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RESEARCH AND DEVELOPMENT

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INTERSPUTNIK GROUND SATELLITE OPERATIONS CITED

BK221335 Vientiane Domestic Service in Lao 1000 GMT 22 Dec 82

["Good Deeds, Outstanding People" feature: "Engineer of the New System"]

[Excerpts] Respected Listeners: The Intersputnik ground satellite relay station, built and installed by the USSR Government and presented as a gift to the LPDR, is a symbol affirming the great friendship and solidarity between Laos and the Soviet Union and is an initial gain of the task mentioned in the first 5-year state plan which was mapped out for the period of transition to socialism. This practically reflects the implementation of the LPRP Central Committee's resolution which says that in building socialism, we must completely rely on socialism. Meanwhile, this station is like a bouquet of flowers for the 60th anniversary of the founding of the Soviet Union.

The writer of this feature once met with Comrade (Phouthong Seng-Akhom), head of the board of directors of the Lotus ground satellite relay station. Comrade (Phouthong Seng-Akhom) was born in Luang Prabang Province. After completing his primary education in his hometown, he joined the revolution together with his brother in 1959.

At present, the Lotus ground satellite relay station has been utilized to serve the political, economic, cultural, social and specialized tasks, boost production development in accordance with the growth of the Lao society, closely and directly link the telecommunications system of the LPDR with those of the socialist countries, thereby gradually detaching Laos from the capitalist countries and preparing all conditions to cope with sabotage activities by the imperialists, the Chinese expansionsits and hegemonists, and the international reactionary groups.

Comrade (Phouthong) explained that the satellite telecommunication system has two technical functions. The first function is to directly receive signals from a satellite, while the other is to transmit the satellite signals to Vientiane. Each function is composed of receiving and transmitting antennas. These disk-shaped antennas are 12 meters wide. The antenna transmitting signals to Vientiane is 108 meters high. The antenna transmitting signals from Vientiane to the satellite station is 78 meters high.

Our satellite station, if used to its full capacity, has 12 channels and 144 telephone channels. Two channels can be used for telegram, teletype and other telecommunications systems. Our color television system can be linked with all countries through the countries that have Intersputnik satellite stations.

At present, we are experimenting direct telephone links with Moscow on one channel, receiving television programs from Moscow on another channel, and maintaining telephone links with Hanoi on still another channel.

In conclusion, Comrade (Phouthong) told the writer that Lao cadres have not yet had workable knowledge in this field. Since the construction work began, Soviet experts have assisted them in working and training. Nevertheless, the Lao cadres have tried their utmost to learn from the Soviet experts.

CSO: 5500/4322

BRIEFS

'OANA' NEWS EXCHANGE--THE ORGANIZATION OF ASIA-PACIFIC NEWS AGENCIES, OANA, has reached agreement with two news exchange links that will enable OANA news to reach 50 countries in Africa and 14 in Latin America and the Caribbean. The agreements were reached in principle at meetings in Tunis on 13 November with the PAN-AFRICAN NEWS AGENCY, PANA, and the Latin American group of news agencies, ASIN. The news exchange between OANA and PANA will begin soon after PANA starts operation, probably in March 1983. The news exchange with ASIN is expected to begin in a month or two. [Kuala Lumpur International Service in English 0800 GMT 13 Nov 82 BK]

CSO: 5500/4315

THAILAND

BRIEFS

SSPT OPERATION DISCUSSED--In its early days, Voice of the People of Thailand News Agency [Samnak Khao Siang Prachachon Laeng Prathet Thai--SSPT] of the Communist Party of Thailand [CPT] was operated by Comrade Chon (Roeng Mekphaibun). SSPT was established in the upper part of Nan Province after the closure of Voice of the People of Thailand Radio. In late 1969, when the party's leadership center was moved to the southern part of Nan Province, SSPT was operated by Prasit Taphianthong together with Comrade Latda (Wipha Udomchan). Later Comrade Khwan (Phirun Chatwanitkun) from Unit 60 (student center of Thailand), Comrade Kawon (Chonthira Sattayawkatthana) from Unit 20, a political unit, and a few students joined the SSPT staff. After the party's leadership center was moved to the south, Phirun Chatwanitkun was assigned to be fully responsible for the operation of SSPT. [Text] [BK050954 Bangkok SIAM MAI in Thai 7 Jan 83 p 9]

CSO: 5500/4323

BULGARIA

INTERSPUTNIK SESSION BEGINS IN SOFIA

AU201543 Sofia BTA in English 1430 GMT 20 Nov 82

[Text] Sofia, 20 Nov (BTA)--It is for the second time that Bulgaria is hosting a regular session of the international organization for space communications "Intersputnik."

"Intersputnik" is the organization which secures the cooperation between the member states in the sphere of space communications and coordinates their efforts in the exploitation and the development of the communications system via man-made satellites. The organization is playing a major role in the uniting of the national systems for the transmission of data, for the carrying at long distances of television and radio broadcasts and for the construction of inter-continental telegraph and telephone links.

The Soviet Union has granted the socialist countries and other states the chance to use its great achievements in the sphere of communications via artificial satellites. One of the nine founding members of the organization /1971/ was Bulgaria, said Mr Pando Vanchev, the Bulgarian minister of communications in his opening speech here today. This is the ninth session of the council of "Intersputnik."

The work of the session is attended by specialists of Afghanistan, Bulgaria, Vietnam, the German Democratic Republic, Yemen, Cuba, Mongolia, Poland, Romania, the Soviet Union, Hungary and Czechoslovakia. There are also observers from Algeria, Nicaragua, Japan and from the International Radio and Television Organization [OIRT].

In the course of a week there will be discussed the possibilities of adopting new communications channels, for equipping of the ground space stations with new facilities, the distribution of channels between the member-states, the regulations for the control of stations, and some financial and administrative questions related to the efficiency of the organization in 1983. Great attention is being attached to the forthcoming signing of a treaty for the hiring of Soviet communication satellites in the 1983-1985 period.

Another item on the agenda of the session is the discussion of a proposal for cooperation between "Intersputnik" and the international "Inmarsat" organization for sea satellite radio connection. There will be outlined the forthcoming tasks drawn up in view of improving the international television exchanges, the work of the telephone and telegraph communications, and for the expansion of the system for space communications. It is expected that some documents will be approved which are to contribute to the stepped up transferring of "Intersputnik" into a stage of commercial exploitation and expanded cooperation in the sphere of space links.

Bulgaria is one of the most active members of "Intersputnik." Nineteen hundred seventy-seven is the year of the first telecasts in the country, received via the ground station for space communications. At present half of the television international exchanges in the sphere of television are carried out via space. Picture and sound are transmitted to some of the neighboring countries as well. In order to ensure space communications the Soviet satellite "Statsionar-4" has been used. The ground space station is used also for research work in radio-electronics and astronomy.

CSO: 5500/3005

BULGARIA

BRIEFS

MARITIME SATELLITE COMMUNICATIONS--Sofia, 7 Jan (BTA)--Stations for maritime satellite radio-communications have been put in operation on four more ships which brought the number of Bulgarian sea vessels with space terminals to seven. In 1983 thirteen more such stations will be imported from Japan and mounted on the ships by Bulgarian specialists who have returned from a qualification course in that country. By 1985 the other ships of the Bulgarian Marine Fleet agency have been planned to be supplied with Soviet space terminals. A terrestrial coastal station will be put in operation in the Soviet town of Odessa this year and will be used by the Bulgarian ships. [Sofia BTA in English 1330 GMT 7 Jan 83 AU]

CSO: 5500/3006

MEXICO

COMMUNICATIONS SATELLITES, STATION PURCHASED

FL231604 Mexico City NOMITEX in Spanish 0042 GMT 23 Nov 82

[Text] Mexico City, 22 Nov (NOTIMEX) -- President Jose Lopez Portillo today attended the signing ceremony of an agreement by which the Mexican Government acquired two satellites at a total cost of \$92 million. The contract, with the U.S. Hughes Corporation, includes the installation of a tracking and monitoring station for the satellites, as well as the operation of two logistics support services during the manufacture and placing of the satellites at the launching site.

During the working tour conducted by President Lopez Portillo of the Federal District and Queretaro to inaugurate telecommunications and transportation projects, two other contracts were signed with U.S. corporations. One of them was with NASA for placing the satellites in an orbit, approximately 300 km from earth, inside two capsules or propulsion modules. The two satellites will be sent aloft in April and September 1985, respectively, and launching them will cost approximately \$28 million.

In a ceremony held at the central communications tower, a third contract for \$11 million with the MacDonalld Hughes Corporation was announced. This will cover the purchase of the propulsion modules which will transport the satellites from the orbit in which they will be placed by the launching space vehicle up to the altitude of the equatorial orbit.

CSO: 5500/2024

TELECOMMUNICATIONS PROJECTS REPORTED

Algiers EL MOUDJAHID in French 12 Dec 82 p 3

[Article by Djamel Benzaghoul: "Telecommunications: Three New Centers In the Capital. Inauguration Of the Central Posts and Telecommunications School of Oued Smar (El-Harrach)"]

[Text] Yesterday morning, Mr Bachir Rouis, member of the Central Committee and minister of posts and telecommunications, inaugurated three important telecommunications centers in the capital as well as the Central Posts and Telecommunications School of Oued-Smar, in the El-Harrach district.

The official ceremonies were attended by Messrs Mohamed Nabi and Mohamed Rais, members of the Central Committee and respectively minister of vocational training and secretary of the Algiers Commissariat; Col Abbes Gheziel, member of the Central Committee and permanent secretary of the High Security Council; the head of the Algiers military district; the central director of transmissions at the Ministry of Defense; Mr Ahmed Ghazi, governor of Algiers; and many high officials and directors from the ministries and national enterprises concerned.

Representatives of national and foreign manufacturers also attended the ceremonies.

The progressive automation of our telecommunications network under the various plans has generated a rapid increase in the demand for telephones and, therefore, in the overall traffic of the national telephone network.

It is a well-known fact that the increase in the demand for lines and in the traffic has always been much larger in Algiers than in other regions of the country.

According to the officials concerned, the three projects inaugurated yesterday morning Place-du-Premier-Mai include an amplification center operating on a coaxial cable connecting Oran, Algiers and Constantine, an urban sub-zone center and a manual toll office; the three centers were installed to meet the country's development requirements and the necessity for a continued improvement in the quality of the telephone service in the capital and in its connections with the various regions.

The following figures will give a better idea of the situation in this sector: in the Algiers governorate--which accounts for one third of the national network, one third of the domestic traffic and two thirds of the international traffic--120,000 households have the telephone.

To dispatch Algiers' traffic from and to other domestic and foreign callers, tandem exchanges are required and must be expanded as traffic requires.

Mr Rouis and the officials attending these inaugurations showed a keen interest in the facilities and in the explanations given by center officials.

As far as the amplification center and the Oran-Algiers-Constantine coaxial cable are concerned, the officials concerned emphasized that this "telephone highway" consisting of one coaxial cable has a total capacity of 2,700 simultaneous telephone calls.

The cable consists of coaxial pairs and four service lines for small communities located along its route; it was manufactured by the SONELEC [Algerian National Company for the Manufacture and Installation of Electrical and Electronic Equipment] telephone cable manufacturing facilities.

According to the officials we talked to, the installation of the cable involved digging 900 km of trenches and installing 140 km of pipes in all the towns and villages along the route. The installation of the cable and its connection were made by technicians of the two national companies: SONATITE [National Telecommunications Infrastructure Construction Company] and SONELEC with the assistance of the Japanese companies which supplied the equipment.

Seventeen amplification centers in the towns of Oran, Arzew, Mostaganem, Relizane, Chlef, Khemis-Miliana, Blida, Algiers, Setif, Chelghoum Laid and Constantine were equipped with multiplex, and repeaters were placed every 2 km to amplify these signals.

All equipment, they added, is first-generation electronic equipment conforming with International Telecommunications Union standards, and they stressed the knowhow acquired by Algerian technicians with respect to installation as well as operation and maintenance.

We should also mention that the systems used are now taught at the Institute and at the training schools of the Ministry of Posts and Telecommunications which made a considerable effort to train teachers.

Fifty Thousand Calls Processed Every Hour

The (CT4) urban sub-zone center completed under the first Four-Year Plan was expanded several times until the building was saturated.

The importance of the capital's network and traffic density within the Algiers governorate and with bordering governorates have led the Posts and Telecommunications administration to contemplate using a new building (Mustapha IV) for the installation of a center that would relieve traffic congestion in the capital and, therefore, the heavy load placed on the Algiers "four-wire" sub-zone center.

With its 3,000 connections with the Algiers urban centers, its 1,000 connections with suburban centers such as Ain-Taya, Bordj-El-Bahri, Bordj-El-Kiffan, Staoueli, Zeralda, Cheraga, Birkhadem, Rouiba and Boumerdes, the CT4 center, the same official also stated, offers 1,400 connections with the Blida, Tizi-Ouzou, Medea, Bouira, Djelfa and Chlef governorate seats and with the Arba, El-Affroun, Hadjout, Bou-Ismaïl, Cherschell, Tipasa, Boudouaou, Thenia, Boufarik and Khemis-Miliana district seats. The center has a peak load capacity of 50,000 calls.

The center could be expanded. It is based on a technology for which our country has the required knowhow, both with respect to maintenance and to industrialization since the Tlemcen plant manufactures equipment of that type.

We should point out that this new international center will complement the Algiers CT4 center and the urban sub-zone center also inaugurated yesterday morning. It will vastly contribute to improve the quality of the telephone service and will also be much easier to operate.

Despite the automation of the domestic telephone network, a large part of the traffic--to and from numbers not yet connected to the automatic toll network--is still dispatched manually.

Even though this traffic amounts to only eight percent of the automatic traffic, it has received the attention of the Ministry of Posts and Telecommunications, and the center just inaugurated will make it possible to dispatch all the traffic. It will now be staffed by 120 operators dispatching the traffic, assisted by 72 "record takers" who receive requests for calls and transmit them to their colleagues who put the calls through as quickly as is feasible.

For a Steady Improvement in Services

The central Posts and Telecommunications School which was then inaugurated by Mr Rouis and the officials who accompanied him is located at Oued Smar (Eucalyptus) in the El Harrach district.

This new construction, the officials concerned stated, comes in addition to the Oran Telecommunications Institute, the Jeftah, Dellys, Oran (Andalouses), Constantine and Seraïdi vocational training centers, and the four operating training centers located in Oran, Algiers, Constantine and Ouargla.

The school capacity is adequate to train 650 students at a time; it also has boarding facilities for 600, part of which is reserved to accommodate 100 women trainees.

The central school will train higher operating personnel, supervisory personnel for all departments of the Posts and Telecommunications administration, and operators for governorate centers and offices in the center of the country.

During their visit, the minister and the delegation accompanying him showed interest for the teaching and administrative facilities which the school operation required. The schools includes 18 classrooms and 18 laboratories

equipped for practical work, a 150-seat auditorium, a library and various rooms that will house modern teaching media.

Five hundred students are already in training at the school; the national language is used in teaching the theoretical part of the operational training, and French is used in technical classes and during supervised and practical work in all sections. All teachers are Algerians.

The inauguration of these large facilities at the end of the third year of the Five-Year Plan once again demonstrates the desire of the Ministry of Posts and Telecommunications to fulfil its duty as a public service in ensuring a steady improvement in the many and multiple services it provides.

We should point out that, like all other sectors concerned, this ministry has been assigned additional tasks representing its contribution to the improvement of the standard of living in the Algiers area and throughout the national territory, as a result of the recent guidelines issued by the Chief of State at the time of his inspection and working visit to the Algiers governorate, and of the recent decisions of the Council of Ministers in favor of the Algiers area.

The officials concerned also emphasized that the balanced geographical distribution of the large amounts invested in this sector under the successive national development plans now make it possible to ensure a better flow of the telephone traffic and to reduce progressively the tensions inherent in the underequipment that remained to be corrected and in the increased use of the privileged means of communication which the telephone has become, which was to bring about the creation of adequate infrastructures.

We should mention that the Ministry of Posts and Telecommunications will also soon implement a series of measures to improve the quality of its service, by bringing its services closer, and therefore making them more accessible to the people. Among these measures, we should mention the sale of postage stamps at newspaper and cigarette stands, the multiplication of public telephones inside public buildings and in public places (railroad stations, stores, stations, hotels, restaurants, etc), the systematic installation of mail boxes and public telephone booths, and the installation of public telex facilities at airports and universities.

9294

CSO: 5500/4602

ILLEGAL PIRATE TV STATIONS SAID TO ABOUND

TA041048 Tel Aviv HA'ARETZ in Hebrew 4 Jan 83 p 2

[Report by Eli Kohen]

[Text] Dozens of pirate cable television stations, possibly even more than 100, have been operating in Israel illegally. This is the assessment of senior Communications Ministry elements. In the last few months, the ministry has submitted dozens of complaints to the police about this, and in the last few weeks subsequently the activities of stations in Qiryat Gat, Pardes Hanna and Or 'Aqiva have been terminated.

The Communications Ministry is very annoyed with what it calls "the lack of cooperation on the part of additional elements in speeding up work toward consolidating and legislating laws on cable television. This situation could lead to total anarchy in this field." Senior ministry officials point to the fact that for more than 18 months now the minister of communications has been trying to accelerate action on the matter, but to no avail. A meeting scheduled for last week on the subject together with the prime minister, the education minister and the attorney general was ultimately called off.

This HA'ARETZ correspondent notes that following the Bar-sela' report which recommended an immediate regulation of the operations of cable television, an argument has erupted between the Communications Ministry and the Education Ministry over the question of who is responsible and authorized to operate and supervise them. All contacts on the matter between Ministers Tzipori and Hammer that have taken place so far have brought no results.

CSO: 5500/4513

ISRAEL

BRIEFS

PHONE LINK RESTORED--The telephone link between the 'Ezyon airbase near Elat, in Egyptian territory, and the local airport in town has been restored after a 3-month cut. Our correspondent Eytan Rabin reports that the Egyptians were the ones to disconnect this line, but maintained that it stemmed from a technical problem. [Text] [TA231331 Jerusalem Domestic Service in Hebrew 1300 GMT 23 Dec 82]

CSO: 5500/4513

LEBANON

BRIEFS

ANTENNA FOR RECEPTION IN ISRAEL--The Californian Christian Community (E-Adonger) together with the Christian Broadcasting Network CBN will set up a huge antenna within 2 months in southern Lebanon so that radio and television broadcasts from southern Lebanon can be picked up in extensive areas of Israel. It has been learned that the IDF has issued the appropriate permits for setting up of the antennas in Lebanon. The equipment for erecting the antenna may arrive via Lebanon. [Text] [TA091148 Tel Aviv HA'ARETZ in Hebrew 9 Jan 83 p 3]

CSO: 5500/4514

INTER-AFRICAN AFFAIRS

BRIEFS

COMPUTER DEAL FOR ECOWAS--The Economic Community of West African States (ECOWAS) has signed an agreement with France to computerise customs and trade statistics in West Africa. The programme involves using computers for trade and business in order to reduce risks. Dr Abubakar Ouattara, ECOWAS executive secretary, said the agreement was vital to develop the ECOWAS free trade programme. [Text] [London WEST AFRICA in English 13 Dec 82 p 3225]

CSO: 5500/70

BRIEFS

NEW RADIO STATIONS--The Cross River government is to build two radio stations at a cost of ₦945,000, the state Director of Information, Chief John Esin has said. Chief Esin told the News Agency of Nigeria (NAN) that the stations, to be sited at Abak and Ogoja, would be received throughout the state. The director disclosed that the state-owned newspaper corporation had been reactivated at a cost of ₦750,000, adding that the exercise book factory of the company had started full production. [Text] [London WEST AFRICA in English No 3409, 6 Dec 82 p 3183]

CSO: 5500/69

SEYCHELLES

TELEVISION TRANSMISSIONS BEGIN 1 JANUARY

AB010658 Paris AFP in English 0422 GMT 1 Jan 83

[Text] Victoria, Dec 31 (AFP)--The Seychelles began television broadcasting today with the inauguration of Radio-Television Seychelles (RTS) first transmission.

The broadcasts, using the PAL color standard, will at this stage reach 40 percent of the population of the Indian Ocean archipelago.

In his inauguration speech, President France Albert Rene said television will educate citizens in the interests of progress and national understanding. The decision to introduce television, he said, was based on the political belief that "we have to use every means possible to educate ourselves so that we improve ourselves and understand each other."

Underlining the great potential of television to boost development, President Rene said the country's cultural and economic potential would be rediscovered through the contact television established between people, what was happening in their country and the rest of the world.

RTS will initially go on air only at the weekends, with a total of nine hours of broadcast on Fridays, Saturdays and Sundays. A break in transmissions has been scheduled to allow families to have dinner, listen to the radio and do other things. Programs will be in Creole, French and English with the government attempting to boost sales of sets by importing them at low customs tariffs.

CSO: 5500/79

BRIEFS

DPRK BROADCASTING PACT--THE Minister of Information and Broadcasting, Dr. Moiwo Korji and the Ambassador of the Democratic People's Republic of Korea (DPRK) Mr Kim Byong Gi have signed on behalf of their respective countries an agreement between the Sierra Leone Broadcasting Service (SLBS) and the DPRK Central Broadcasting Committee for co-operation in the fields of Radio and Television broadcasting. The agreement provides for the strengthening of friendly relations and mutual understanding in all areas of radio and television broadcasting in the two countries. Following the signing, Dr. Korji expressed gratitude to the Korean government, hoping that both countries would realise benefits from the agreement. Ambassador Byong said that as both countries belonged to the Broadcasting Organisation of Nonaligned countries (BONAC) the agreement would further enhance greater understanding between the two-countries in Mass Media. The signing ceremony was witnessed by the Permanent Secretary, Ministry of Information Mr. Eugene Davies, the Acting Director General of Broadcasting Mr Bliss, the Director of Information Mr L.H.G. Williams Mr Lee of the DPRK Embassy, and the Controller of News, Mr Julius Grey-Coker. [Text] [Freetown DAILY MAIL in English 24 Nov 82 p 2]

CSO: 5500/65

TANZANIA

BRIEFS

NEW TRANSMITTER BEGINS TESTS--Zanzibar: Revolutionary Council chairman Ndugu Aboud Jumbe today visited Chumbuni to see the new radio transmitter in the process of being set up. The medium wave transmitter, bought from the (Hurst) Company of the United States, is expected to be installed soon. Once completed, transmitter will eliminate the problems faced by listeners to the Voice of Tanzania, Zanzibar, in different areas. Testing of the transmitter is expected to begin 20 January. [Text] [EA012030 Zanzibar Domestic Service in Swahili 1600 GMT 1 Jan 83]

CSO: 5500/78

UK COMPUTER FIRM NEGOTIATING FOR CAPCO SOFTWARE

Harare THE FINANCIAL GAZETTE in English 3 Dec 82 p 1

[Text]

THREE executives from Westinghouse Systems Limited of England are visiting Zimbabwe to sign an agreement with a local company to sell and service their company's computer software, and to discuss the possibility of supplying the Central African Power Corporation with computer equipment.

The officials are Mr Derek Stark, director and general manager automation, Mr D B Burgess, senior executive sales engineer automation and Mr Graham Courts, finance director.

Mr Stark told *The Gazette* that his company was looking for partners to service their computer equipment and act as sales agents and agreements to this effect has been signed with Realtime Limited.

"Zimbabwe's isolation during the sanction years did not mean it was behind in computer technology.

"In actual fact Zimbabwe was fortunate to have missed the earlier phase of computer techniques as it can now get the benefit of more advanced technology after just emerging on the threshold of the computer age," he said.

CAPCO had been soliciting tenders for the supply of sophisticated computer equipment for the past months and Westinghouse

had been considered on the short list.

"We have submitted tenders for the supply of about \$6,5m worth of computer equipment — a power control system with visual display units and when commissioned it will probably be the most sophisticated in the whole world even after the United States.

"The British Government is working enthusiastically with us and they are willing to help us," Mr Stark said.

He would not disclose any figure or how the British Government was going to assist in the deal.

If the contract is granted the equipment would be delivered at the end of 1984 and the commissioning would be completed by mid-1985. Three employees of Westinghouse would be in the country to help with the commissioning.

The agreement with Realtime would mean that the company will be in charge of Westinghouse's operations in the country including the CAPCO project.

Mr Stark said his company was looking at other projects besides the CAPCO one. The company had done commissioning work in the Far East and America and had only just started in Central Africa, he said.

ESA EARTH REMOTE SENSING SATELLITE TO BE LAUNCHED IN 1987

Duesseldorf VDI NACHRICHT in German 17 Sep 82 p 25

[Article by Horst W. Kohler: "Europe's Earth Observation Satellite in Preparation; Launch Foreseen for 1987; Microwave Scanning by Day and Night"]

[Text] After the recently achieved launch of the Earth reconnaissance satellite Lansat 4 (USA) and the French efforts, expected in 1984 to put the national satellite Spot and other missions in orbit with the European Ariane carrier-rocket, the European Space Agency ESA (Paris) decided a few months ago to carry out its first Earth Remote Sensing Satellite Program ERS. An industrial consortium with ESA member-nation firms as well as Norway and Canada is responsible for the project.

The new Earth reconnaissance satellite program of ESA will come under the name ERS, for Earth Remote Sensing Satellite. ERS-1 should be brought, by the end of 1987, into a heliosynchronous, circular orbit at a height of about 700 km with an Ariane 2 (or 3) type rocket. The nominal operation life of ERS-1 will be on the order of three years. The ERS-1 program serves for the investigation of the potential applications of satellite Earth-observation in the areas of weather and sea disturbance forecasting, support of offshore activities and the fishing industry, optimizing sea lanes, iceberg surveillance and measurement of ocean pollution. Furthermore, complex ocean interactions, such as tides, wind and wave fields, currents and circulation are to be studied.

The satellite will have a modular construction: A "Support module" (already developed under the French Spot Remote Sensing Program) ensures that the instrument antennas are aligned with the required accuracy with the Earth, that the necessary power (by solar generator and batteries) is available, and that the steering and control of ERS-1 from the ground is safeguarded. The second chief design component of the new ERS satellite is the payload module which carries the experiments. The program is completed by a ground segment for control and steering of the satellite and for preparation and dissemination of the instrument data. This consists of a telemetry receiving and command station, mission management and control center, as well as data acquisition, processing, analysis, and records centers. It is expected that at least a portion of the processed satellite data will be available to the user after 3 to 6 hours.

According to the present project states, the ERS-1 payload will consist of an active microwave experiment AMI, radar altimeter, laser retro-reflector and, although not yet finally decided, a 3-channel infrared radiometer (along-track scanning radiometer, ATSR).

The decisive importance in using microwaves is that they are the only wavelengths that are either not at all, or only slightly subject to interference by our atmosphere, by fog or clouds. For effective long-term surveillance of the continental and ocean surfaces, this is an indispensable requirement, especially if observations are concentrated on the mostly cloudy northern half of the Earth. The region to be examined is actively illuminated by the sensor, so that microwave scanning can be done day and night. The active microwave experiment is a side-looking radar which is designed for different measuring tasks. The following types of operation are foreseen:

Side-looking radar with synthetic aperture (Sar) for high-resolution and high-accuracy representation of land and water surfaces. The demands on satellites with Sar-sensors are great. It is necessary to solve the problem of sending data to Earth, at a rate of 100 megabits per second which is only ever possible if this amount of data is already suitably reduced in the satellite itself by some type of data processing. Thus, it is not surprising that the costs of Sar sensor development alone are higher than those of the total "conventional" satellite project.

Measurement of two-dimensional wave spectrums for ocean waves over 50 m in length; Wind-scatterometer for the measurement of wind speeds between 4 and 24 m/s and the wind direction over ocean surfaces.

The altimeter is in principle a microwave radar, too. It determines the height of ocean waves, the distance between the satellite and Earth and also the wind speeds over the ocean. The altimeter operates in a high-frequency range of 13.7 GHz. The laser retroreflectors permit exact orbital tracking from the ground.

In May 1982, the financial support from the ESA member nations was assured to the extent that the system definition phase (Phase B) of ERS-1 could be begun. At the end of July, 1982, ESA contracted the Friedrichshafen firm of Dornier Systems GmbH to design the definition. Dornier thus assumes the administration of a European consortium of firms. After conclusion of the definition, sometime after the middle of 1983, Phase C/D, development of hardware, will begin. ERS-1 should be launched in 1987 and the succeeding satellite, ERS-2, will be launched in 1988. The launch and putting into operation of the satellite will be followed each time by a test phase, after which the given system will be cleared for utilization. The European ERS-program with its advanced microwave sensor payload will be the forerunner of an operational European microwave Earth scanning system.

ERS-1 design: The lower half is the support module with solar generator, above which are the Sar-planar antenna, the parabolic antenna for the radar altimeter and the two wind-scatterometer antennas at an angle to each other.

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MAJOR BUSINESS MACHINE FIRMS CONTEMPLATE MERGER

Hamburg DER SPIEGEL in German 13 Dec 82 pp 69, 71

/Text/ German business machine manufacturers wish to merge to cope with the Japanese competition. Unfortunately each of them has plans of their own.

Carlo De Benedetti, head of Olivetti, the largest European business machine manufacturer, got himself into hot water north of the Alps. "In the foreseeable future," the Italian predicted, some of our German competitors "will disappear from the market."

Benedetti's remark referred to two well-known German firms, Triumph-Adler AG, domiciled in Nuremberg (turnover just below DM2 billion, labor force just below 12,000), and Olympia AG, domiciled in Wilhelmshaven (turnover roughly DM1.2 billion and almost as many staff). Both firms will suffer losses this year in the amount of at least DM150 million, both are subsidiaries of troubled corporations--AEG (Olympia) and VW (Triumph-Adler).

Still, the Olivetti chief's obituary was somewhat precipitate. Something already discussed several times in the past by supervisory boards, consultants and the heads of the two firms (Peter Niedner for TA and Heinz Werner Krause for Olympia) seems now to be coming to fruition: Representatives from both firms are seriously negotiating about a merger of the ailing companies.

Should the merger succeed, Germans would (and for the first time) have an opportunity of besting the all-present Japanese in a promising industry. TA and Olympia's typewriters, calculators and word processors have just about managed to keep step with the electronic age.

From the technical aspect the two firms are well able to compete with their far eastern rival. All experts agree that the business machine industry is one of the few growth sectors. Though for a long time there has been much talk about the office of the future, where electronic devices such as computers, typewriters, word processors and telephones will be linked, the actual business is only just beginning.

TA and Olympia produce electronic typewriters and thus an important component of the future office equipment. However, either of them alone is unlikely to survive the competition of the Japanese and Americans.

Together TA and Olympia now produce at least half a million electronic typewriters. On the average and without optional accessories these cost DM3,000-4,000. Japanese competitors such as Brother and Canon have plants laid out to produce far more. They will therefore soon be able to offer their machines at a price lower by about DM500.

Moreover, early next year IBM, the U.S. computer giant, will enter this promising market. IBM will then sell an electronic typewriter to replace the now obsolete ball head machines.

TA and Olympia hope that the Americans will proceed very cautiously with their introduction of the new typewriters: After all IBM has several millions of the old machines still out on lease.

The Germans may therefore just have enough time to merge into a powerful business machine corporation. Much money could be saved if the two firms were to combine their development departments and jointly sell the equipment. Eventually production costs would fall, due to the longer runs.

In late summer the partners seemed to be largely agreed. AEG chief Heinz Duerr and TA supervisory board chairman and VW manager Horst Muenzner were discussing details. However Muenzner withdrew again when, on 9 August, the electrical engineering corporation declared insolvency.

Italian De Benedetti attempted to exploit the situation. The Olivetti chief offered to take over Olympia from the ailing AEG corporation. Unfortunately Benedetti lacks exactly the same as AEG: He has expanded his empire so quickly that he has no more money in hand for more acquisitions.

Another large firm, the Paderborn computer company Nixdorf, offered its services. Nixdorf is afraid of missing the opportunity of access to the office of the future. Though the Paderborn firm is still doing good business with its medium sized computers, it lacks a typewriter for its range of equipment. Moreover Nixdorf is said to covet Olympia's first rate marketing organization.

Nixdorf's offer to take over Olympia foundered on a characteristic feature of the family-run company: The computer firm wished to assume the sole running of the Wilhelmshaven company.

Instead of the intimate solution we are thus back to the wedding of the giants. The key role has once again been assumed by Hans Merkle, gray eminence of the German industry and head of the Stuttgart Bosch corporation.

Merkle is about to assure his firm of an appropriate ranking in the promising electronics industry. Guenther Bierbrauer, president of the West German Federation of Business Machine Dealers, comments that "now everything depends on Bosch."

For the past year Bosch has held almost 20 percent of Olympia's stock. This is due to a reciprocal deal with AEG chief Duerr. Last year, when Duerr needed money to avoid insolvency, Merkle stepped in: He purchased from Duerr part of the profitable AEG telecommunication business and, at the same time, took a holding in deficit-ridden Olympia.

Merkle's connections with TA are just as close. VW is the most important customer for Bosch auto accessories. Whatever Merkle intends to do with Olympia, he cannot afford to go against the interests of his best customer.

In close coordination with VW, Merkle and his people have now hatched plans for merging the two business machine firms. There is a question who will acquire what shares. An extra complication arises from the fact that Merkle wishes to include some Munich friends in the pact.

The Stuttgart company's chief will not do anything to injure Siemens AG, the pre-eminent West German electrical engineering corporation. Bosch and Siemens jointly produce refrigerators and washers, buy and sell components to each other and are closely linked by way of the Deutsche Bank, their common business bank.

Siemens is eminently interested in Bosch's Olympia participation. The Munich firm needs to regain its footing among the world's top producers of computers and sees a major opportunity arising from the office of the future. It sells word processors, telephones and data processing devices--but no typewriters.

So far Siemens is linked only to the U.S. firm Rank Xerox by cooperation agreements. Unfortunately the U.S. firm's typewriters are technically inferior to the products offered by TA and Olympia. Consequently Bosch planning includes participation by Siemens.

Yet, however sensible such a merger may seem, the final issue is still uncertain.

Hans Gissel, the AEG executive board member supervising Olympia, strongly opposes the merger. Gissel seriously believes that the Wilhelmshaven company will alone be able to hold up against the competition from Europe and overseas.

Gissel's optimism is confronted by other considerations: Olympia's collapse could make the merger cheaper. If the Wilhelmshaven firm were to be bankrupt, each new partner would be rid of at least part of the bank debts and pension obligations.

Whatever happens will have to happen fast. TA might be able to survive on its own for a while. Olympia, on the other hand, seems highly unlikely to last for another year. According to contract, AEG will no longer be obligated to assume Olympia losses after 1982--from 1983 on Gissel and Olympia chief Krause will be balancing on the high wire without a safety net.

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PTT ORDERS DATA BANK TERMINALS FROM MATRA, TRT, TELIC

Paris LES ECHOS in French 7 Dec 82 p 7

[Article by Alexandre Michel]

[Text] (From our correspondent at Caen)--Mt Louis Mexandean, minister of PTT, confirmed yesterday the signing, at the Calvados Prefecture, of a dual contract, under which TELIC [Industrial and Commercial Telephony] (CGE [General Electric Company] group and MATRA [Mechanics, Aviation and Traction Company], on the one hand, and TRT [Radio and Telephone Telecommunications Company]-La Radiotechnique (Philips group), on the other hand, will manufacture 300,000 Minitel electronic telephone directory terminals. For TRT, which will use its La Radiotechnique plant at Mans to fabricate 100,000 units, this represents its first real mass-production order. MATRA and TELIC, which are already present in the U.S. marketplace notably, will manufacture 200,000. These terminals represent a market of close to 400 million francs.

This order is further to the 300,000 terminals ordered in 1981 from TELIC. It is planned to manufacture twice this number the following year, so as to attain 1 million units by 1985. These terminals are models that the PTT will be distributing to volunteer subscribers in Ille-et-Vilaine beginning early next year, and to those in Picardy and Ile-de-France during the second half of the year.

Louis Mexandean's choice of Calvados for the signing of this contract was evidently intended to show, a few months prior to the municipal elections, that the promise made 1 year ago, to halt the decline of La Radiotechnique at Caen, is being kept.

As a result of the group's restructuring plan, the payroll, which at that time numbered 1,400 employees, was facing a possible reduction to around 800. Based on this order, RTC [Radiotechnique Compelec] has agreed to maintain a staffing of 1,075 employees on the payroll of its Norman unit, which, while manufacturing the terminals, will also be training its personnel, with a view to diversifying its activities into related fields.

According to the minister, this marks the beginning of a number of undertakings in domains such as electronic financial services (Caen is currently testing with credit cards). In addition, the formation of a regional association for the promotion of electronics is to be announced soon, the purpose of which will be to coordinate initiatives and facilities.

Mr Mexandeau viewed the signing of this order as contributing to two overall objectives: Reduction of France's external deficit and creation of a third salient in electronics through agreements with European countries--a direct reference to the negotiations in progress between Thomson-Grundig and Philips in the audiovisual domain.

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FRANCE

HAUTE-NORMANDIE INSTALLS TEST VIDEOTEX TERMINAL

Paris LES ECHOS in French 3 Dec 82 p 10

[Article by Robert Querret] (From our correspondent)--The Regional Chamber of Commerce and Industry of Haute-Normandie--in cooperation with the DGT [General Directorate of Telecommunications] and with the backing of the Regional Council--has recently undertaken a videotex testing operation.

During the first phase, the Chamber, based at Rouen, will create a data bank accessible by means of Minitex terminals connected to the telephone network. Two files are already accessible:

--That of the Industry Rapprochement Interchange, containing over 200 advertisements offering various opportunities for the taking over of enterprises, seeking partners and capital in connection with patents, licenses, etc;

--That of the Regional Marketing Interchange for the three Norman nuclear power plants (Paluel, Penly and Flamanville). The 1983 objective is to open these plants up to other sources of orders--Army, Navy, SNCF [French National Railroads], autonomous port authorities, etc-- so as to offer a greater number of potential markets to the regional enterprises. In addition, a file on aids to enterprises (terms and conditions, eligibility, amounts, procedures) should be in place within the next few weeks. And between now and the end of June 1983, the file "Who Is Selling and Buying What?" (2,000 Haute-Normandie enterprises) and the regional know-how file (concerning 400 enterprises) will in their turn be computerized.

Initially and until June 1983, only the eight local Chambers of Commerce installed in Haute-Normandie, the regional government services, and the Interdepartmental Office of Industry will be able to access this data bank. Eventually, the test will be broadened to include some 150 enterprises "that will agree to test the system with a view to improving its efficiency."

It is probably by 1985, when the electronic telephone directory will have been installed in Haute-Normandie, that this telematics facility will become truly operational and efficient.

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FRANCE

BRIEFS

UNDERWATER CABLE TO SINGAPORE--An Asia-Europe underwater telecommunications cable, between Singapore and Marseilles, France, will be put into service by the end of 1985. The cable--the world's second longest and costing around \$500 million--is being financed jointly by eight countries: Singapore, Indonesia, Sri Lanka, Saudi Arabia, Egypt, Djibouti, France and Italy. A meeting of potential investors is planned for 12-14 January at Singapore. The contract for the Singapore-Medan section, a length of 640 kilometers, has already been awarded to the French companies Cables de Lyon and CIT-ALCATEL [International Telephone Company-Alsatian Company for Atomic, Telecommunications and Electronics Construction]. [Text] [Paris LES ECHOS in French 6 Dec 82 p 7] 9399

AID TO INDIAN TELEPHONE NETWORK--France, through the CNET [National Center for Telecommunications], will take part in the modernization of the Indian telephone network, it was learned from a release issued by that body following the recent visit to France by the director of the Indian TRC [Telecommunications Research Center], Mr Swamunathan. [Text] [Paris LES ECHOS in French 6 Dec 82 p 7] 9399

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