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# KOREA BusinessWorld

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Mailing Address: Yoido P.O. Box 730 Seoul, Korea

Tel: 782-3648, 783-5431/2, Fax: K29839 KBWORLD

FAX: (02) 785-7621

**Publisher/President** Lee Kie-Hong

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**Addr:** Suite 108 Shinseong Bldg.

25-4 Yoido-dong, Ryongdeung-gu, Seoul, Korea

Tel: 783-5433 FAX: (02) 783-1117

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**Atsuhiko Frank Watanabe, President** ICWAMI Systems

Publications Distribution Agency 14-9 Okubo 3-chome,

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Tel: 208-0881 Telex: 233-8951

### USA

**Sung-Joo Kim, President** KBWAmerica, Inc.

317 Rector Place, Suite 4H New York, NY 10088 USA

Tel: (212) 948-0348

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# Telecommunications



**T**he telecommunications industry on the Korean peninsula has traveled a long and rocky road since it was first introduced in 1885. The first form of telecommunications offered in Korea consisted of telegraph service between Seoul and Incheon. Today virtually all forms of telecommunications technologies available to consumers and industries the world over is accessible, or soon will be, here in Seoul.

These services and technologies range across a broad spectrum, from the archaic telegraph to the ultra-modern videoconference and beyond. The challenge facing Korea's telecommunication industry in the future will be transferring these new technologies out of the laboratory and into the marketplace.

Modern development of this industrial sector in Korea did not begin until 1961 with the advent of a series of five-year plans. During the 27 years since these plans were first implemented with the Telecommunications and the Radio Regulation Laws, Korea has seen telephone distribution grow from the meager level of 0.4 to 20 per hundred of population. In the next three years this level of distribution should continue to increase to a level of approximately 26 per hundred. This is truly a remarkable

example of Korea's growth in the telecommunications field.

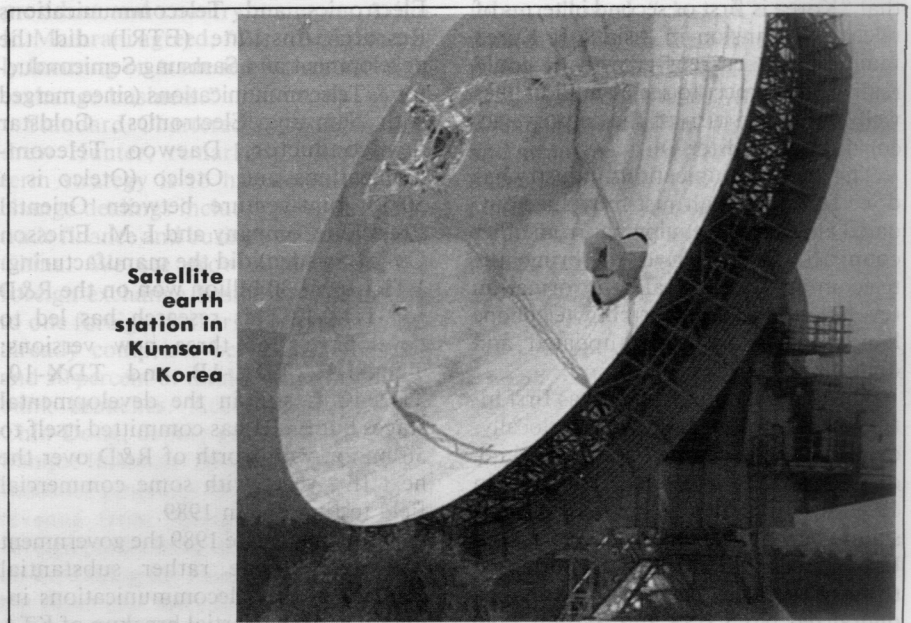
The Korean government has done more than enact laws calling for the modernization of the telecommunications industry with their five-year plans. In 1982 the Korea Telecommunications Authority (KTA) was established as a monopoly to oversee voice and other enhanced telecommunications services. The Data Communications Corporation (Dacom) was established at the same to oversee data communications services.

The Ministry of Communications is the governmental body charged with regulating all aspects of the Korean telecommunication industry. The current minister, Oh Myung, is unabashed in his enthusiasm for Korea's need to not be left behind in the quest for advanced technology in the communications field. It is with this goal in mind that the government continues to allocate funds and resources for research and development and to pressure private industry to

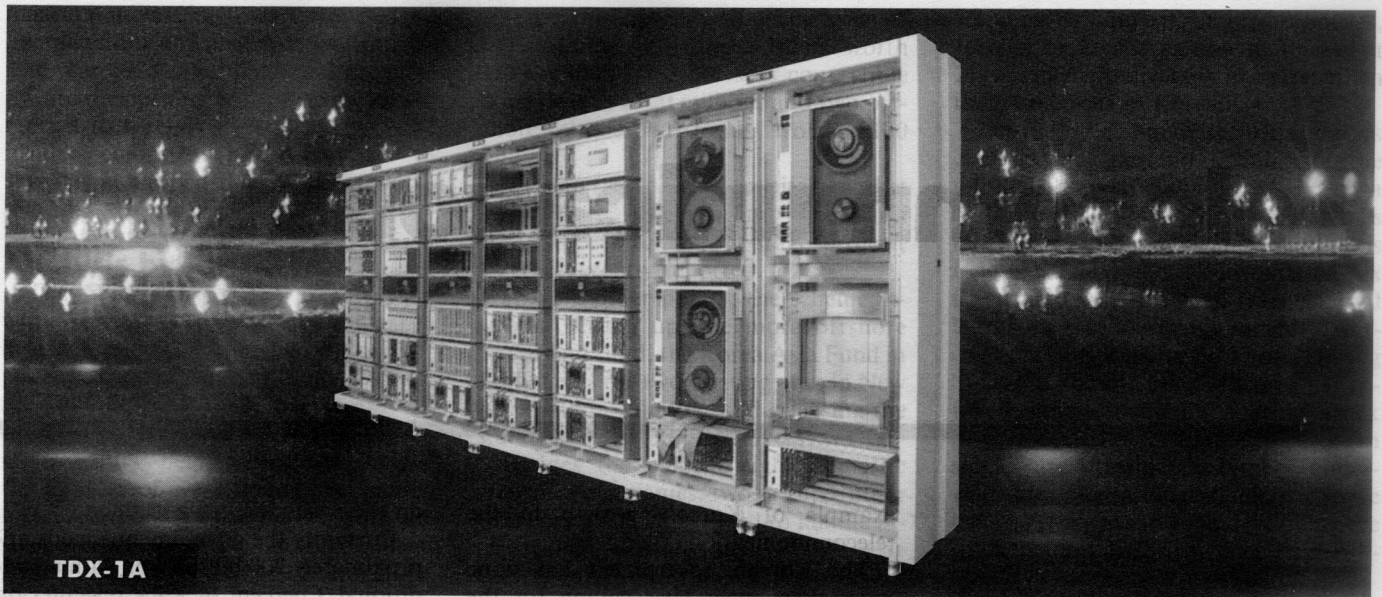
do the same.

Currently the government spends approximately 200 billion won with an additional 3 percent of KTA revenues on development, not a small sum when total KTA revenues for 1988 are expected to easily exceed three billion U.S. dollars. The Korean telecommunications industry is also encouraged to allocate at least 3 percent of its sales revenue for R&D investment.

A striking example of how successful Korea has been at bringing the telecommunications and information age within the reach of its population can be seen in the lowly telephone. In 1969 the possibility of personal telephone service for most Koreans was remote. The cost of such service then was more than \$2,000 and it took more than \$700 just to apply. This was a price workers in far more affluent countries could not bear let alone workers in a county such as Korea with GNP per capita of approximately \$400. After applying, the applicant



Satellite earth station in Kumsan, Korea



TDX-1A

would have to wait anywhere from several months to in some cases several years for the service to be connected.

In less than twenty years the concept of telephone service has been brought down from a status symbol of the rich to an everyday appliance for the masses. Installation times have been dramatically cut, too. Today if a subscriber applies in the morning he stands a good chance of being able to utilize the service that same afternoon, a claim that, according to Minister Oh, not even some of the more advanced European countries can make.

Korea now numbers among the top ten nations of the world with a market penetration of one telephone per household and subscribers numbering more than 10 million. In an earlier interview with **Korea BusinessWorld**, Lennart Kalling, president of Erifon-Korea, said that "Korea is first or second in terms of telecom expansion in Asia." If Korea maintains its current growth, it could realistically expect to see 20 million lines well before the turn of the century, according to Minister Oh.

The telecommunications industry has done far more than just introduce outdated and cast-off equipment from other countries in its drive to bring the telecommunications and information revolution to Korea. Currently telephone line switches are being updated and digitalized.

The digitalization format was first introduced into rural areas with the locally-developed and produced TDX-1 time-division switching system. Sometime in 1989 urban office telephone systems should begin to experience digitalization. Urban areas that in 1988 were supposed to have received the foreign developed digitalized No.5 ESS and System 1240

produced by Goldstar/AT&T and Samsung/Alcatel, have been put on hold. According to published reports, KTA has been pleased with AT&T and Alcatel's delays since this might allow the Korean developed TDX-10 system to be selected for the actual digitalization of Korea's urban areas. Whatever the cause for delay, Minister Oh has stated that Korea's entire telephone system will be digitalized around the year 2000. The first urban centers to receive digitalization will be those sectors with the oldest technologies.

The TDX-1 system was first tested about four years ago and has been in operation for the past two years. What is amazing about the TDX-1 system is that it was essentially a joint manufacturing project between the four largest electronics companies in Korea. The Electronics and Telecommunications Research Institute (ETRI) did the development and Samsung Semiconductor & Telecommunications (since merged with Samsung Electronics), Goldstar Semiconductor, Daewoo Telecommunications and Otelco (Otelco is a 50:50 joint-venture between Oriental Precision Company and L.M. Ericsson Co. of Sweden) did the manufacturing. ETRI spent 30 billion won on the R&D for TDX-1. This research has led to development of three new versions: TDX-1A, TDX-1B and TDX-10. TDX-10 is still in the developmental stages but ETRI has committed itself to 56 billion won worth of R&D over the next five years with some commercial field testing due in 1989.

Sometime in late 1989 the government will make some rather substantial changes in the telecommunications industry with the partial breakup of KTA

by allowing competition in such industries as mobile telephones. This breakup will be accompanied by a 49 percent privatization of KTA, with the government retaining 51 percent.

There have been a number of significant telecommunications joint-ventures set up in 1988. One of the newest was established on October 17th between Daewoo Telecom and ZyMOS of the U.S. The venture will create a semiconductor design center here in Korea. Daewoo has taken different road from other Korean semiconductor manufacturers in that Daewoo has concentrated on application specific integrated circuit chips (ASIC). In line with this objective Daewoo will use the new design facility to concentrate on the development of automation design technology.

Daewoo's semiconductor sales in the past have totaled approximately \$14 million. With the new facility Daewoo will expand its exports to both Japan and the United States. ZyMOS plans to import \$30 million worth from Daewoo over the next three years and Daewoo expects Japanese firms to purchase at least \$10 million in the next two years.

In Korea's drive to become a developed country, it cannot allow itself to become complacent with its progress. While Korea has made remarkable strides in the telecommunications industry in the past twenty years, it is still far behind the most advanced nations. Countries such as the U.S. and the U.K. have telephone distribution of 85 per hundred while, as pointed out previously, Korea "only" has 20 per hundred. If Korea keeps up the effort that it has shown thus far, its telecommunications system at the turn of the century will be on par with the best in the world. □



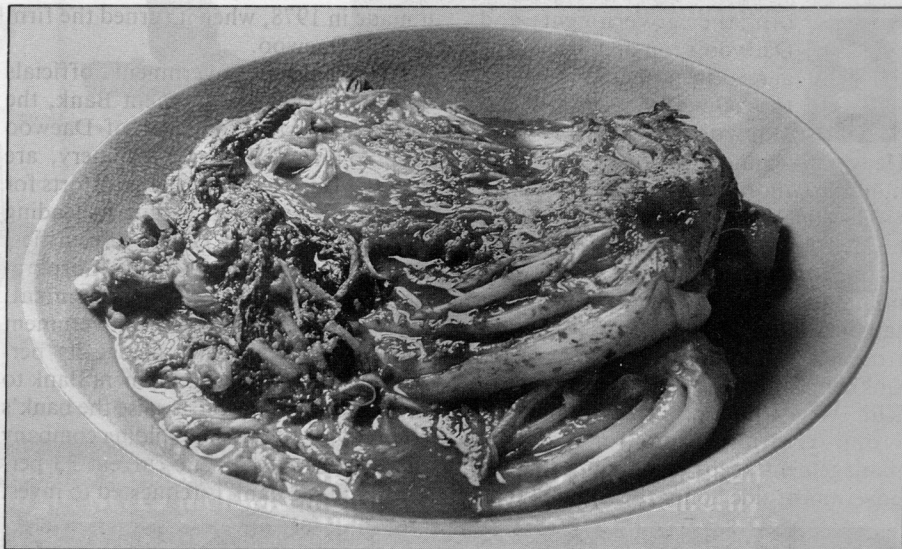
# Kimchi to Go

**A**ccording to Kang Wie Seong, trade manager for the Korea Seasoned & Pickled Food Cooperative Association, the future for growth in the field of kimchi exports is bright.

For those that have not yet experienced the pungent taste of this renowned Korean dish, Kang describes it as "vegetables mixed with red pepper powder, ground ginger, garlic and pickled fish water." When this mixture is allowed to ferment, the enzyme reaction that results creates that famous kimchi aroma. Many vegetables besides the common cabbage kimchi are included in this description, such as radishes, garlic and cucumbers. Kang also stated that besides having a delicious taste, kimchi is loaded with vitamin C.

Kang said that currently his association exports to nearly thirty countries around the world and that he often receives inquiries from other countries. Japan is the single largest importer of kimchi in the world, accounting for approximately 60 percent of all Korean kimchi exports. Japan Air even sells kimchi out of their catalogue. Kuwait, Saudi Arabia, Jordan, Samoa, Guam, the United States and Canada make up the next tier of importing countries.

Initial market inroads into these countries were achieved through Korean residents, immigrants and expatriate construction workers. Kang said that currently overseas Koreans make up only about 70 percent of the market. The other 30 percent appears to be foreigners who have been introduced to and acquired a taste for kimchi either during a visit to Korea or through Koreans living overseas. When the numbers of Koreans who have married Westerners or are attending school in various countries around the globe is considered, it is obvious that many people not of Korean ancestry will have had the opportunity to



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try this spicy dish.

Kimchi appears to be finding market acceptance by foreigners in the same economic bracket that sushi did, namely Western "Yuppies" who desire to try things out of the ordinary. Even with growing market acceptance among Westerners, Koreans living overseas are still the main target market for any kimchi exporter. Kang believes these people buy kimchi at their local store so as to keep in touch with their native land.

Kang expects to see some growth in

Western interest in Korean cuisine in general and kimchi in particular due to the successful Olympic Games, though he did not mention how NBC's Today Show co-host Jane Pauley's experience with kimchi on live television during the Olympics would impact on foreign sales. The Pauley episode would do little to instill a desire to experiment with Korean cuisine.

Kang said that his association has already achieved 95 percent of its exportation goal of \$12 million dollars for 1988 as of November 30.

Kang's association was founded in 1979 and currently represents 74 kimchi producing factories with more producers joining every year. Kang said that he has approximately 30 competitors in the kimchi exporting business who represent the other 900-some kimchi factories. Most of his competitors are the small-to-medium-sized companies.

Kang hopes that the favorable impression the world received of Korea will be manifested in an interest in Korean cuisine. Kimchi and rice anyone? **W**