in the first instance, a service that would cost about 50 dollars monthly.

He added: "There will be a small installation fee, and a small deposit on any extra equipment that people would have to have in their homes, such as a control unit, but these charges would be refundable."

Boatman said the company did not wish to provide a service that would be accessible to only the richest people on the island, neither did it want to provide one that was poor in technical and programming quality.

He said Cable and Wireless would have two or three satellite stations around the island, which would receive various satellites. "We would then process those, basically scrambling them, removing commercial material wherever possible and permissible, adding in call signs and so on. Then we would

stack them back up, adding in extra channels and distribute by cable."

Boatman said cables would be run into homes from nearby poles. In the home there would be a set top box with a control to facilitate channel selection.

He pointed out that the company would not be engaged in producing local programmes but could relay any programmes which local producers needed to transmit.

Of the channels that would be available, he said: "We aim to provide as much diversity as possible." The Company had in mind to provide separate channels for arts and entertainment, news, sports, financial news, children's stories, classic movies, general entertainment, music, perhaps a regional channel like Martinique or Barbados, and perhaps a Canadian channel.

But Boatman said it would all depend on the Company raising the required six million dollars to be used as capital finance.

HTS Competition

Castries THE WEEKEND VOICE in English 7 Jun 86 p 1

[Excerpts]

CABLE and Wireless has no intention of seeking a monopoly on television transmission and programming on the island and has applied to Government for a "non-exclusive licence."

The statement was made by the Company's St. Lucia General Manager, Ian Boatman, as he delivered a public lecture at the Central Library Thursday night.

But Boatman stressed that his company's application for a non-exclusive licence signified it did not want absolute control over television, and that the notion in some quarters that the power and strength of Cable and Wireless would stifle local initiative was out of the question.

One member of the audience was Director of Helen Television System (H.T.S.), Steve Anius, who extended an invitation to Boatman to tour his studio to inspect equipment and to view operations.

Anius also took the opportunity to announce that starting, sometime next month, H.T.S. would be implementing a system of five channels at a cost of \$25 per month to the viewer. He added that contrary to what some people thought, H.T.S. was paying copyright on many of its United States oriented programmes. "We are not stealing programmes," Anius emphasised.

Linking Cable and Wireless' television plans to the island's progress Boatman said: "We are hoping that all of this will lead to the development of a full television studio creating work for local journalists and technical people."

/13104

CSO: 5540/083

ST LUCIA

CABLE, WIRELESS QUESTIONED ABOUT TRANSFER OF FUNDS

Castries THE VOICE in English 14 May 86 p 1

[Text] Reports that Cable and Wireless has been moving large sums of money from the country have been confirmed by General Manager Ian Boatman, but he says there is nothing unusual in that practice, neither did it mean the Company was trimming its local operations.

Mr. Boatman confirmed reports that the company had transferred more than \$6 million from St. Lucia in recent months adding that this was "normal policy." Boatman said that during the last financial year, ending March 31, exactly \$6.1 million had been transferred from St. Lucia to other parts of the region.

He told THE VOICE: "We do transfer cash within the Caribbean. We transferred about \$1.1 million in March, then in November there was another transfer of \$1 million, and the previous September there were two amounts, one of \$2 million and one of \$1 million. So within the financial year ending March 31, 1986, there was a total of \$6.1 million in cash transfers by Cable and Wireless within the region, from St. Lucia."

Boatman explained that Cable and Wireless (W.I.) Ltd. — the regional company — transferred money wherever it was needed in the region.

He added: "Those transfers do not mean that we are diminishing operations, in fact we are increasing operations. The cash transfers are less than half the money that we have invested in St. Lucia within the last year."

"The reverse could happen, that is cash could also be transferred to St. Lucia. We choose the way that we arrange transfers. We choose to keep as much money as we can in St. Lucia and send it to others when they need it. We sort of keep the cash for the other branches of Cable and Wireless, W.I. Ltd."

Boatman said the transfers of money between branches was necessary in order to make best use of that money... "but that is Cable and Wireless W.I.'s money, it's not St. Lucia Telephones and by normal standards this \$6,100,000 is not a large sum at all. Because if we

were to pay for all the equipment that we have installed here in the last year that sum would not cover the amount."

He said the Cable and Wireless P.L.C. account, which was the main group, was published every year and they are freely available to everyone.

The Cable and Wireless W.I. Ltd. account, which is a wholly owned subsidiary, that was also published in the public domain every year and has submitted a copy to government.

The St. Lucia Telephones accounts were prepared every year and were submitted to the general public, to the Public Utilities Commission whenever an application was made for rate increases or when there were major changes in the system.

"That is what we did when we applied for a PUC tariff increase in the middle of last year and so we prepared a special set of accounts for them. They are all freely available," Boatman said.

/13104

CSO: 5540/083

ST VINCENT AND THE GRENADINES

BRIEFS

TV BOOSTER--Due to technical problems, television viewing has not yet become a reality on the Leeward side of St. Vincent. However, Hon. Herbert Young, Minister of State in the Ministry of Trade and Agriculture and Parliamentary Representative for Central Leeward has indicated that work will continue very shortly on Layou Hill in an effort to remedy the situation. SVG Television has ordered a transmitter booster to be erected on Layou Hill to improve the signal received at Belleisle and VINLEC will be dealing with the electrification at Layou during the course of this month. [Text] [Kingston NEW TIMES in English 22 May 86 p 5] /13104

CSO: 5540//084

TURKS AND CAICOS

BRIEFS

NEW RADIO STATION--A new radio station has been founded on Grand Turk. This is Pop Mitchell's radio station which goes on the air as VISP--initials standing for Pop and his two partners. Pop noted that with the assistance of satellite, his station is on 24 hours a day--and at the moment it is all music. He said they hope to put in a newscast at a later stage. Pop made the point that it was not a commercial venture and that he was "doing it for fun." He said that he had made it clear that he would not be accepting political advertisements. The radio station is located at Pop's residence. Meanwhile, the NEWS understands that no bids have so far been made for the Government radio station which is to be privatised by June according to budget allocation. [Text] [Grand Turk TURKS & CAICOS NEWS in English 8 May 86] /13104

CSO: 5540/085

INDIA

LOW POWER TRANSMITTERS PLANNED FOR REMOTE AREAS

New Delhi PATRIOT in English 19 Jun 86 p 5

[Text]

Baroda, June 18 (UNI) — To cover more parts of the country through television, the Centre will shortly begin the installation of very Low Power Transmitters (VLPTS) in various remote areas.

The VLPTS, unlike the 100 watt Low Power Transmitters (LPTS) installed in the country during the first phase of the television expansion programme, have a power output of ten watts only.

The transmitters, with a range of about 20 km, are ideal for relaying programmes to hilly areas, remote locations and isolated islands that are sparsely populated.

Doordarshan has placed orders for 40 VLPTS for the Seventh Plan period with the State-owned Gujarat Communications and Electronics Limited (GCEL) here.

Its managing director B Narasimhan told UNI that the VLPTS were an Indian improvisation of the LPTS, taking into account the various constraints faced in a large country like ours.

For instance, the VLPTS will derive power for transmission from solar panels so as to function in remote areas where there is no assured supply of electricity.

An Automatic device will switch on

the transmitter when signals are received and switch it off when the signals stop, he said.

This will enable the VLPTS to operate unattended in distant locations, Mr Narasimhan said.

Besides, the VLPTS will have two transmitters with an automatic switching panel that will switch the second one on as soon as the first developed any fault, he said.

He said the VLPTS had been fully developed and efforts were being made to integrate them with the equipment manufactured by the public sector Electronics Corporation of India Limited (ECIL).

Field trials of the VLPTS will commence in a week or two, he said.

The delivery of VLPTS to Doordarshan would commence from August instead of the original schedule of April 1987, Mr Narasimhan said.

The schedule was advanced at the instance of Prime Minister Rajiv Gandhi after his recent visit to the Lakshadweep Islands, where he saw the need and potential for such facilities, he said. Of the 17 VLPTS to be delivered in the first year, five would be set up in the Lakshadweep islands, he said. The other locations are yet to be finalised.

/13104

CSO: 5550/0143

INDIA

TOUGH CHALLENGE OF PHASED INDIGENIZATION OF ITI

Madras THE HINDU in English 5 Jun 86 p 17

[Text] FORTY months after the Union Ministry of Telecommunications approved the setting up of the digital electronic switching systems (ESS) factory at Mankapur, Gonda district, U.P., by the Indian Telephone Industries (ITI) Ltd., in November 1982, the plant, in terms of its target, has achieved a production of 28,000 lines.

That is good news and no mean achievement for the ITI considering the difficulties and attendant problems of setting up a high-tech industry in a greenfield area. Better news is that three digital exchanges, totalling 28,000 lines and earmarked for Secunderabad (10,000), Naranpura, Ahmedabad (8,000) and Malleswaram, Bangalore (10,000) have obtained quality test clearances from the Department of Telecommunications (DOT). Those familiar with the history of the ESS in India would recall the problems encountered at the first digital electronic exchange imported from the French firm CIT-Alcatel and installed at Worli, Bombay, in April 1985.

Assembly from SKD parts

The Mankapur achievements, are no doubt, laudable but are yet far removed from launching the telecom industry fully into the digital era in its own right. Mankapur's current performance is based on the assembly of components imported from the collaborating French firm Alcatel Ltd. (which was CIT-Alcatel at the time of signing of the agreement and later became Alcatel-Thomson), in SKD (semi knocked down) condition. The target set for 1986-87 is 120,000 lines (see table) and what is to be seen is the percentage of indigenisation that will be achieved and the percentage that will be at the completely knocked down (CKD)/SKD level. The ultimate question will be whether at the end of the period of the technology transfer agreement in 1990, the ITI would have generated total indigenous capability not only to reproduce the gained knowhow but to offer a take-off platform for more advanced switching technologies.

Alcatel Ltd. has virtually bulldozed its way into the Indian telecommunication industry in a big way. The Mankapur tie-up is the result of a financial protocol signed between the Government of India and the French Government on

May 28, 1982 which included a technical collaboration agreement for licence to manufacture and transfer of technology for 5,00,000 lines of local E-10B ESS of CIT-Alcatel worth 156.4 million French francs and an agreement for the supply of machinery, equipment, sub-assembly components and raw materials worth FF200.7 millions.

Alcatel's E-10B system which has made its way into 53 countries, belongs to the family of Stored Programme Control digital ESS, employing the philosophy of a common switched path, time-shared for many simultaneous conversations, leading to a great deal of saving in cost and space. Developed to meet the current needs of telephone switching, the E-10 system, through its modular decentralised architecture, can also be used in a wide range of other applications, such as Videotex, Integrated Services Digital Network (ISDN) and cellular radio-telephone network. Some of the advantages of a digital system (E-10 or any other) of this type are high traffic handling capacity, ease of fault diagnosis and maintenance, provision of special subscriber facilities, detailed call billing, increased reliability and flexibility, adaptability to services integration, reduced wear and tear, lower installation and commissioning effort and lower building space requirements.

The expenditure incurred on the Mankapur project up to March 1986 is Rs. 91.89 crores of which Rs. 40.55 crores is from the Sixth Plan period. The budgeted figure for 1986-87 is Rs. 24.65 crores from a total Plan outlay of Rs. 137 crores.

Cost per line

According to Mr. K. P. P. Nambiar, Chairman and Managing Director of ITI, the present cost for a line is about Rs. 8,000, which, as per DOT/DOE regulations, is less than 1.25 times the landed cost of imported E-10B equipment which is Rs. 7,040 (approximately). However, the original estimate of locally manufactured E-10B line was about Rs. 6,600.

As for the ITI's own growth towards large-scale digitisation and technology upgradation based on indigenous effort, Mr. Nambiar sounds extremely confident. "We are committed to indigenous technology and in the Alcatel tie-up, we are aiming at indigenising over 4,000

components," he says. "We will be closely associated with the Telecommunication Research Centre (TRC) and the Centre for the Development of Telematics (C-DOT). Henceforth, installing and commissioning of exchanges will be done by the ITI as turnkey jobs," he says confidently.

Locating a high-tech industry in a greenfield area may be a politically salable idea (development of backward areas and generation of employment) but the experience of Mankapur has not borne this out. Apart from the initial upward revision of cost of the plant from Rs. 149.19 crores to Rs. 177.02 crores (of which the foreign exchange component is Rs. 67.11 crores at 1983 rates), caused by shifting the site from Bangalore, the ITI faces non-availability of the right people locally, according to Mr. S. K. Khanna, Executive Director of the Mankapur unit. (Only recently a post-diploma course in electronics has been introduced in the Gonda polytechnic which may produce suitable technicians for the ITI).

Lack of skilled people is further compounded by the fact that the turnover rate is as high as five to six persons a month (from a total of over 1,000 employees). "Quite frequently the effort and time of about a year spent in recruiting a person prove to be a waste," Mr. Khanna says. Its estimated employment potential is 3,500 a large percentage of which is expected to be from outside the region, at least initially.

Production at the ESS factory had been scheduled to begin in November 1984. But problems like non-availability of cement, shortage of labour, poor and badly damaged approach roads preventing easy movement of machinery and materials to the project site caused a delay of about four months.

Fortuitous incidents were there as well, like unprecedented floods, accidents and fire which enabled the plant designers to make contingencies for such eventualities. Parts of the site had to be earth filled for as much as 2.5 metres and flooring of the factory units was raised to prevent flooding in future.

Dust-free atmosphere is crucial for any microelectronic-based industry but the environment around Mankapur, characteristic of many regions in U.P., is heavily dust-laden which calls for powerful air handling units and anti-pollution measures. As of now only one such unit has been installed.

Manufacturing units in remote areas naturally face erratic power supply and this is one of the major handicaps of the Mankapur unit. Only now Rs. 2.5 crores has been allocated to the U.P. State Electricity Board for installing an independent grid circuit to meet the ITI's power requirements. A captive power generator has also just been installed.

However strange and ironical it may sound, it is a fact that the telecom switching factory had

/13104

CSO: 5550/0139

INDIA

PRODUCTION OF SWITCHING EQUIPMENT EXAMINED

Madras THE HINDU in English 10-11 Jun 86

[10 Jun 86 p 8]

[Text] *There are no two opinions about the desirability of going over to digital telecommunications systems, as the first part of the article, published yesterday, pointed out. The issue, how best the transition can be effected, is dealt with in this concluding part.*

THE Indian Telephone Industries has a technical tie-up with BTM, Belgium, worth 800 million Belgian Francs, (about Rs. 22.15 crores) for a period of seven years, till 1988-89, when the Rae Bareilly plant is expected to achieve full capacity of 0.2 million lines. According to Mr. M. Bostoen, the resident-manager of BTM at Rae Bareilly, technical assistance is being provided in three phases: equipped frames were provided in the first, the second involved subassemblies and the third supply of only certain parts. The collaboration has entered its third phase with the inhouse piece part manufacture having started. "Since we could always fall back on the Bangalore R and D unit, technical assistance from the Belgians was always kept low, restricted to equipment only", says Mr. D. V. Gupta, the new Executive Director of the Rae Bareilly ITI factory.

The problem issues related to payment towards escalation, claims for liquidated damages, etc. which had been long outstanding because of which the ITI's payment of knowhow fee and royalty was held up. "From July '85 BTM has begun to charge heavily on spares", said Mr. Gupta. In addition apparently the BTM had not made delivery of balanced components worth Rs. 1.5 crores ordered in 1984 which resulted in delay in commissioning of indigenous ICP (Indian Crossbar Project) manufacture. There were also delays in receiving replacement supplies against imported components and critical machines damaged in transit. The problem apparently had arisen from the phasing out of these systems in Belgium and consequent suspension of their manufacture.

"Handling of such fragile and sensitive equipment at Indian ports is appalling—they don't even respect 'this side up' signs", says Mr. Bostoen. "And this is compounded by the poor roads and inappropriate transporting facilities to such non-industrialised areas like Rae Bareilly". According to one ITI source, because of insufficient capabilities of cranes, etc., at the ports, BTM ships one unit of X-bar exchange in a crate which, in Belgium, is meant to hold six. Crates with four were tried but even this could not be managed, the sources said.

But since September 1985, BTM technicians, who were detailed to work at Rae Bareilly as per the agreement, came and assisted the ITI technicians to commission the damaged machinery. Several sophisticated machinery, supplied by the BTM, like the numerically controlled punch press, high precision tool shops, jig press, milling and boring machines, computer controlled brass wire shape cutter and gold plating unit, have now been installed and made operational. The components for this year's production of 30,000 lines (against an original target of 60,000 and revised target of 27,000) have apparently all been produced inhouse at Rae Bareilly and the BTM team has already gone back.

Metal requirements of nickel, soft magnetic iron, silver special non-distortion steel, plastic moulds for relay coils are still being met through imports. It appears that the metal content would be hard to replace as the quality of indigenous metals does not meet the requirements. The moulds, however, will be ITI's own in about six months' time.

The long drawn problems having now been sorted out, the X-bar unit managed to deliver to the DOT, 10 ICP exchanges of which two have already been commissioned—one at Sankarapuram (4,000 lines) in

the 1000A Pentaconta design. Several, as many as 16, improvements have been incorporated in the ICP. Most important among these include separate dial tone and line markers, modified transmission bridges, dome shaped contacts instead of point contacts, provision for unlimited number of registers, incorporating spark quenchers to suppress the surge voltage which can cause component failures. Based on these indigenous inputs, the first experimental ICP April 1985 and the other at Kumbakonam (2,500 lines) in November 1985. In fact STD facilities to Kumbakonam became possible only after the commissioning of the ICP exchange. The two exchanges are now reported to be loading beyond 95 per cent with a failure rate of less than two per cent.

The ICP is essentially a modification of

exchange was put up in Janpath, New Delhi, which is still performing satisfactorily.

The Rae Bareilly factory expects to double its ICP production in 1986-87, that is to produce exchange capacity for 60,000 lines so that, doubling every following year, the 0.2 million capacity would be reached by 1988-89. With the ICP production now looking up, the ITI has sought a revision of the project cost. The initial capital cost for capacity manufacture was Rs. 70.71 crores, of which Rs. 64.50 crores had been the Government approved expenditure. The revision has become necessary as a result of the increased expenditure of Rs. 10.07 crores against the budget estimate of Rs. 4 crores. The budget estimate for 1986-87 is Rs. 3 crores which itself will take the total cost beyond the initial estimates.

[11 Jun 86 p 8]

[Text] **T**HE concept of automatic telephone exchange had its origin almost a century ago in 1889, when Almon B. Strowger, an American, invented one which switched connections between circuits using electro-mechanical devices made up of rotary switches called selectors. Although there have been advances in the technique, the basic principles have remained in use until the present day and the name Strowger is still used to describe such systems.

With the Strowger equipment, it takes a few seconds to make an automatic connection but with the increase in the number of telephones, growing traffic density and the spread of trunk dialling with long numbers, this system appears to be slow and inefficient. However, it is rugged and the simplicity of the selector devices makes the Strowger mechanism reliable. Environmental conditions like heat and dust, pose no severe problems and the skill required for repairs and maintenance is minimal, though location of faults could be a tedious and tricky job.

Crossbar exchange

The crossbar (X-bar) exchange, which made its appearance in the late 1920s, is an improved electro-mechanical system. In simple terms, the X-bar system makes use of a complete matrix of wires to form a connection. The vertical wires from an incoming call are linked to the horizontal wires of the outgoing called circuit at the point—known as a cross point—where the wires cross. X-bar encompasses the basic feature of the development of a common control (CC) which recognises and makes connections. The X-bar exchange principle provided the basis for the early electronic switching systems (ESS), which in turn have given way to the digital ESS.

The Indian Telephone Industries (ITI) Ltd., which is the only manufacturer of switching equipment in the country, has had technological inputs and collaboration for the manufacture of all these kinds of switching systems. The ITI began with a collaboration with the ATE of England in 1948 for the Strowger type exchanges. Crossbar came in 1964 out of a collaboration with Bell Telephone Manufacturing (BTM) Co., and, in 1982, a French collaboration with Alcatel Ltd., for the digital ESS equipment manufacture.

Improved versions

The ITI has been able to absorb the first two technologies reasonably well and systems based on locally updated and improved designs/circuitry have been produced which continued to be widely installed in various parts of the country even today. Notable among these improved versions is the Indian Crossbar Project (ICP) design, a result of the joint R & D efforts of the Telecommunications Research Centre (TRC) and the ITI carried out between 1974 and 1978. Its superior performance in comparison with the original based on the Pentaconta-1000A design of the ITT, the U.S. parent corporation of BTM, has enabled phasing out of the latter.

Both the Strowger and the X-bar systems are being manufactured in the Bangalore and the Rae Bareilly factories of the ITI. The Rae Bareilly factory was established in 1980 to supplement Bangalore's Strowger production and take up manufacture of the ICP systems as well. For the latter, a technical collaboration agreement was signed in 1981 with the Belgian subsidiary unit of BTM for 0.2 million lines. The digital ESS are being made under an ongoing technology transfer agreement with Alcatel Ltd. for 0.5 million lines of local exchanges in Mankapur and

0.15 million lines of digital automatic trunk exchanges in Palghat based on Alcatel's E-10B system design.

Digital exchanges have several advantages over the old technologies, including the ICP variety of X-bar. Digital ESS have computers controlling them, the controls being executed through what is known as Stored Programme Control (SPC) which is the digital-electronic equivalent of the CC features of the X-bar. SPC exchanges are very flexible. For example, simple instructions to the computer programme can be used to make changes which previously had to be made as physical connections by an engineer. This enables easy fault error locations and corrections. Moreover the ESS occupy much less space. Due to non-existence of electromagnetic losses these have a low switching error rate, can handle large volume of traffic, provide increased efficiency of line utilisation, and, most important, they switch almost instantaneously.

The modular design and architecture of the ESS facilitate extensions and linkages to international and general telecommunication networks. However, to operate and run an ESS, stringent conditions of dust-free, humidity-free and cool environment have to be maintained and people trained in electronics and computer programming techniques would become essential.

Given these qualities of the ESS, there can be no two opinions about the desirability of going over to digital systems. The issue is how best can the transition be effected and in what period of time should the phasing out take place?

The advantages of going digital would be gained in full if there are parallel efforts to the same extent in digitisation of other aspects of telecommunication as in switching equipment. This is not, however, very evident at present. There does not seem to be very active R and D efforts to digitise the transmission equipment, the cables or terminals (telephones, VDUs, facsimile, etc.), nor is there any transfer of technology from abroad taking place in these fronts.

Digital transmission

The major disadvantages of analog signal transmission—transmission losses, noise, electromagnetic interference, echoes, and cross-talk—will persist if the transmission equipment also do not become digital. Though the switching systems themselves may be on the way to becoming digital, the pulse code modulated (PCM) signals, both leaving and arriving at exchanges, are analog—the conversion being done by proper D/A and A/D interfaces.

Frequency division multiplexing (FDM) is yet to give way to time division multiplexing (TDM) necessary for digital transmission. For digital transmission, apart from the transmission equipment, the cables too should be able to carry larger bit rates. Existing mic-

rowave cables would need to be replaced by digital coaxial or optical fibre cables. There are some ongoing R and D projects in these areas but not enough to provide immediate support to digital transmission.

"Above all, what is most needed is the electronic culture which is just not there", said one TRC official. "If a faulty Strowger switch was not attended to, it was okay because only one circuit is lost; in X-bar the problem was somewhat more severe and in the ESS it could be catastrophic".

Maintenance of the ESS may pose serious problems", says Mr. D. V. Gupta, the new Executive Director, of the Rae Bareilly ITI factory. "Maintenance operations may be simple, but they cannot be ignored. The precision needed is high and therefore dust, humidity and temperature have to be in control through proper air conditioning. Knowing how the maintenance has been in the older exchanges, we have to wait and see how the ESS fare in the long run", Mr. Gupta says.

On the future of Strowger and X-bar systems, Mr. Gupta says "I am open and alive to this question but I am certain that ICP will go on for seven or eight years more. Strowger, however, will be phased out shortly by 1990 or so".

Low telephone density

India's present telephone density is only about 0.4 per cent compared to the world average of 19.9 per cent. According to the ITI estimates, infructuous telephone network, created by very low telephone density and consequent congestion can be brought within manageable limits if the density goes up to 12 per cent in urban areas and two per cent in rural areas. An estimate of telephones needed, based on this, assuming 80 per cent rural population, works out to 28 millions and, assuming 90 per cent utilisation of exchange capacity and 1.3 subscribers or telephones per exchange line. This, in turn, implies a total exchange capacity of 24 millions.

ITI has projected that if this capacity is to be attained by the turn of the century, six more ESS factories (apart from the ESS (I) at Mankapur), with a 0.5 million line capacity each, need to be set up, to go into full production every two years after 1990. This means that the setting up of these units should begin now. But the Seventh Plan figures for the ITI hardly reflect this. As is already well known, the proposed setting up of the ESS (II) factory at Bangalore (so that the factory space of the phased out Pentaconta and Strowger is made use of), itself has been deferred, according to the Minister of Telecommunications, because of lack of funds (It is, however, learnt from a source that an additional sum of Rs. 100 crores has been recently sanctioned by the Planning Commission for the ESS (II)).

Though the ITI's own budget proposal for the Seventh Plan is Rs. 610.72 crores, which includes Rs. 294.10 crores for new schemes, the Government allocation is only Rs. 335 crores, with Rs. 18.38 crores for new schemes. The expenditure is proposed to be met from issue of bonds and internal resources. Therefore, with no firm commitment from the Government for new ESS proposals, the largescale entry of indigenously manufactured ESS seems uncertain.

With the phasing out of Pentaconta and the imminent phasing out of Strowger, it looks so as though the ICP is here to stay. And the revamping and revitalisation of the Rae Bareilly factory—after last year's worker's problems, production shortfalls, problems with the foreign collaborator and the Department of Telecommunications' rejection of products due to poor quality—has come about at an appropriate time and, therefore, it seems that the production of ICP X-bar systems will continue at least till the turn of the century instead of the projected phase out by 1995.

The credit for bringing the Rae Bareilly unit of the Indian Telephone Industries out of the woods and back on rails clearly goes to Mr. Gupta who has transplanted some of the elements of the Japanese production management methods which he must have picked up during his previous stint at Maruti Udyog Ltd. The work culture has changed a lot for the better, shop floor efficiency has shot up (controlled by giving incentives), the factory is very clean and sans graffiti and there is now a sense of quality control among the workers. (About 101 quality circles have been formed by workers of different sections of the factory).

In 1984-85, the Rae Bareilly complex suffered a setback in production of both Strowger and ICP equipment, for several reasons including workers' agitation for a 20 per cent ex-gratia payment. The total value of production in 1984-85 was Rs. 37.38 crores against Rs. 38.11 crores in 1983-84. During that year, the Strowger Division recorded a fall in respect of all three products—racks, selector and relay sets. This was reported to be due to 20 per cent rejects of Strowger equipment by the P&T Department in '83-84, arising out of quality problems in regard to magnetic coils and cast iron spools, which resulted in the need to rework these in '84-85 causing production bottlenecks. The problem had also been apparently aggravated by shortage of critical items, both indigenous and imported.

The Strowger switching equipment has a sanctioned capital cost of Rs. 17.57 crores

for achieving a 0.1 million line annual capacity, but by March '85 as much as Rs. 17.42 crores had been spent with the unit producing only about less than half the target capacity. In view of the various problems faced in reaching the capacity, a committee was set up to assess the reasons for the same. It recommended an additional funding of Rs. 1.27 crores, including an amount of Rs. 0.84 crores for renovation of the plant—the electroplating unit in particular—and for continuing schemes related to the Strowger project.

In suggesting a course of action for the Strowger unit, the committee, taking account of the reduced demand for the Strowger equipment, has recommended that the capacity of the unit be foreclosed at 50,000 lines itself. For the year the assessed capacity was 55,000 against which the factory produced equipment equivalent to 51,500 lines.

Phasing out process

It must, however, be pointed out here that the earlier production targets for 1985-86 were higher than the revised figures—the difference is particularly noticeable for the number of relay sets which had been affected by non-supply by external agencies—and the revision had become necessary in view of the reworking that had to be done and other related problems. The budget estimate for 1986-87 for the Strowger unit is only Rs. 20 lakhs giving an indication of the phasing out process. The ITI, however, intends to supplement this by about Rs. 1.2 crores through its corporate funding.

The ICP X-bar unit, on the other hand, had to face different kinds of problems. In 1984-85, the number of lines produced were 25,392 against 30,687 in the previous year. The problems were related mainly to the foreign collaborators, BTM, Antwerp, Belgium, and these existed till September '85 when the issues were resolved after the Chairman of the ITI, Mr. K. P. P. Namblar met the President of the ITT in New York and an agreement was signed with the BTM team.

There was also a setback in the manufacture of meter frames due to short supply of meters from indigenous sources. (It is interesting to note here that despite shortfalls in 1983-84, production of both Strowger and X-bars systems compared to 1983-84, the sales turnover has shot up from Rs. 29.40 crores to Rs. 46.41 crores. Of this Rs. 24.98 crores is from Strowger which includes only Rs. 3 crores from carried over sales of re-worked equipment).

/13104

CSO: 5550/0142

INDIA

CONCERN OVER IMPORT OF TELECOM EQUIPMENT NOTED

Bombay THE TIMES OF INDIA in English 9 Jun 86 p 8

[Editorial]

The Prime Minister, Mr. Rajiv Gandhi, has set the target of attaining self-sufficiency in telecommunications equipment by 1990. But this does not mean that the Union government should, in the meanwhile, throw prudence to the winds and open the floodgates for imports. Grave concern over the excessive imports of telecommunications equipment and know-how was voiced the other day by Mr. K.P.P. Nambiar, chairman and managing director of the state-owned Indian Telephone Industries, India's largest enterprise in the field. Many private entrepreneurs and trade union leaders have been expressing similar misgivings since April when it became known that the department of telecommunications (DOT) was planning to purchase overseas thousands of exchange lines, several fibre optic cable systems, a whole range of transmission equipment and about 200,000 telephone instruments at a cost of nearly Rs. 700 crores in foreign exchange. In fact, for many items, the DOT has already floated global tenders. Its main justification for doing so is that such imports are cheaper and can be financed by World Bank loans or suppliers' credits. But this will hit the domestic industry hard. What is more, it will smother indigenous research and development in several areas of strategic importance. Some 9000 employees of ITI in Bangalore face the prospect of retrenchment in the next two or three years as the production of strowger and crossbar equipment, being produced there at present, will be phased out. These jobs can be saved if the government were to permit the company to establish a second factory for the manufacture of electronic switching systems. The Centre for Development of Telematics has already tested the requisite technology and a production facility for 500,000 lines based on it would cost only Rs. 30 crores compared with the sum of Rs. 180 crores that will have to be spent if the proposed deal were signed instead with Alcatel of France.

The stakes are heavy and every effort must be made to ensure that Indian capabilities so painstakingly created over the years are not stifled by avoidable imports. The seventh Plan target for modernising and expanding the

telecommunications network is relatively modest, mainly due to the resources crunch. It is proposed to set up an additional switching capacity for about 1.2 million lines. As things are, ITI factory in Manakpur, Gonda district, alone will be producing electronic switching equipment for nearly 500,000 lines a year and six other units will be turning out another 50,000 rural exchange lines by 1990. Similarly, as many as 27 firms have been licensed to manufacture telephone instruments. Indeed, in most areas, the DOT's policies should be geared to guard against the danger of over-production, not shortfalls.

/13104

CSO: 5550/0141

INDIA

BOMBAY, DUBAY REVIEW TELEPHONE CABLE LINK SYSTEM

New Delhi PATRIOT in English 13 Jun 86 p 5

[Text]

The prestigious Bombay-Dubai submarine telephonic cable link system project was reviewed in the Capital on Thursday when visiting United Arab Emirates Telecommunications Minister Mohammed Saeed al Mulla met Minister of State for Communications Ram Niwas Mirdha.

The two countries have already finalised a memorandum of understanding on the construction, operation and maintenance of the submarine telephone cable system.

India's share in the cost of the system, expected to be commissioned by the end of the decade, is estimated at Rs 49.31 crore, including foreign exchange component of Rs 46.83 crore. The country will bear an additional expenditure of Rs 12.74 crore for the Bombay-Madras dedicated microwave link system. Of this amount, Rs 5.38 crore will be in foreign exchange.

A Swedish firm which was awarded consultancy contract for the entire project has submitted three reports relating to the cable route, based on desk studies, terminal station arrangements and draft tender documents. The letters of invitation to tenderers were issued in October last year.

A trans-India Bombay-Madras microwave link exclusively for international traffic is being planned between the new cable system and the International Overseas Communications Centre at Madras.

A high-level delegation accompanying the UAE Minister and an Indian official's team led by Telecommunications Department Secretary DKS Angal participated in the talks.

/13104
CSO: 5550/0144

INDIA

PACKET-SWITCHED EXPERIMENTAL DATA NETWORK LAUNCHED

Bombay THE TIMES OF INDIA in English 13 Jun 86 p 5

[Text]

A DATA network providing for, among other things, electronic mail box was launched on an experimental basis here today.

A message sent across the network can be retrieved by the addressee at his convenience. Privacy will be ensured as the message would come only after a code check.

At a special function, the minister for communications, Mr. Ram Niwas Mirdha, formally commissioned the first packet-switched experimental data network. The versatile network has a range of capabilities, including transmission of videotex, facsimile and other telematic services.

He praised the Telecom Research Centre engineers and other officials concerned and stated that attention needed to be paid to marketing.

PRODUCTION LAG

Mr. Mirdha explained to the audience of engineers, scientists and others that the country lagged in production technology and this would have to be overcome to limit imports.

The Telecom Research Centre has set up the experimental network with the help of TCIL covering New Delhi, Bombay and Madras cities. Using indigenously available computer (IDB S-3250) to work as exchanges at these three locations.

The department of telecommunications expects to commission a larger eight-node public packet-switched data network covering major cities of the country in the course of the next two years.

Trials are also being conducted on an experimental circuit-switched data network at 300 BPS with a limited number of subscribers between Delhi and Bombay. This network is formed from existing electronic telex exchanges at these two places.

The department is at an advanced stage of trials for the introduction of 'teletex' (a sort of fast and error less telex) and "videotex" services. Facsimile services are already operational. Key to the growth of all of the telematic services is a public packet-switched data network.

Packet-switching is a state of the art technique for public data networks. It enables data communications on a real-time basis. In the initial trial stages, services will be offered to a limited number of subscribers in Delhi, Bombay and Madras on a free-of-charge basis which would enable the department of telecommunications to collect valuable data on the type, pattern and volume of traffic and also to enable the subscribers to assess the services and suggest improvement and changes for greater utility. The entire data communication software of this service has been developed by TCIL.

This includes switching software, packet assembler and disassembler (PAD) software, electronic mail-box software, network management centre software, which includes network configuration and control; network status monitoring, statistical and accounting data collection; accounting and traffic analysis; and telex interference.

/13104

CSO: 5550/0145

INDIA

MINISTER OPENS SEMINAR ON COMMUNICATIONS PLANS

Bombay THE TIMES OF INDIA in English 7 Jun 86 p 9

[Text] **T**HE Union communications minister, Mr. Ram Niwas Mirdha, today berated the private sector for being critical of the telecommunication department without making the slightest of contribution to improving the systems.

While constantly accusing the department for the shortcomings of communication facilities and its pathetic functioning, the private sector never bothered to come forward with a relevant research and development scheme, Mr. Mirdha pointed out. He was inaugurating a seminar on India's communication plans for the 21st century, under the auspices of the National Organisation of Professional Executives.

The private sector should realise the tremendous constraints under which the department functioned and make suitable suggestions. The schemes for modernisation of communication system with multinationals and non-resident investment remained merely on paper.

However, Mr. Mirdha assured the private sector that his department be fully co-operative and there would be no impediments to the private sector projects in modernising the telecommunication systems. The government's confidence in the private sector had already been shown by giving letters of intent for manufacturing telephone instruments and PABX to the private sector.

EXCLUSIVE EXPERTISE

Despite the constraints, the telecommunication department made significant innovations in the last two decades and today, the department alone in the country had the expertise in this technology, Mr. Mirdha said.

Mr. Mirdha envisaged the need for a nationwide basic telephone service,

data communication between various centres, telemetry and remote monitoring using slow scan television systems, TV and voice radio transmission on a much larger scale, and the need for video text and telex services for individuals and institutions in the 21st century.

Mr. D. K. Sangal, secretary to the department of telecommunications, in his key-note address, called for the involvement of the nation as a whole in determining the role of telecommunication as the people expected more and better service while the meagre allocation of resources threatened even the existing grade of service.

At the end of March 1986, there were about 31.66 lakh main telephone connections and the waiting list was nearly ten lakhs. At the beginning of the 21st century the demand may lie between 205 to 300 lakh telephones. About 600,000 public call offices would be reasonably required in cities and towns and in rural areas, at least 150,000 PCOs should be set up to make the phone available within two or three km from a village, Mr. Sangal said.

Though telegram service has been closed down in the UK and the message was conveyed over telephone in the USA, in India, even in the 21st century some sort of message service system would be required.

WEST'S IRRELEVANCE

The cost per line for the conventional telephone systems with STD facility in 1970-80 was studied in the case of 18 countries.

In the USA, at least Rs. 60,000 was spent for every line and in some other countries, it was about Rs. 36,000 and such an investment was required for providing quality and reliable service. In India, on the other hand, investment per line was only Rs. 15,000 and unless

this was increased to Rs. 25,000 or Rs. 30,000, good, reliable, data handling capability cannot be achieved in the telephone system, according to Mr. Sangal.

It implied that for having 20 million telephone lines in 2000 AD, an investment of Rs. 60,000 crores would be needed. If telecommunication should play its role, a minimum of Rs. 6,000 crores would be needed during the seventh plan, Rs. 15,000 crores in the eighth plan and Rs. 35,000 crores in the ninth plan. Mr. Sangal was confident that nearly 50 per cent of the required resources could be generated internally and the rest should come as some sort of seed money.

Dr. S. Ramani, director of the National Centre for Software Technology, pointed out the dangers in imitating the designs of other nations and said that satellite communication, fibre op-

tics, phone in cars and the like were not all equally relevant to us. Communications planning should aim at serving large numbers of people at reasonable costs. Essential uses such as inter-office communication should be differentiated from lower priority areas such as residential phones, Dr. Ramani felt.

INVESTMENT

Telephony should not be treated as the dominant means of communication though it was the biggest source of revenue. The best returns for communication investments were in data communications and electronic mail systems, Dr. Ramani said. Special importance should be given to roof-top satellite terminals, which would cost no more than a lift and the value added must be increased in communications equipment, he added.

Earlier, Mr. P. S. Chohan, president of NOPEX, welcomed the delegates.

/13104

CSO: 5550/0140

ISRAEL

OFFICIALS FEAR TV COMMERCIALS WILL SUPERSEDE PRESS

Tel Aviv MA'ARIV in Hebrew 4 May 86 p 2

[Article by Gaby Qessler: "A Second Commercial Channel Will Significantly Hurt the Press"]

[Text] The establishment of a second television channel which would include commercial advertising would constitute a serious blow to the press. Some of the newspapers would not be able to survive the anticipated losses from TV commercials. So says Moshe Zenber in an opinion presented to the prime minister and the minister of communications at their request.

Zenber clearly states that commercial advertising on television would bring about a loss of at least \$10 million.

"This will represent a very serious blow to the profits of the press. I do not believe that the newspapers, given their current financial situation, will be able to withstand such losses or deal with the consequences for their economic future and their role in a democratic government."

Zenber, however, does not advise preventing the establishment of a second channel on television, but rather coming up with a fair compensation for the newspapers from the income of the second channel.

According to Zenber, the establishment of a second channel answers an existing need in the public and among the advertisers. At present, in the absence of a legal commercial station, there is a lot of advertising on the existing channel and illegal use of cable television.

Zenber thinks that the system of compensation proposed for the newspapers within the legal framework of the ministry of communications is inappropriate. According to this proposal, the press as a whole would receive \$1 million a year for compensation. Zenber says that "this sum bears no relation to the actual damages incurred."

He proposes, therefore, that the compensation offered to the newspapers be in the form of royalties based on a specific percentage of profits from advertisements on the new channel.

The amount of royalties and their division among the newspapers will be determined by the appropriate ministers with the approval of the Knesset. Compensation will be paid over a period of 12 years with the option of extending the agreement to the extent necessary.

Minister of Communications Amnon Rubinstein notified Moshe Zenber in a letter that he accepts his suggestions and gives up his basic proposal to give favored status to the newspapers among the advertisers on the second channel and, instead, to provide direct compensation.

Minister Rubinstein expressed satisfaction at Zenber's suggestion not to delay the operation of the second channel and the cable television programming and expressed the hope that the necessary legislation would be completed quickly.

9348/12899
CSO: 5500/4505

PAKISTAN

BRIEFS

AGREEMENT SIGNED WITH USSR--Pakistan and the Soviet Union signed an agreement in Islamabad today to execute a program of cooperation and exchange in the field of television and radio broadcasting. The agreement was signed by the federal information secretary on behalf of Pakistan and by the Soviet ambassador to Pakistan on behalf of the Soviet Union. [Text] [Karachi Domestic Service in Urdu 1500 GMT 8 Jul 86] /8309

CSO: 5500/4738

SAUDI ARABIA

MINISTER ON TELECOMMUNICATIONS PROGRESS

London AL-SHARQ AL-AWSAT in Arabic 13 Apr 86 p 8

[Interview with Dr 'Alawi Darwish Kayyal, minister of post, telephone and telegraph, Riyadh; date not specified]

[Text] Talking about communications in Saudi Arabia is exciting because the figures that were achieved in record time can be considered a dream, because what was in fact accomplished is something that established important services for the kingdom's citizens and its foreign residents. Thus it has become possible for everyone in this large country (2.25 million km²) to enjoy telephone, telegraph and telex services at the highest standard available in the world, in addition to good television and radio transmissions.

If there is anything new to be added to the diverse subject of communications in the kingdom, it came up in this meeting with the minister of post, telephone and telegraph, Dr 'Alawi Darwish Kayyal, who brought up a number of important points with respect to the growing cooperation among the states of the Cooperation Council in the area of communications, coordination of radio and television transmissions, and placing the expertise available in the Council states at the disposal of any state that requests it.

He stated that income to the state treasury which the ministry had obtained from telephone and other services was more than 4 billion riyals. He said that in spite of the good services, telephone rates and fees for installing services are considered to be low compared to other countries in the world. Herein follows the interview:

[Question] What is the extent of coordination between the kingdom and the Gulf states with respect to wired and wireless means of communication?

[Answer] There are networks in various forms existing between us and the states of the Cooperation Council, whether microwave, axial cables, or satellites in addition to the Arab satellite that the Gulf states and Arab states share. The Ministry of Telegraph and Telephone provides all wired and wireless services--television, radio, telex or telephone--but the artistic aspects of television and radio programs are the domain of the Ministry of Information.

Regarding what concerns our ministry, all systems are as ready as can be, and are state of the art technology. They are at the disposal of the Ministry of Information to use for transmissions, because even what concerns coordination and special agreements on television and radio transmission is done through the Ministry of Information alone. Our role is simply to provide the means for transmission, so that good, clear transmissions are guaranteed which are not subject to interference, interruptions, or other things.

[Question] What about coordination in telephone communications between the Cooperation Council states?

[Answer] Coordination is proceeding well. I have met with my colleagues, the ministers of the Gulf Cooperation Council states three times, and during the last meeting a number of decisions were made, including coordination in setting up systems for sharing the expertise existing in every state, and setting up equipment specifications so that there would be no duplication, and so that a state would not import equipment which differed from that of another state with the subsequent failure of these systems and equipment to link with one another, and so we would not be forced to install systems which would like the incompatible ones thus incurring further costs. On another subject, there was an agreement on the size of tariffs, and another on the propagation and distribution of frequencies by Cooperation Council states so that there would be no interference between one state and another.

Benefit of Arabsat to the Arab Citizen

[Question] What are the benefits of the Arab satellite, Arabsat, to the Arab citizen?

[Answer] The Arab citizen is not aware of a difference brought about by the satellite because most Arab states had been in communication with one another and with the outside world. But now the Arab states (10 states) which have ground receiving stations can now carry out all communications or most of them through Arabsat, and it is hoped that there will be 22 Arab states with ground stations and not just 10 states.

Every state should have a backup in case there is any failure in the satellite because communications could be cut between us and some of those 10 states.

We in the kingdom, thank God, have backups for several means of communication between us and the Arab states and between us and the countries of the world.

Getting back to the question, because the citizen has become used to communication whether through Arabsat, the INTELESAT organization or the INMARSAT organization, most of the time he is not aware of the difference, even though there has been difference and we have started to communicate with the Arab states which have the capability of establishing stations by way of the Arabsat, and they are Arab states, instead of what it was in the past when the money used to go to other organizations.

Four Billion Riyals Went Into the State Treasury

[Question] May we know the incomes of the ministry's departments (telephone, telex, telegraph and mail) during the past year?

[Answer] During the past year the ministry's income was more than 4 billion riyals which went into the state treasury. This is doubtless large income for the state, though that is not so obvious when we compare it to the kingdom's oil revenues. This income is growing at a rate of 6-7 percent, although this rate is not at the level at which it was in past years, when it averaged between 30 and 40 percent.

[Question] What about telephone rates compared to international rates?

[Answer] I believe that telephone rates here are low and much less compared to the international rates. It also became clear during our discussion on standardizing tariffs in the Gulf Cooperation Council that our tariffs were much lower than those of some of the Council states, and they were also less than those of some Arab states such as Jordan and Egypt. For example, when we make a call within the Riyadh area or between cities in the al-Qasim region and the Eastern Province, you will see that a minute does not cost more than a single qirsh, and doubtless that does not occur in any other state in the world. And if we also made a comparison with other countries we would see that our monthly service fees are not more than 12 riyals per month, and that is very low, and I can say that our tariffs are balanced.

[Question] What about the difference in rates for calls between Saudi Arabia and other states (foreign calls)?

[Answer] Doubtless there are big differences because there is reciprocity and we do not consider distances. For example, to America it is 9 riyals whereas to Britain it is 14 riyals, because at the end of the year accounts are settled between us and those states. If we took distance as the standard we would find ourselves losing in that case, therefore you see that we do business on the basis of bilateral agreements with other states.

[Question] Are there plans to have discount rates for local and international calls at specific times such as weekends, official holidays and after business hours?

[Answer] No doubt this will happen in this day and age, and in fact we have begun that with our brothers in the Cooperation Council, though some citizens have not benefitted from that. However, during operations to measure the activity between us and the Cooperation Council states we noticed an increase in the volume of calls at night when tariffs were lowered. We are now in the process of applying the system followed in the United States of America, in the sense that when it is night and our equipment is idle we will try to use it because that would be the peak time in states whose time differs from ours, and thus we would be able to serve the citizen and realize extra profits at the same time.

Our Fees Are Within Reasonable Limits

[Question] What about the cost of calls between cities in the kingdom?

[Answer] Our fees are well within reasonable limits. Of course we do not compare ourselves with America, but rather with states like us, Arab states, or at least European states that are the same size as the kingdom. If we take for example the tariff between Riyadh and Jiddah, which is 1.5 riyals per minute, I believe that it is very reasonable and lower than many of the Arab states around us, and you will not find lower in any other state.

[Question] You said that local calls are 5 halalas per minute within the cities. Is a service charge added to that?

[Answer] It is 12 riyals a month only. If we took a quarter of a riyal for a local call and did not take the 12 riyals, which would be preferable to the telephone user? There had in fact been some thought of doing it that way, but according to a directive from his majesty King Fahd Ibn 'Abd-al-'Aziz, may God protect him, there were no increases in costs for the sake of the happiness and comfort of the citizens. The matter is twofold: either service and installation fees remain, or tariffs increase, because tariffs are very low and have remained one qirsh per call for 20 years, and installation fees have remained the same since that time (300 riyals), and that is an extremely low amount. Perhaps any company with monopoly that faces competition would not be able to have such low rates.

In all our comparisons, whether in international agreements between us and Arab countries or between us and foreign countries, we know that our costs are better in all respects.

In coming years in the near future we will begin to think about lowering these tariffs. I cannot be precise about that, but as I mentioned contacts are going on with Arab states as well as with other states, and in fact a study is being made now on lowering the tariffs at certain times.

[Question] Is there a time set for the completion of that?

[Answer] No time has been set. The study is now before the council of ministers, and the study might be completed after a year, God willing.

Ten Telephones For Each 100 Persons

[Question] It is known that telephone services are now seven for every 100 persons in the kingdom's regions. Do you believe that this is a good rate?

[Answer] This rate does not exist in any of the Arab states, nor in many European states. We have now reached 10 for every 100 persons, and this rate might not be exact if we did not consider it within the collective structure, which is planned for example on the basis of the big cities. If there are 250,000 telephones in Riyadh, and there will soon be 300,000, and if the population of Riyadh is 1.5 million, then 25 percent of the population has a

telephone, meaning there is a telephone for every four, or 20 percent in the big cities. As for the villages, we are working gradually.

During the third 5-year plan we brought telephone service to 400 towns and villages, and in the fourth 5-year plan bringing telephone service to 1000 villages is scheduled by the end of the plan in AH 1410. We will have 1.7 million telephones, and there are also side interests that will bring the number of telephones by the end of the fourth plan to 2 million. If we reach this number, and supposing the population of the kingdom will be 10 million, there will be a telephone for every five persons, that is, the percentage will be 20 percent, and this is considered a large and very good percentage.

[Question] It has been noted that there is a lack of balance between the capabilities of extended connections and those of the local network, and this prevents subscribers from getting the full use, and is a result of the failure to install the necessary extensions when the telephone network was completed. What are your comments?

[Answer] This is a problem that we got into because of new designs and because city boundaries were not clear in the past. However there appeared what is called the delineation of cities, and on this matter the council of ministers issued a decree on the basis of delineating cities and gave their responsibilities to the municipalities. Before that, anyone could decide upon a plan anywhere, get a license for it, and begin work on it, and we would have to extend a telephone line to it though this plan might not have been in our concepts or plans. We are trying to overcome this problem, but we now have a deficit of about 250,000 lines in all areas of the kingdom, and that means that I have close to 250,000 exchanges with a deficit, and it totals 250,000 lines in the exchanges especially in the new projects.

There are also sections that have changed from residential neighborhoods into commercial districts. In the residential neighborhoods, for example, we would assign one telephone, at the most two, for each villa, but if this villa changes into a commercial building it needs 50 telephones. This is something that happened in the al-Malaz district in Riyadh, which 5 years ago was a residential district without any commercial activity, and suddenly it became a commercial district, one of the largest commercial districts in the kingdom, and this forces the network to be redesigned in the district. But the important thing is that this problem is under control, and we have been able to get the necessary credit for digging, networks and expansion.

[Question] It can be seen that there are a large number of measured sections linked to regions with digicom. In addition, the systems for transmitting information are increasing faster than the control system. Doubtless this heterogeneous mixture will hinder communications operations and their administration. What is your opinion on that?

[Answer] This is a technical question. Whether the numbers are digital or the equipment digital or measured, the whole world is changing to the digital method. We thank God that we have taken the most advanced technology; otherwise, we would have gotten ourselves into trouble like most of the nations that have followed what is called measured.

We now have 200,000 telephones of the digital type, and the process of harmonizing them is being done by the same company that we contracted with, which is a company that deals in electronics. They have taken on the fourth generation along with the fifth one, and therefore we started on the system without the need for intrinsic changes.

We are now proceeding with something much more serious than that, and that is what is called the integrated digital system. It is the direction being taken by most of the world's developed nations, especially the industrial ones. This system is based on us having a telephone exchange, a telex exchange, an exchange for transmitting news, a microwave exchange, and a satellite exchange all in one exchange. This, of course, will make dozens of exchanges now in existence as good as obsolete, meaning their function and time are over.

We were faced with a decision: should we wait until we got the most modern technology pertaining to telephones, and not meet the citizens' demands for telephone service? When we began in 1978 (AH 1397), should we have waited for the arrival of the latest developments, and then began our work? If we had done that, we would not have done anything to serve the people, so we began and introduced the service, and we now have a million telephones, and we are now converting to integrated digital systems. In the fourth 5-year plan we will start on it with a nucleus, or as one would say a "focus," in three main centers: Riyadh, Jiddah and al-Dammam. This service will be completed in 1992, which means that at least 6 years are needed until the fourth 5-year plan is completed.

[Question] It is said that our administrative and operating costs are high.

[Answer] That is not true. Many Arab countries have 30 employees per 1000 lines, and when we started we had 32 employees per 1000 lines, but now a gradual change has occurred and there have come to be only 12 employees per 1000 lines. That means that productivity has increased and operating, administrative, and maintenance costs have decreased. All that is made clear by offices of the Ministries of Finance and Planning, and we have a commendation from them for the effort to raise productivity.

[Question] What about the administration of signals and the computer?

[Answer] Administering the signals occupies the ministry first and foremost, and it has been enhanced by the most modern Saudi systems and elements, and there is a big project that will have an effect on what is called the spectrum administration. This project will be established, God willing, and it is a huge project that will give the ministry control over classification and over the signals and their preservation, and subsequently it will enable the ministry to discover abuses and unlicensed usage. The project is almost in its final stage.

[Question] What about local and international microwave systems and cables?

[Answer] We have about 450 microwave towers with no less than 70,000 voice channels in addition to two television channels. In addition to this huge

number of circuits for that, it guarantees that when you try to call between the cities and the outside world the call goes out on the first try 98 percent of the time, and no doubt that is a very high percentage, because 100 percent is not possible in any case, for various reasons. This is in addition to the axial cables which use what are called fiber optics and which are state of the art. As I mentioned, there is the digital system, which carries 35,000 voice channels as well as two television channels, and consequently, this provides a further outlet for communications between Saudi cities and the outside world. This is in addition to satellites and the undersea cable extending from Australia to Marseilles, France by way of Jiddah, and doubtless this will greatly expand our international outlets. We should not forget those coastal stations which communicate with ships on the high seas or with any place in the world, meaning that any ship in the middle of the Indian Ocean can make contact with the al-Dammam station, which can then connect it to any place in the world by way of the telephone or telex, whether the communication be printed, voice, or visual. And as you know, we also participate in the (Inmarsat) organization, and in addition, work on building the Jiddah station is in full swing to relieve the burden on the Riyadh stations.

Communication With Airplanes To Begin Soon

[Question] It is known that the coastal stations for wire communications in Jiddah and al-Dammam, which link nearby and branch stations, offer telex services to ships in the Gulf and the Red Sea by way of the international maritime communications (Inmarsat), but that is limited to the telex only. What about the ground stations for maritime communications now being built in the satellite complex in Jiddah?

[Answer] As you know, everything that we have, especially in the field of communications, must have support devices. We have, for example, microwave, axial cables, and satellites, and these are all means of communications between cities. Why? Because that is the nature of communications, and you cannot do without communications, not for a minute, nor for a single second. Therefore, we believe that we have to have support and backup systems. As for the maritime stations in Jiddah and al-Dammam, they have no connection with the (Inmarsat) organization. They are stations for calling for help first and foremost, and a link between those ships and their agents. The (Inmarsat) stations, which are ground stations, work in conjunction with a satellite orbiting in space contrary to the well-known means that communicate with ships by way of satellites, and they will soon begin to communicate with airplanes. Their purpose is very different from that of the stations at Jiddah and al-Dammam. And as you know, the (Inmarsat) is an international organization in which the kingdom participates, and thus we get profits and results proportional to our use of it.

Optimism in the Future of Communications in the Kingdom

[Question] How optimistic are you regarding the future of communications in Saudi Arabia?

[Answer] Indeed I believe that we have made great strides in this field with the most modern technology, and financial returns have been realized, and

this no doubt will help in achieving the government's goals and diversifying sources of income in the kingdom. Thus, the government would not rely wholly on oil, but rather, there would be sources of income in the form of services that would benefit the citizen and the nation. I believe that we have achieved this goal, and I am pleased with what has been accomplished, though we want the ministry to be given the chance to achieve the goals of the fourth 5-year plan as fast as possible, and I hope that we will be successful, God willing, in serving the citizen and the nation.

Good, Advanced Service at Very Moderate Costs

[Question] No doubt the ministry is anxious to improve and expand telephone, telex, telegraph, and mail services to include a greater number of the people and thereby covering a greater number of towns and villages by using advanced technology and systems and by training national elements. Would you explain to us what will be implemented during the upcoming budget?

[Answer] We are now experiencing what is called dynamic motion in the sense that we cannot stop and say that the matter has ended because we are in daily need of expansion and development. During the third 5-year plan we finished everything the plan asked of us, and we are now in the fourth 5-year plan; the first year of it has passed and we have begun the second. There is no doubt that we have a clear deficiency in the networks, and this deficiency will continue because whenever we have a chance to extend new networks, there are new additions every year. For example, next year in Riyadh there will be an additional 35,000 telephones, and this is an increase over what had been determined in the third 5-year plan because so far the work of the fourth 5-year plan has not been firmly set, and that will give an increase of about half a million telephones. Therefore, I can assure you that we are in a state of dynamic motion in that every year we see an increase in various regions of the kingdom, so we find that it is very difficult to establish a cutoff. For example, a short while ago a new exchange was opened in (Bani Dibyan) and another in Ha'il, and there will be great expansion in the city of al-Khubar, and so forth.

We will utilize the equipment that we have which has reached a good level, technologically speaking, and which gives us at least 72 features. These include what are called wake-up services which are done by programming the telephone, number storage, transferring your number to any other number anywhere, and receiving more than one call at a time. In addition, you can call more than one telephone and talk with everybody at the same time, plus other services. This service will be connected to whoever wants it through fees, but we are awaiting a decision that will determine the amount of these fees, and that will be issued very soon because it is difficult to plan, which causes there to be pressure, but when there are fees only those who need it request it.

Moreover, the telex in the kingdom can now transmit more than 20 messages at the same time, as well as receive seven messages at the same time, and such can only be found in very advanced nations.

There is no doubt that we have systems and technology that are found only in industrially and technologically developed states, but the citizen does not

sense this because to him that is the normal situation. But when he is outside of the country and tries to call, he will find that he will have to try several times in order to be able to make contact with the outside.

Therefore, I can assure our fellow citizens that we are very anxious to offer them good service as quickly as our capabilities allow, and at very moderate prices.

[Question] A while ago the Arab satellite went into service, but the citizens here have not felt anything. In fact, they had wanted to see Arab television stations in Riyadh and other Saudi cities and vice versa by way of the Arab satellite, but that has not happened. What is your comment?

[Answer] As I mentioned previously, about 10 Arab states have built ground stations, and it is through these stations by way of the Arab satellite that we are able to see the stations of these countries. Our systems are ready to send and receive, but that is outside of our jurisdiction. We have placed all our capabilities at the disposal of the Ministry of Information because that is in its jurisdiction, and it takes place by way of bilateral agreements between it and the ministries of information in the other Arab states.

12547/12859

CSO: 5500/4507

INTER-AFRICAN AFFAIRS

URTNA COMMISSION ON PRIVATE RADIO-TV STATIONS

AB241753 Dakar PANA in English 1458 GMT 24 Jun 86

[Text] Dakar, 24 June (PANA)--The legal and administrative commission of the Union of National Radio and Television Organisations of Africa (URTNA) began a three-day session today at the organisation's general secretariat in Dakar to examine among other things a draft text on relations between URTNA and private or commercial radio-TV stations based in Africa.

[Passage indistinct] television station and several associate members, mainly national or public broadcasting stations in Europe (France, Holland, Yugoslavia, Portugal, Switzerland, etc), is considering the possibility of granting associate membership or observer status to African private and commercial stations, because of the political legal and financial implications involved, the commission decided this morning to refer the matter to the organisation's supreme body--the general assembly--for a comprehensive study. The general assembly meets once every year in an ordinary session preceded by meetings of the union's three commissions--the programme exchange and cultural affairs commission, the technical commission and the legal and administrative commission.

The participants also discussed the criteria governing the appointment of the directors of the organisation's three permanent centres--the programme Exchange Centre (Nairobi), the Terminal Centre (Bamako) and the Rural Radio Training Centre (Ouagadougou). The decision to be taken on this question, which also involves a determination of the duration of office of directors, will be submitted to the administrative council and general assembly of URTNA for evaluation.

Present at the session are representatives from Togo, Nigeria, Cote d'Ivoire [name as received], Guinea and Mauritania. Earlier, the commission which is being assisted in its deliberations by URTNA director general, Francois Itoua, reelected Cote d'Ivoire's director general of radio Ibrehim Kone as chairman and N.B. Adibola of the Nigeria [passage indistinct].

/6662
CSO: 5500/91

INTER-AFRICAN AFFAIRS

BRIEFS

ADB ASSESSING TELECOMMUNICATIONS PROJECT--[Article by Henry Gombya: "ADB Mission in Kampala"] An appraisal mission from the African Development Bank [ADB] and the Kagera Basin Organisation Telecommunications Project is in Kampala to carry out a detailed appraisal of the telecommunications project which will provide micro-wave links between Uganda, Burundi, Tanzania and Rwanda. The project will provide telephone links between Masaka, Mbarara, Kabale and Twanda and will also be able to link Masaka and Bukoba in Tanzania. After completion, the four member countries will communicate directly without having to go through the metropolitan capitals. Uganda TV will also use these facilities for transmission to Kabale in western Uganda. The Kagera River Basin Organisation will be the executing agency for the implementation of the project. Meeting the missions, Uganda's deputy finance minister, Robert Ekinu, acknowledge the assistance rendered to Uganda by both the ADB and the Kagera River Basin Organisation. The missions pledged their continued support for the rehabilitation and development efforts of the Government of Uganda. They indicated that negotiations of the project were likely to take place in November this year and the implementation could then follow during 1987. [Excerpt] [Nairobi THE STANDARD in English 4 Jul 86 p 9 EA] /6662

CSO: 5500/91

CHAD

SYRACUSE EARTH STATION IN N'DJAMENA

Paris AFRICAN DEFENCE JOURNAL in English Jun 86 p 28

[Text]

Since February 20th, French troops in Chad have had access to a Syracuse military communications satellite relay station. This portable earth station was installed near the N'Djamena airport, main base for French forces in Chad, and marks the French Army's first operational use of Syracuse 1 network.

The Syracuse 1 network - prime contractor Alcatel-Thomson Espace - uses the PTT's Telecom 1 civil telecommunications satellites in order to transmit confidential messages and communications (telephone, telex and telefax) from French government and military authorities to their forces deployed all over the world. It is especially intended for use by the French rapid strike force, FAR (Force d'Action Rapide), and the Navy. Five navy ships are currently equipped with Syracuse terminals, and by 1988, twenty ships should be so equipped. In addition, three Syracuse earth stations, of which two are portable, have already been delivered for use by the army, including the one at N'Djamena.

Each of the PTT's three Telecom 1 civil telecommunication satellites is equipped with two channels for military communications (7-8GHz). The first two satellites were launched in August 1984 and September 1985, but it is essentially the second satellite, Telecom 1B, which serves as a military communications link. The third satellite, Telecom 1C, is scheduled to be launched in July or September.

/9274

CSO: 5500/88

GHANA

BRIEFS

TELECOMMUNICATIONS LOANS WITH ECOWAS--The Posts and Telecommunications Corporation has signed an agreement with the ECOWAS fund for a loan of \$600,000 to construct a telephone link from Bolgatanga to Burkina Faso. This will enable the Pan-African telecommunications network project, PANAFTEL, to cover that country. The senior public relations officer of the corporation, Mr (Hadjer), told the GBC [Ghana Broadcasting Corporation] at Wa that the PANATEL project is aimed at ensuring uninterrupted communication between African countries, and between Africa and the outside world, without passing through Britain or France. He said almost all African countries have completed their part of the project, and expressed the hope that Ghana would complete her portion very soon. Mr (Hadjer) also announced that the corporation has also signed a \$26 million loan with the Overseas Economic Corporation Fund of Japan for the erection of 16 booster telephone stations throughout the country. These will help improve microwave communications between the north and south. On his part, the director general of the corporation, Colonel Kwasi Oppong, announced that negotiations have been completed with a French company to install an international telephone switch through which 650 people can dial to the outside world at a time instead of 40 as at present. [Text] [Accra Domestic Service in English 0700 GMT 21 Jun 86 AB] /9738

CSO: 5500/57

GUINEA-BISSAU

NEW FM TRANSMITTER DELIVERED

Maputo NOTICIAS in Portuguese 16 May 86 p 8

[Excerpt] The new FM transmitter for the Nhacra Transmitting Center, whose purchase and installation--costing \$198,000--was financed by the Federal Republic of Germany, was officially delivered to the Guinean Information Secretariat on Wednesday.

The purpose of the plan to develop the Radio Nacional system, the first phase of which has now been completed, is to assure radio coverage of the entire country. The scheme was drawn up in 1982 by UNESCO and expected to cost a total of \$1 million.

The second phase of the project, now under study and also to be submitted to the Federal Republic of Germany for financing under the UNESCO communications development program, includes retransmission units, regional studios, and funds for personnel training.

Guinea-Bissau and UNESCO are cooperating very closely in the area of social communication, especially in developing the radio network and the national news agency, ANG. Proposals involving the print media are under study.

12830/9190

CSO: 5500/78

NIGERIA

BRIEFS

ABUJA POLICE COMMISSION COMMUNICATION SYSTEM--A modern communications system for Abuja police command has been commissioned. Built at a cost of 3.7 million naira, the communications system covers a distance of 70 km. The inspector general of police, Mr Etim Inyang, said at a ceremony yesterday that the system would enhance the operational preparedness of the police. [Text] [Lagos Domestic Service in English 1500 GMT 27 Jun 86 AB]/12766

CSO: 5500/87

SOUTH AFRICA

BRIEFS

INTELSAT TRANSPONDER IMPROVES TRANSMISSION---The SABC's capacity to transmit TV 1 and radio programs to the entire country has been improved, thanks to the use of an Intelsat satellite transponder now being rented by the corporation. The transmission of programs by satellite is serving as an alternative to the system used by certain radio channels and Television 1. Programs already being transmitted by satellite are those being broadcast by Radio South Africa and its Afrikaans counterpart, Radio Suid Afrika. Viewers and listeners should take notice that the new satellite system is merely an alternative means of transmission. It does not give access to television or radio programs other than those being broadcast by the SABC. Benefits of the satellite system, financial considerations permitting, are mainly that the SABC can now expand and improve its channels of transmission and that a better service could be provided for rural areas. There are already 19 satellite receiving dishes in position throughout the country to receive signals transmitted from a site near Johannesburg. These are situated at (ASCOM), Bethlehem, Bloemfontein, Durban, Cape Town, Kuruman (Heuwels), Matatiele, Maatjiesfontein, Nelspruit, Pietersburg, Port Elizabeth, Port Shepstone, Queenstown, Schweizer Renecke, Springbok, Ubombo, Upington, Walvis Bay, and Zeerust. [Text] [Johannesburg Television Service in English 1800 GMT 1 Jul 86 BM] /9738

CSO: -500/89

EUROPEAN AFFAIRS

EEC ENCOURAGING VANS, DATA EXCHANGE SYSTEM

Luxembourg INFORMATION MARKET in English May-Jul 86 p 9

[Article: "Commission Urged To Help Get VANS Moving"]

[Text]

In Europe the level of consumption of domestic value added network services is likely to be about a quarter or at most 40% of the level in the United States. The potential for such services could be as high as 80% of US levels.

In the United States electronic mail box systems are usually interconnected. In Europe, telex is ironically one of the few interfaces between different but not necessarily competing systems.

Such VAN services include online financial information and interactive and transactional videotex or electronic mail. Applications have been made in such sectors as retailing, leisure and manufacturing. Point of sales operations, teleshopping and telebanking are typical VAN services. Eight European nations are building a data exchange system, ODETTE, that will help the automotive industry become more efficient in aligning demand for parts to their manufacture and standardising the electronic form of documents required for invoicing and dispatching.

The Commission has made a study into the problems encountered in creating European VANS. Representatives from a variety of industrial firms, consumers of VAN services and PTTs were invited to analyse the report on 4 February in Luxembourg.

The report made the following points.

Key factors influencing consumption

The Community is characterised by a mosaic of regulations which inhibit the development of such services. Strict control of supply by PTTs and tariff structures which are insensitive to level of demand by consumers have the same effect. In spite of progress in coordinating the powerful integrated services digital network ISDN, regulatory framework for VANS in this new network is inadequately defined.

Users are confused by the range of standards in international message handling, network user identification, documentation standards and others.

Europeanisation of services required by international companies is being held back by rate structures and incompatible regulations. Numerous suppliers and users in retail, leisure and health sectors urged stimulation projects were essential to opening up the **European market**. Information gateways, international information services, electronic data interchange projects were trail blazers for this.

Four factors determined the major consumption of VAN services: clear, identifiable cost savings for the user (for example in transaction costs, lower inventory levels or cheaper products); very high perceived value of the service; a substantial community of users; and ease of use through menus or information gateways. The financial sector and the leisure and retail industries are good examples of where VANs have succeeded.

Except for the most sophisticated users and for the very simple mass market services, there was a great confusion about the range of information services available and how to use them. Users were generally unaware of the plans of the PTTs and third party suppliers.

The workshop encouraged the Commission to work for the relaxation and **harmonisation** of regulations with the PTTs and in particular encourage a competitive market for all forms of VAN services.

The Commission was also urged to launch several **seed-corn projects** that would help open the market in integrated broadband VAN services in leisure, health and trade.

VAN users and suppliers also wanted clearer PTT **rate structures** related to the cost of providing services. The impact on the economic wellbeing of the community through lower international European tariffs should be evaluated.

The Commission could also help by stimulating the use of information gateways, awareness programmes of North American and Japanese developments, encouraging new information vendors and following the impact of PTT policies.

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EUROPEAN AFFAIRS

ERICSSON INCREASES DEVELOPMENT OF SPANISH MARKET

Madrid EL PAIS in Spanish 30 Apr 86 p 49

[Article by Luis F. Fidalgo]

[Text] Intelsa, 51 percent of which is owned by the Swedish company Ericsson and 49 percent by Telefonica, officially opened its new research and development center yesterday in Madrid. Ericsson has invested 650 million pesetas in this center, where 150 engineers will work. The center, whose establishment was a provision of the agreements signed in 1984 between Telefonica and L. M. Ericsson to facilitate its entry into the field of new technologies, will concentrate on developing software systems for connecting various types of measuring apparatus to so-called AXE digital exchanges, adapting this system to the Spanish language, together with other research and development projects. The opening ceremony was attended by Industry Minister Joan Majo, Bjorn Svedberg, president of the Swedish group, and Telefonica President Luis Solana.

Since 1970, Ericsson has become the second largest supplier of telephone exchanges in Spain--where it has been present since 1922--and has installed a total of 2.5 million telephone lines in our country, 500,000 of which utilize the AXE system.

Sale of Exchanges

Intelsa's factory in Leganes (Madrid) currently manufactures this type of advanced digital exchange, of which approximately 30,000 lines are already reserved for incorporation this year into Telefonica's Ibercom network, whose goal is the integration of public and private exchanges. As the president of L. M. Ericsson pointed out, another 60,000 lines are expected to be sold to the Ibercom network in 1987, while export of this type of exchange will begin at a later unspecified time.

Bjorn Svedberg, chief executive of the 78,000-employee Swedish group, with a presence in 100 countries and sales of 32,500 million Swedish crowns (650,000 million pesetas) last year, emphasized the new possibilities offered for his group by Spain as a result of its entry into the EEC. An initial aspect is participation in various community data processing and telecommunications programs, such as Race, in which they are already present through Intelsa, or in the upcoming entry into Eureka.

Another Spanish market of which Ericsson hopes to obtain a good share is the mobile telephone market, still in its infancy, "but which we believe will find a fantastic acceptance among the public." At present there are some 2,000 subscribers of mobile telephones in Spain, "but the potential is enormous." The company's plans also include achieving a larger presence in the field of telecommunications systems for defense.

But based on the words of the Swedish company's president, it appears that Ericsson's main goal in Spain is to expand as a supplier of advanced telephone exchanges, most of which are snapped up by Standard Electric. Although it appears that this will soon be confirmed, Ericsson has not yet managed to put its advanced System 12 exchanges into operation. "Intelsa," Svedberg stated, "has the possibility of increasing its sales in the domestic market. We can manufacture many more lines in Leganes, but I believe," he said in regard to the possibility of increasing sales of telephone exchanges, "that you should ask other people about this."

The chief executive of the Swedish telecommunications and data processing giant made it clear that at this time its AMX system is in direct competition with ITT's system in Mexico, Norway and Switzerland.

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CSO: 5500/2672

EUROPEAN AFFAIRS

PARTNERS IN RACE LARGE SCREEN PROJECT NAMED

Zellik TECHNIVISIE in Dutch 2 Apr 86 p 3

[Article: "Mietec Selected Project Leader of RACE Project"]

[Text] Mietec, a design and production center for customer-oriented integrated circuits, has been made project leader and coordinator of the RACE large screen project. Mietec was selected because it was already active in this field: It produces integrated control stages [?stuurtrappen] for readout units (screens) which control different types of flat panel displays, in particular screens requiring high voltages (up to 400 V).

RACE is an EEC initiative and stands for Research and Development in Advanced Communications Technologies for Europe.

"The technological lead of the Japanese in the field of terminals and large screens in particular encouraged the RACE committee to begin this project," according to Mietec spokesmen. Ten European firms with experience in this field were approached and found willing to study collectively the different technological options for large screens, from both technical and economic angles. The main objective of this 1-year project is to survey all the possible applications of screens for high-definition televisions, for multi-purpose televisions, videophones, and videotext. This will be done on the basis of existing expertise. In this connection they will also formulate policy options for the future technological developments of the Integrated Broadband Communications (IBC) system, set to be launched worldwide in 1985 [as published].

Apart from Mietec, the European firms collaborating on this RACE project are: for the UK: GEC [General Electric Company], Thorm-EMI [Electrical and Musical Industries Ltd], and MARI [Microelectronics Applications Research Institute]; for France: Thomson (SINTRA [Industrial Company for New Radioelectric Techniques and French Electronics]), MATRA [Mechanics, Traction, and Aviation Company] Communications, CNET [National Center for Telecommunication Studies], and LETI [Laboratory for Electronics and Data Processing Technologies]; for the Netherlands: OCE; and for Belgium: Barco-Industry.

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CSO: 5500/A016

EUROPEAN AFFAIRS

BRIEFS

EEC STUDYING ISDN STANDARDS--Over the next few years, new powerful networks will be introduced into Europe. These integrated digital service networks, ISDNs, will have 2 megabit/second capacity and offer the possibility of simultaneous voice and data communication. According to a recent report, Integrated Digital Communications, both Japanese and US equivalent networks will have tariffs based on bit count and be distant independent. It is not clear that the European networks will follow this example. Contact: Telematics Research Division, Joan de Smith Systems, 7 Vale Avenue, Tunbridge Wells, GB-Kent TN1 1DJ, Tel: +44 892 45178. [Text] [Luxembourg INFORMATION MARKET in English May-Jul 86 p 8] /9317

EEC PUSHING EUROPEAN ISDN--The EC Commission in Brussels has just requested that the 12 EEC countries take an important step towards the creation of a real data communications market at the EEC level by accelerating the installation of the integrated services digital telephone network (ISDN). This network is the intermediate stage between the present telephone network and the integrated broadband networks. To reach this stage the various governments must pledge (by mid-1986) that their "telecoms" will invest some Fr 40 to 50 billion by the end of 1993 for the mere digitization of the present networks. [text] [Paris L'USINE NOUVELLE in French 15 May 86 p 43] 25004

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CSO. 5500/A019

FRANCE

ATT-CGE AGREEMENT PUT ON HOLD BY GOVERNMENT

Paris LE MONDE in French 8/9 Jun 86 p 16

[Text] Mr Chirac's government has not until now come to a decision on one of the most complex pieces of unfinished business it inherited: negotiations in telecommunications, with the treaty plan between the nationalized company CGE and the American company ATT. It has now done so with the press release issued Friday, 6 June by the Ministries of Industry, Postal Services and Telecommunications, and Tourism. In it, Mr Madelin reaffirmed the desire of the government to "make a decision on the future of CGCT and the type of telephone exchange it can furnish to DGT (Direction Generale de Telecommunications) as a second source, in addition to Alcatel. One solution has to date been extensively explored, that proposed by ATT-Philips." However, stated the ministry, "it is necessary to consider this solution as one among other alternatives." Consequently, Mr Madelin and his secretary of state for postal services and telecommunications "will meet in the next few weeks with the heads of the principal foreign companies concerned..."

Is this simply a ploy to stall for time or the real desire of the government to find a redraft solution, particularly a European one, to the ATT-CGE treaty project? Mr Madelin's statement appears to be directed against Mr Pebereau, president of CGE, who would like to see CGE's subsidiary Alcatel gain significant access to the American telecommunications market, and has already developed an extremely complicated draft treaty. The principle adopted provides for ATT and its Dutch partner Philips to recoup the public telephone business of CGTC (Compagnie Generale de Constructions Telephoniques), the second largest French company in the sector, formerly a subsidiary of America's ITT and nationalized in 1982, and the part of PTT market it controls (16 percent). In exchange, ATT will buy transmission equipment in France from Alcatel and Philips, and assist CGE's subsidiary in selling its telephone switchboards in the United States.

Since the technological independence of CGE is at stake, with regard to a partner 10 times more powerful, this treaty project was hotly disputed by the unions as well as within different factions of the current as well as former political majority parties. The intention expressed by Mr Madelin to consider the ATT-CGE draft treaty project as only one solution among many will therefore cause the renewal of discussions which had been initiated with other partners. Mr Vincent, head of CGCT, entered into negotiations with

Sweden's Ericsson before being requested to cease, so as to not to prejudice the discussions between Mr Pebereau and his opposite number at ATT. As for the conversations initiated with the German company Siemens, they were not successful. Besides, the Ministry of Industry has not excluded the possibility that candidates other than Ericsson and Siemens would meet with Mr Madelin: perhaps GTE, another American company, already associated with the Italians and with Siemens, the British company Plessey, etc? The field appears to be open. In any case, this is an unique opportunity for the government to put into action its intentions for European construction, especially in high technology.

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CSO: 5500/2693

FRANCE

RELIS NETWORK SEEN BENEFITING FROM ESPRIT

Paris ZERO UN INFORMATIQUE in French 14 Apr 86 pp 75-78

/Article: "Research in Telecommunications: Integration of Services"/

/Excerpts/ The RELIS network has been set up in compliance with international standards and offers an area of experimentation in a sector which will be vital to tomorrow's networks: optical fibers. This is the outcome of one of the projects defined in INRIA's /National Institute for Research on Data Processing and Automation/ master plan (1985 to 1987) concerning the establishment of communications networks based in the Rocquencourt center. This project has been carried out by SPIT (Data Processing and Data Communications Services). Different needs, such as a low data-transfer speed (less than 100 Kbits per second) and a high data-transfer speed (more than 1 Mbits per second), and the inherent constraints of the Rocquencourt center (heterogenous equipment without a central location) led to the decision in 1984 to create two different networks. There was effectively no single industrial solution which could cover both these needs and constraints.

The low-speed network is a private network of the X-25 packet switched type. The high-speed network is of the IEEE-802.3 type, that is to say using the CSMA /Communications Systems Management Association/-CD access method via bus. Its originality lies in the fact that it uses, along with coaxial cables, an optical star coupler. The optical star coupler is achieved by fusion technique: the stretching of a 16-fiber twist joint. It is a passive element which eliminates breakdown problems and disseminates luminous information transmitted by one input channel to the output channels. The result is a significant attenuation of a maximum of 13 dB for an eight-branch star coupler. Cables de Lyon has supplied two-strand optical cable links characterized by:

- a speed of over 100 Mbits per second;
- a diameter of 100 to 140 microns;
- an attenuation of 4dB per kilometer;
- a metallic cladding for protection against rodents;
- connectors with a loss of less than 1 dB

This optical network has been operational since August 1985.

We will find the use of fiber optics in all future networks. That will allow transmission of digital data from different sources. Initially it will be possible to transmit voice, text, data, and fixed images. However, implementation of the very high transmission speed needed to convey moving images must be reserved for the more distant future.

There is now a move towards the integration of services from two sorts of local networks: data processing networks and telephone networks. The fourth-generation PABX illustrates this as far as the second type of local data processing networks are concerned, although the Carthage network is at the state-of-the-art of these two areas of development.

In addition to the ROSE and THORN projects, a third example demonstrates the galvanizing role that ESPRIT plays in the world of European research. The LION (Local Integrated Optical Network) project, a part of the research in the office automation sector, aims to study and develop an integrated digital broadband communications system. Broadband means very high speed.

The Configuration of the European LION Project Includes a Primary Network and Secondary Networks

The prime contractor of this project is TITN /New Techniques for Information Processing/, a subsidiary of CGE /General Electric Company/. Its two European partners are an Italian research institute, the CSELT /Telecommunications Study Center and Laboratory/, and a Danish company, NKT. European universities are also collaborating on the project as subcontractors (in France, the Paul Sabatier University of Toulouse, which is working with the Programming Institute of the Paris VI University). When used in second-generation local networks, LION uses fiber optic transmission and conveys digital data from varying sources requiring different speeds.

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CSO: 5500/A017

ITALY

OBJECTIVES FOR EXPANSION OF TELECOMMUNICATIONS STATED

Minister Explains Ten-Year Plan

Rome. IL POPOLO in Italian 30 Apr 86 p 4

[Article by Luciane Burburan: "A Flexible Standard for Telecommunications"]

[Text] Rome--Telecommunications have become a strategic sector of the national and international economy, and therefore the sector's geometric expansion cannot proceed according to the law of the jungle, but rather requires clear rules of the game, within which the public and private players can legally move. These rules should primarily concern the institutional and management framework as well as the systems' standards and interrelations. The honorable Antonio Gava, post and telecommunications (PT) minister, stated this in his speech of greeting at the conference on the "1985-1994 National Telecommunications Plan," which took place yesterday in the main auditorium of the PT Ministry with Dr Roberto Panella, managing director of the ministry, presiding. In attendance were the Christian Democrat members of parliament Angelo Picano (the party's spokesman on the telecommunications sector) Becchetti and Scaglia, high officials of the government and of the franchised corporations, labor unionists, functionaries and experts.

Later in his speech, Minister Gava said that the telecommunications sector, in order to achieve the proposed objectives, can do no less than adopt a philosophy of programming and coordinating public and private activities so that financial resources will be focused and not diffused. Again, standards must have a degree of flexibility and be self-updating. I believe it is essential, Mr Gava added, that no initiative on standards or on programs get on a collision course with this philosophy.

In his judgment, two short-term improvements are needed for telecommunications: approval by the Interministerial Committee for Industrial Policy of the "Finalized Plan for Industrial Policy in the public and Private Telecommunications Sectors" in the version that has been given incentive, and the consequent approval in the Interministerial Committee forum of the first National Plan Supplement, drawn up by the Posts and Telegraphs Ministry, providing for financial aid of 5.305 billion (with 45 percent destined for investments in the South), which will be added to the more than 100 trillion initially foreseen by the National Plan.

The second task, explained Minister Gava, will be to introduce, before the end of May, an amendment to the radio-television system regulatory law, for which an understanding on the cardinal points was put together the other evening by the secretaries of the majority parties: antitrust rules, interconnections, public control.

The postal minister observed in conclusion that, since the prime mover of tomorrow's society will be the information carried by telecommunications on land or in space, we cannot confine telecommunications problems and the needed choices to a technical limbo, but we must rather, in making the decisions, keep constantly in mind the fact that information is to remain exclusively in the service of mankind.

The main reports were given by Dr Modestino Zerella, director of the State Telephone Board, Professor Franco Cappuccini, Alfonso Graziani, an Italian Telephone Company engineer, Marco Lari, an Italian Broadcasting Company engineer, and Professor Maria Luigi d'Altri. The honorable Mr Pannella drew the conclusions, according to which we are on the right path for reforming telecommunications management.

Italcable 1985 Profits

Rome IL POPOLO in Italian 30 Apr 86 p 13

[Unattributed article: "For Italcable, 1985 a Year of Great Results"]

[Text] Rome--A stock-split capitalization increase, from 132 to 154 billion lire, and the distribution of a dividend - probably as of 19 May - of 325 lire for each ordinary share and of 365 lire for each savings share, were decided upon yesterday by the Stockholders' Meeting of Italcable (of the Industrial Reconstruction Institute - Telephone Finance Corporation group), which also approved the 1985 accounts, which closed with a net income of 61.3 billion lire.

The capital increase will occur through the issue of seven million new shares and of four million savings shares at a nominal value of 2,000 lire each, which will be assigned at the rate of one new share for every six shares already owned.

During the meeting the general manager of Italcable, Ernesto Pascale, and its president, Ugo Monaco, emphasized that the corporation had in 1985 confirmed an especially satisfactory business trend, following out a positive movement that had already been noticeable in the first half-year. "This outcome," Pascale said, "results from the combined effect of revenues which increased by about 20 percent, due in large part to increasing traffic volume, and of a decisive effort to contain operating costs, which grew by only 16 percent. Overall, Pascale went on, the final result of the 1985 period was a 37.2 percent improvement over that of 1984, itself a year in which Italcable had booked clearly positive results, both absolutely and in comparison with the already satisfactory outcome of the preceding period.

Among the initiatives completed this past year by Italcable, Pascale mentioned (among others) the accord reached for the completion of a fiber-optics network under the seabottom of the eastern Mediterranean, "which constitutes," he said, "the first step toward the realization of the most extensive project for interconnecting the entire Mediterranean area and for linking it with the Atlantic area."

Italcable's commitment to development can be synopsized in economic terms by the figures on investment flows, which amounted this past year to 55 billion lire, while they are to be 340 billion over the next five years.

Telespazio 1985 Profits

Rome IL TEMPO in Italian 30 Apr 86 p 27

[Unattributed article: "Telespazio Income Close to Five Billion"]

[Text] The stockholders' meeting of Telespazio (the Industrial Reconstruction Institute - Telephone Finance Corporation group's firm licensed to install and operate satellite telecommunications in Italy) approved its financial report for the 1985 period, which closed with 4.7 billion in income after the application of 26.5 billion to amortizations.

Overall revenues amounted to 89.1 billion, an increase of over 21 percent compared to the preceding period. Investments of over 30 billion were also carried out, totally covered by self-financing.

At the end of the period over 1,800 intercontinental telephone circuits with 72 countries had been opened for traffic for the accounts of Italcable and of third countries, and 1,600 transmission hours of television service were provided for the accounts of Italian Broadcasting Company, the European Broadcasting Union and other organizations.

In the framework of the world maritime mobile satellite telecommunications system, service was started for the Posts and Telegraph Ministry account, thus making reception for and from Italy operational. A special application of satellite reception was proposed and purchased by the civil defense department.

Satellite-monitoring and orbital-management services accounted for around 15 percent of billings.

Satellite-imagery activity received significant impetus from the finalization of a series of agreements, among them those with ENEA, Aeritalia and some regional administrations for monitoring and security of territory, and the one on Italian distribution of data from the new French SPOT satellite.

In the field of advanced space programs, participation continued in the European Olympus program (for which the creation of a control center designed for orbital management has been started at the Fucino Space Center) and in the domestic Italsat program for the initiation of new services, such as television broadcasting directly from satellites. Finally, conditions were created for the inclusion of Telespazio in the Columbus program for launching a European space station.

ITALY

ITALCABLE'S CONTRIBUTION TO UNDERSEA CABLE NETWORK

Turin MEDIA DUEMILA in Italian No 30, Apr 86 pp 43-45

[Article by Ugo Monaco, chairman of Italcable: "That Thin Cable at the Bottom of the Sea"]

[Text] Last month, in reporting the signing of the international agreement concerning the implementation of the undersea optical-fiber cable network in the eastern Mediterranean, a daily newspaper titled its article: "Palmero Switchboard of the Mediterranean."

The present meeting, here in Sicily, on the topics of communications and territory, is therefore very suitable and timely, and for it I applaud its promoters. This meeting gives me the opportunity to mention some important undertakings of Societa Italcable, directed especially to Sicily, for its basic contribution to the development and technological innovation of the sector.

The suggestion of the aforementioned title seems interesting to me, not only for the domestic users, but especially for business users, who will see the possibility of communicating with the rest of the world enormously increased as well as the actual start of an effective telematics system for the region, intended for the specific communication and automation needs of some groups of users, such as local boards, public administrations, banks, companies, and hospitals, operating in the region.

As you will see from this short summary, Italcable's contribution in this sense is considerable. It is well known that international telecommunications are strongly developed all over the world and have by now taken an irreplaceable role in the economic, social, and cultural development of the countries.

This development has been guided, followed and coordinated, at an international level, by ITU (International Telecommunications Union) and in particular by the World Plan Commission of the International Telegraph and Telephone Advisory Committee. Italcable takes an active part in the work of this commission and cooperates with the Italian Ministry of Postal and Telecommunications Services for planning networks and

centers, on the basis of frequently updated and worldwide traffic forecasts which make it possible to monitor constantly the traffic trend on the various lines and, as a result, to expand the equipment. In this world network, Italy has taken on an important position with its intercontinental center in Rome rated, worldwide, as CTI (primary center for international transit) with its subsidiary centers in Milan and Palermo.

With these centers, located at different points on the Italian territory in order to obtain greater reliability, safety, and operation and management flexibility, Italcable represents, for international telecommunications, an ideal bridge connecting the Middle and Far East with Europe and North and South America.

The development of this traffic, both terminal and through, has lead Italcable on a constant quantitative and above all, qualitative extension of the equipment and of the connecting networks which are among the most advanced in the world.

At the end of 1985, the company's network (figure No 1) consisted of 2,765 voice-band circuits, 984 by cable and 1,781 by satellite; the telegraphic circuits were 196; the telephone channels 2,566.

This total number of circuits makes Italcable number one in the world as an international carrier. Italcable installations enable it to operate with almost all the countries of the world, with an overall (terminal and through) traffic of:

- telegraphy: 3,385,000 telegrams (approximately 54 million words in 1985);
- telephony: 245 million charged minutes of telephony (year 1985);
- telex: 86 million charged minutes of telex (1985).

The company's centers are directly connected by telegraphy to 108 countries, by telephony to 75 countries and by telex to 83 countries.

Beside the traditional services, a whole series of new telematic services (electronic mail, voice storage and forwarding, message handling, etc.) is appearing and developing, which can be delivered by Italcable even to the users in the connected countries, by means of installations which are in the forefront as far as technology and systems solutions are concerned.

Italcable's strong points are: its technological development which is kept up-to-date by the most modern discoveries within a vast strategic vision; its excellent quality of services; a healthy economic and financial management of the company, combined with a positive trend in the annual budgets.

From the viewpoint of strategic pluralism, involving high installations and services, the center in Palermo, in Sicily, heart of the Mediterranean, represents a fundamental node of the Italcable network.

A completely electronic telephone center became operative in 1984 in Palermo. It is already directly connected (by means of 885 operating services, 101 of which are intercontinental) with the United States, Canada, Argentina, Brazil, United Arab Emirates, Australia and Venezuela.

Presently, Palermo already represents a nerve-center of the Mediterranean undersea network (diagram No 2), and this will be even more when, within this year, the undersea system will be put into service, directly connecting Western Europe with South Western Asia and the Middle East by means of the two Mediterranean sections: Palermo-Marseille and Palermo-Alexandria in Egypt.

But this role of Palermo, as a nodal point for telecommunications in the Mediterranean, will be even more important at the end of the 1980's, when the first numerical undersea optical-fiber cable system in the Mediterranean is put into operation.

And, as I said at the beginning, it was in Palermo that, on 12 December of last year, a protocol agreement was signed by Italy, France, the United Kingdom, Spain, Israel, Turkey, Greece and the United States to actuate the above-mentioned undersea optical system of the eastern Mediterranean, which will connect Italy, Greece, Turkey and Israel. The system will include a pair of optical-fiber cables between Palermo and Tel Aviv, one between Palermo and Marmaris, and another one between Palermo and Lechaina, with branch devices in the sea and with a capacity of not less than 140 megabytes/second.

Furthermore, in cooperation with France and Spain, preliminary studies are being carried out for completing the Mediterranean network of undersea optical-fiber cables in the western section. Among them, particularly interesting for Italcable, is the optical-fiber connection, which, leaving Palermo and passing through the area of the Straits of Gibraltar, will enable an entirely "wet" connection with the future optical trans-Atlantic cables toward both North and South America and the African countries.

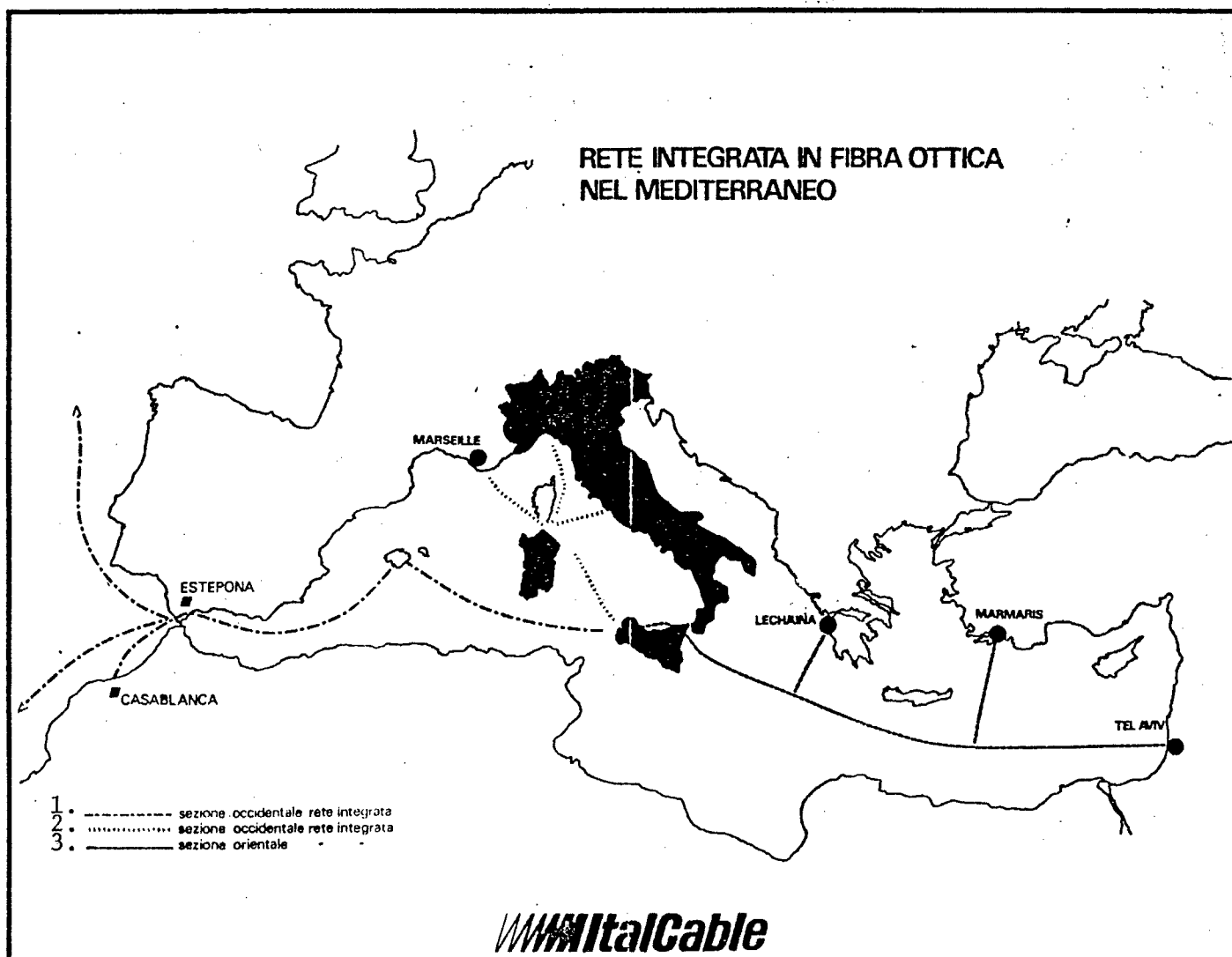
The Mediterranean network therefore represents a new bridge which will span the Atlantic. That is why Italcable and A.S.S.T. (the State Agency for Telephone and Telegraph Services N.D.T.) are carrying out a strong catalytic action in order to orient all the interested parties toward a common plan, integrating the systems already in advanced planning stages (France-Portugal-Morocco and United Kingdom-Spain cables.)

Italcable and the state agency are furthermore doing their best to create the possible integration of future trans-Atlantic undersea optical-fiber connections between Europe and the United States in this North-South artery of the eastern Atlantic.

It is therefore evident not only how important Italy is within the world of telecommunications scenario, but, most of all, how Sicily--with its Palermo Center--is the central point between the geographic area of the Mediterranean and the main directions of the world traffic: Europe and the Middle East today, the Atlantic Ocean and the Americas tomorrow.

Figure 1

Integrated optical-fiber network in the Mediterranean



Key:

1. Integrated network: Western section
2. Integrated network: Western section
3. Integrated network: Eastern section

Figure 2

Underwater coaxial cable network in the Mediterranean



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CSO: 5500/M124

ITALY

OLIVETTI, TELEVAS EXECUTIVES VIEW PROSPECTS FOR TELEMATICS NETWORK

Segrate ZEROUNO in Italian May 86 pp 7-9

[Interview with Elserino Piol, strategy manager of the Olivetti Group and major shareholder of Seva; and Simone Fubini, president of Televas; date and place not given]

[Excerpt] [Question] Is the current Italian telematic network large enough to develop value added services? They say from the viewpoint of supply we are late in comparison with other countries; from the viewpoint of demand not many efforts have been made in order to create and stimulate it. What do you think about it?

[Fubini] At present we are at the beginning of a phase that will launch the application of telematic services and at the same time introduce significant innovations in the structure of public networks [putting into operation the Fonia Dati network, starting the Itapac network, launching of direct digital connections]. The evolution of telematic services and the public network consistent; the hard part will be maintaining their development with a reciprocal balance, in order to avoid slowdowns and distractions in the fulfilment of the market demand. We are near a period in which remarkable changes in the traffic structure will be seen and the provider of the telephone services will have to keep in close touch with the market to recognize its new requirements and ready itself to comply with them; it will be necessary to further to the utmost the cooperation between public managers, large private users and operators who will provide for the supply of telematic services.

The creation of joint ventures like Televas or Seva and the starting of a gradual deregulation just as it has been pointed out by SIP, together with certain revisions of rate structures [e.g.: volume rates], go in the proper direction to establish a convergence of thought and developments among public corporations, users and private operators. An opinion on the demand of telematic services being sufficiently stimulated can be given only in the future, perhaps soon, when we will have the first market reactions as well as sufficiently structures VAS supplies oriented to specific users. As a demand incentive, the inclusion into the network by public operators of some VAS [videotel, electronic Yellow Pages, Telemedicine and so on], some of which are actively made marketable, is undoubtedly positive.

[Piol] The present network is large enough to begin VAS in Italy, as Seva shows. However, it does not yet allow an optimization in terms of costs and start-up speed. It is therefore incontestable that the progress of the national transmission network is fundamental for economic development of VAS. Many services, like the Credit Authorization, can work perfectly on networks that are already widely present in Italy, like the telephone network. The technological gap, even if it exists, can be filled if there are the economic assumptions and the political will to get the transmission infrastructure to increase. As regards the demand, the VAS market is at present in the "infant" stage and the true effort to "create" a demand is beginning only now, both in Italy and abroad, where applications have been until now experimental or nearly experimental and only now is it becoming a widespread activity.

The presence of new VAS Italian initiatives both by the private component [like Olivetti] and the public one [like STET or ENI] allows one to conclude that all parties have a firm intention of promoting the VAS market.

[Question] To which sectors do your value added service corporations apply? Through which instruments and actions? When is the break-even point to be expected for a VAS? Can the different rating methods be a problem?

[Fubini] Televas applies to a VAS market with high value added, namely with a high application content, therefore they tend to supply VAS for groups of users who are bound to each other by a certain body of applications, therefore to particular market sectors. The initial choice of the distribution market has been based on the fact that it allows a significant series of VAS to be applied to large groups of potential customers: from the order entry to the data collection [from the POS: points of sales], the electronic payment, the connection with associated firms, the services of logistic optimization. Today the value added services actually solve problems of connection between various user systems. For instance: manufacturing and distribution companies with suppliers, customers and associated firms, the bank system and the system of services [financial, insurance and so on]. Televas will move in the guidelines described, by employing to the utmost the experiences which will be made available by such important associates as SEAT, SIP and Iniziativa MeTa. Televas has already started its office in Via Cernaia 2, Milan, and they are soon going to complete their organizational structure; at present initial negotiations with big customers are in an advanced stage as well as the compilation of a preliminary catalog of services and a study to choose the most appropriate solutions for a service center. These are the premises for starting the work within the first half of this year. The supply of value added services, like that of all telecommunications services in general needs a relatively high critical mass of users to be profitable. In this way, the investments needed to give a high quality service can be suitably amortized. The main problems a VAS corporation has to confront are fundamentally: 1) The determination of application uses common to significant groups of potential customers. 2) The need to make compatible the data processing resources of the users. 3) The need to acquire and assist an ever growing number of users. A VAS corporation must have an organization that takes into account the availability of highly qualified resources, especially in the field of marketing, trading, customer servicing and data processing know-how. A break-even

situation for an added service center is not conceivable in standard terms, but it depends upon many parameters subject to the level of value added supplied, the type and the number of customers, the network structure. Until now, many examples produced negative results, but there are examples of services which broke even already after the second year, as shown by the case described in the table, where the acquisition of 1,000 customers a year is assumed, involving cables of 3 million lire each.

[Piol] The financial institutions are the first target of Seva for services like Credit Authorization, financial information and so on. Other services like order entry or message handling apply to a wider and more complex sector of users, connecting for instance industries and individuals [home banking, electronic mail]. The tariffing, and herewith collateral costs and modern concession taxes and additional equipment, certainly can be a hindrance to the development of services, if they cause the latter not to reflect the true market economics. We hope that the regulations will assimilate this fact and make the use of VAS cheaper for users.

[Question] Which VAS characteristics are winning?

[Fubini] In the beginning the most required features of a VAS must result in a saving of operating costs with respect to the management of an already existing system developed inside the group [e.g. a company order entry system], or in the access to services that cannot be economically developed independently. Afterwards other elements will follow, such as speed of access to the data and their correlation, to optimize the operative power and improve the decision-making capability, also for instance through services based on expert systems. A key element for the success of the services manager will be the quality of the post-sale assistance to customers.

[Question] Are there situations hindering the development of a service? What are the expectations of a supplier in this connection? How many VAS will the Italian market hold?

[Fubini] In this stage of a rising market there are many aspects to be understood, and it is therefore relatively easy for the various protagonists to introduce elements hindering the development both in the areas of legislation and tariffs. Let's consider, for instance, the case of the electronic payment system: must it be developed/controlled by the bank system or by the distribution system? The distribution system is unlikely to give up a connection free from all significant bonds with its customers. A private operator can only want a decision-making ability in the country that allows it to quickly overcome all legislative, tariffs or other impediments due to the fact that some inherent aspects of the telematic services will be understood only after a certain period of experience. Moreover with the growth of traffic a gradual cost reduction per information unit transmitted is hoped for. Furthermore it is difficult to indicate precisely how many VAS can co-exist. I think there will be space for a limited number of scale operators, including public operators that will be obviously the most qualified to provide for the so-called base VAS, like for example videotex, electronic message handling at national level, etc. While private operators, often in joint-venture with public operators, will fundamentally provide for services with remarkable applicative content. Furthermore there will be many little private operators holding very specialized areas: database providers for particular segments of marketable goods, etc.

[Question] What had Olivetti to gain from coopting SIP in Seva? Who will sell Seva's services: All associates?

[Piol] STET has know-how in the field of telecommunications that can be fundamental for an initiative like Seva to be successful. During the negotiations SIP stood out as the most suitable operative corporation of the STET group to participate in such an initiative. Seva has among its plans a further extension of their presence in financial institutions through the development of new applications. It is therefore a priority for Seva to develop software instruments required to supply such services [e.g.: data capture, data bank, etc.]. The development of technical and market instruments to achieve a significant presence in the area of distribution [order entry] is in an advanced stage too. From the distributive viewpoint the current 10 service centers will be increased until they reach a nationwide diffusion [about 100 centers] by the end of 1987. Seva has its own sales structure, but it will certainly use the support, even marketing support, of all its associates.

[Question] Is it necessary to think of only national or inter- or supra-national VAS? What is the potential market of VAS by 1990 in Italy? Who will be the most important operators?

[Fubini] VAS suppliers certainly are international in scope, first of all because their services cover a network connecting user systems which are today clearly international: in fact, today what manufacturing or servicing corporation has no international characteristics in the suppliers or in customers systems or in the distribution and financial network? The national VAS suppliers must therefore prepare themselves to face international competition; thus they will imply a considerable commitment, considering the differences in national telecommunications standards, especially in Europe. The big international operators will be the large groups supplying telecommunications services [e.g., Bell Operating companies, British Telecom, etc.], the large data processing and telecommunications groups [e.g. IBM, AT&T], joint ventures of various kinds among the named groups, and major users. The main VAS operators in Italy will originate almost always from joint between banks, service operators, trade unions, network managers and information technology industries, because in order to be efficiently realized VAS requires a confluence of user systems which must talk and work together as they are interdependent in their operations and interests, as well as specific applications and technological know-how.

[Piol] An estimate of the size of the market by 1990 is at best difficult. However, I think the market will be able to support more than one multiservice national initiative and many initiatives of a regional nature or one addressed to specific classes of users. In order to obtain significant success it is also important to look at the international market, both directly and through cooperation agreements with other initiatives. Olivetti intends to adopt a mixed policy of direct contact and agreements.

[Question] Will Olivetti, in the international line-up of telematics, permanently share the destiny of AT&T?

[Pio1] Olivetti is completely autonomous in defining its strategies, as it was in the case of Seva. However it is certain that Olivetti sees AT&T as a strategic partner for a long-term cooperation. Olivetti's independence and its ability to reflect the market's needs are indispensable qualities to making a contribution to AT&T. In Seva's specific case the system design is Olivetti, but some AT&T technologies are used in specific cases [for instance 3B computer in the nodes].

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CSO: 5500/M132

ITALY

BRIEFS

ITALSTAT LAUNCH SET--Cannes. The first Italian telephone satellite, Italstat, will go into orbit between June and September 1989. It will have to be launched by the European Ariane rocket, even if it costs 20 million lire more than the U.S. space shuttle (107 billion versus about 80). After the Challenger disaster, the U.S. spacecraft will need at least 18 months recovery time and cannot guarantee to make any launchings by 1989. The obligatory choice of Ariane must be decided by 30 June by the national space plan; after that date Arianespace, the firm that sells the rocket, cannot guarantee the launch by 1989, and in any case it will increase prices. Since the misfortunes of the U.S. carrier, Arianespace has been besieged by customers. Selenia Spazio, which is responsible for the satellite, has signed a contract worth about 335 billion lire with the national space plan, and the plan manager, the president of CNR, is expected to sign it shortly. The contract, which covers some stages which have already been concluded, provides for the satellite to be delivered in the spring of 1989. Italstat will eventually cost about 570 billion lire, excluding the launching, for the orbit management by Telespazio, the insurance, and a second satellite. Italstat is a pre-operative experimental satellite which, besides providing telephone connections between some very busy centers in Italy, will transmit ultrahigh 20-30 GHZ frequency data and conduct propagation trials with even higher bands (40-50 GHZ). These experiments will evaluate new frequencies which are free, but are influenced particularly by rain. Aeritalia, Fiar, Laben, GTE, Snia-Bpd and Galileo are cooperating with Selenia. On launching, Italstat will weigh 1,650 kilograms. If the choice of Ariane is confirmed, Italstat will go into geostationary orbit from the Kourou missile range. [Excerpts] [Rome IL POPOLO in Italian 28 May 86 p 20] 8604/12859

CSO: 5500/M155

SPAIN

TELEFONICA, CORNING GLASS TO PRODUCE OPTICAL FIBERS

Madrid YA in Spanish 19 Apr 86 p 14

[Text] The Telephone Company yesterday climaxed its strategy of getting into the television business by signing a contract with the U.S. company Corning Glass, according to which both companies will establish industrial installations in Spain for producing optical fibers. The agreement between the two companies involves an investment of some 4,500 million pesetas in the new company (Telcor), whose capital will be 1,050 million pesetas, distributed between Telefonica (35 percent) and Corning Glass (with the remaining 65 percent).

Negotiations between Telefonica and Corning Glass have been going on for more than two years and, because of their protracted delay, have given rise to all sorts of rumors. According to company sources, the reason for the delay was Telefonica's existing uncertainty about the company's future according to the provisions of the Telecommunications Organization Law (LOT). Luis Solana recently advocated that it be considered in planning future telecommunications networks that will have to be established because of the birth of private television companies and expansion of future networks for data processing, defense, police, etc.

Several telecommunications networks coexist in Spain at the present time, which is a unique case in Europe, besides causing conflicts between ministries for security reasons. However, LOT, which has just been distributed between specialized media for study, and ideas under consideration regarding the future of private television have dispelled Telefonica's doubts, after considering its interests in what would be the establishment of a national telecommunications infrastructure. Javier Nadal, general director of Telecommunications, himself stated on Thursday that the most important concept of the proposed law is the creation of a single telecommunications network. And although no one has said so explicitly, it is already considered certain that such a network will be the subject of an agreement between Telefonica and the government, therefore its operation in a monopoly system would be assigned to Telefonica. Thus in the intermediate term the transmission networks of Spanish Television, the Ministry of Defense and any other network which might be established will fall under Telefonica's jurisdiction.

Free Hand

Now that doubts concerning the management of this network have been dispelled, Luis Solana finds himself free to sign the contract with Corning Glass, without having to specify the size of the plant. When the subject was discussed a year ago, a production figure of 60,000 kilometers/year was mentioned, whereas yesterday's official announcement stated that Telcor's production capacity would initially be 85,000 kilometers/year and would eventually increase to 110,000.

The new installations will provide employment for some 80 persons and will probably be located in southern Asturias, as the principality offers advantages in addition to proximity to Standard Electric's cable factory in Maliano (Santander), which would be the ideal candidate for producing optical fibers and subsequently processing them into cables. Standard Electric is presently negotiating the sale of the Santander factory with the German company Siemens.

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