

Incidental Paper

**The Present Status and
Future Tasks of
Telecommunications
Policy in Korea**

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Program on Information Resources Policy

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The Present Status and Future Tasks of Telecommunications Policy in Korea

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Dr. Yun-Sik Shin worked for the Ministry of Communications in Korea for nearly thirty years before leaving in 1991 as Vice Minister, when he assumed the position of President and CEO of DACOM, the second largest common carrier in Korea. In 1994 he retired and currently serves as an advisor to the company. In the same year he became a Research Affiliate of the Program, studying worldwide trends of telecommunications and information policy.

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Note

Dr. Yun-Sik Shin worked for the Ministry of Communications in Korea for nearly thirty years before leaving in 1991 as Vice Minister, when he assumed the position of President and CEO of DACOM, the second largest common carrier in Korea. In 1994 he retired from the management front line and currently serves as an advisor to the company. Since June of that year, he has been a Research Affiliate of the Program on Information Research Policy at Harvard University studying worldwide trends of telecommunications and information policy.

This paper was originally presented as a talk about the course of development, present status, and future tasks of telecommunications in Korea given at the seminar on Global Communications and International Affairs at the Center for International Affairs, Kennedy School of Government, Harvard University.

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Regulatory Agencies and Business Entities

In 1982, the Korean government separated the regulatory and operative functions of the telecom industry. As a result, the Ministry of Communications (MOC), which had been running the telecom business, remained a telecom policymaking and regulatory body. For the operative function two new companies were established, Korea Telecom (KT), a 100 percent government-owned company, and DACOM, a company co-owned by KT and the private sector. KT and DACOM had monopolized the voice and data communications service markets, respectively, during the 1980s, and KT promoted expansion of telephone circuits throughout Korea. In 1984 DACOM developed the second packet switched public data network and services in Asia (the first was initiated by Japan). The development of the network and services enabled DACOM to play a leading role in advancing and providing value-added services such as databases, personal computer (PC) communication, electronic mail (e-mail), and electronic data interchange (EDI).

In the meantime, Korea Mobile Telecom (KMT) was founded in 1984 to provide cellular telephone service and paging services on commission from KT. The company established itself as an independent carrier in 1988, stimulating the spread of mobile telecom services.

The telecom market in Korea, which throughout the 1980s was monopolized in each service area, such as voice, data, and mobile telecommunications, is now in the 1990s moving toward competition and thus allowing new carriers into the market. For example, in July 1992 the MOC licensed ten new regional paging carriers to compete with KMT beginning in 1993. The cellular telephone service market will incorporate competition in January 1996, given that Shinsegi Telecom (whose major shareholders are POSCO and Kolon of Korea and Air-touch of the U.S.) was licensed in July 1994 as the second cellular telephone carrier. In the international telephone market, two carriers, KT and DACOM, have been competing with each other since December 1991, as a result of the designation of DACOM as an international telephone carrier in October 1990. DACOM currently claims about 25 to 30 percent marketshare, escalating cut-throat competition in the market. In addition, the government lifted entry barriers to the value-added communications market in 1991 and completely opened

the door to foreigners beginning January 1994. Competition will intensify as foreign carriers as well as two hundred domestic carriers participate in the business.

The government also set up the Korea Telecommunications Commission in 1991 to act as a regulatory agency. The Commission is not so active as the FCC in the U.S., OFTEL in the United Kingdom, or AUSTEL in Australia. Although at present its function is admittedly rather limited, it will strengthen its authority as a purely regulatory organization while the MOC takes care of telecom policymaking.

Korea prides itself on its Electronics and Telecommunications Research Institute (ETRI), which was established to promote R&D in telecommunications. ETRI is a gigantic institute with nearly two thousand researchers whose achievements include the development of TDX ("time division exchange"), the Korean digital switch, in the 1980s. It is currently working on developing a code division multiple access (CDMA) mobile communications system.

Progress of Development and Present Status of Telecommunications Policy in Korea

Increase in Subscriber Lines. Subscriber lines began to increase rapidly in Korea in 1982, when the regulatory and operative functions were separated. Subscriber lines grew at a rate of more than one million per year, and the government simultaneously promoted the massive supply and automation of telephone facilities. By 1987, telephone circuits surpassed the ten million mark and nationwide telephone automation was achieved. In 1993, telephone circuits exceeded the twenty million mark. Korea now stands as the eighth largest country in the world in terms of the number of subscriber lines, following such major countries as the United States, Japan, and Germany. At the same time, the quality of telephone facilities reached a very high level. In terms of the rates of electronization and digitization of telephone facilities, which are generally accepted as quality indicators for telephone facilities, Korea now has an electronization rate of 98 percent and a digitization rate of approximately 59 percent, which are among the highest levels in the world.

Korea was the tenth nation in the world to develop its own digital switch, the TDX, and such an accomplishment contributed greatly to the high electronization and digitization rates. Korea first started to develop its own digital switch in 1977 and in 1984 succeeded in designing a TDX-1 with a ten-thousand-circuit capacity. On the basis of TDX-1 technology, a large-capacity TDX-10, which can accommodate a hundred thousand circuits, was developed

in 1991. TDX is now the main switch in the country, accounting for 35 percent of all telephone circuits installed as of the end of 1993. Korea signed a contract with the Philippines in 1988 to export TDX, and many other contracts followed, including with Vietnam, Poland, Myanmar, Russia, and Uzbekistan.

Value-Added Services and Cable TV. The development of value-added services in Korea remained relatively low while telephone circuits increased drastically from the early 1980s. The slow development of computers, software, and databases was the primary reason for the lag in development of value-added services. But coming into the 1990s, the usage of computers has steadily increased.

By the end of 1993 there were four million PCs in Korea, which translates into one for every ten persons. The number of PC communications users was around five hundred thousand at the beginning of 1994, indicating a rapid development of value-added services. Accordingly, it is safe to say that value-added services in Korea are heading in the right direction and will result in increased growth rates in the future.

Unlike the U.S. where cable TV is very popular, in Korea cable TV has not yet come into effect. This, however, is expected to change as the boundaries between telecommunications and broadcasting systems continue to disappear.

In fact, Korea plans to start providing cable TV in 1995. The government already licensed twenty program providers in 1993 and another four this year, that is, 1994. In addition, it also franchised fifty-four of the 116 regional broadcasting stations at the end of last year. Therefore, the curtain will go up on the era of cable TV in Korea when these companies start business early next year. Moreover, as cable TV evolves into an interactive communications media in the near future, the integration of telecommunications and broadcasting systems will be accelerated.

Future Telecommunications Policy Tasks

Promotion of Telecommunications Industry Liberalization. The first task Korea must consider is the promotion of liberalization in the telecommunications industry. In July 1990 the first of two structural reforms of the telecom business took place and introduced competition into the telecommunications market. According to the first reform, limited

competition was introduced into the international telephone, paging, and cellular phone businesses, while the value-added services market was opened to full competition. Consequently, as said earlier, many new service carriers are coming into the market.

At the same time, privatization has been carried out steadily. First, all interests that KT held in DACOM were sold to private sector in 1993, making DACOM a private company. Further, KMT, the first cellular carrier in Korea, witnessed a significant shift in shares from KT to Sunkyong, a private conglomerate, in 1994. Similarly, KT, a 100 percent government-owned company, is in transition to privatization through the sale of 15 percent of its shares to the private sector.

While privatization and competition are making headway in the telecommunications market in Korea, the second structural reform of the telecom business was announced in June 1994, which will further accelerate competition in the telecom market. When the second reform comes into effect, the domestic long-distance telephone market will soon incorporate competition. The introduction of competition into the domestic long-distance telephone market is an indication that the Korean government will eventually expand competition into the whole telecommunications market.

It is also expected that the development and provision of new services such as a trunked radio system (TRS) and personal communications service (PCS) will be fostered. Currently, the Korean telecommunications market is strictly distinguished into wire and wireless communications. This separation forbids the carriers from providing wire and wireless telecommunications services at the same time, thus discouraging R&D and delaying the development of various new services based on advanced technologies. However, the second reform is designed to cancel out the distinction between wire and wireless services. It will enable common carriers to provide integrated services while promoting the development of new services.

In addition, the government decided to relax regulations on telecom carriers and encourage transparency* and specialization of the regulations. As part of the changes, the government will allow the carriers to determine telecom service tariffs more freely, while restricting the freedom of the dominant carriers for the purpose of fair competition. Further, the government is going to complete various systems designed to stimulate competition among carriers and build up an environment for fair competition. Even though these changes are expected to take time, specialization and transparency of the regulations mentioned in the second reform will be enacted in the near future. It is my belief that, in the long run, telecom regulation in Korea should follow the regulatory pattern of the U.S., where the FCC regulates according to transparent procedures.

On the other hand, Korea must clarify the roles of the telecom and broadcasting regulatory agencies in the government, because telecommunications and broadcasting systems are becoming consolidated with the arrival of the multimedia era. Of course, the integration of telecommunications and broadcasting systems has not taken shape yet, but it will surely come into the limelight when video on demand (VOD) comes into practical use and cable TV develops into a means of interactive communications. Accordingly, there should be yet another comprehensive structural reform including both the telecommunications and the broadcasting systems before integration can make real progress.

Efficient Construction of a National Information Infrastructure. One of the most important tasks Korea faces is the efficient construction of a national information infrastructure. After the Clinton Administration declared the construction of the National Information Infrastructure as one of its main economic policy goals, many countries, including Japan and the members of the European Union, followed suit and announced construction of a national information infrastructure as one of their top priorities. Korea also drew up a plan, in 1993, to construct a national information infrastructure by investing about \$56 billion (U.S.) by the year 2015. The main reason that many countries have accelerated their construction of information infrastructure is the expectation that the multimedia and

*The word "transparency" is frequently heard among telecommunications personnel in Korea and at international telecommunications negotiations. It refers to a government that gives prior notice of future telecommunications policy while making clear the contents and the procedures of the regulation in areas such as the approval of tariffs and telecommunications equipment installation, so that everyone can understand and predict with ease the government's telecommunications policy and regulation. In short, promoting transparency serves the interests of both the general public and the telecom carriers by reducing uncertainty about government policy and regulations.

information society, in which tremendous amounts of information will be transmitted, is just around the corner. In addition, there is a firm belief that gaining an advantage in telecommunications will lead to global leadership in the world economy.

The construction of a national information infrastructure itself doesn't have much meaning; it is meaningful only when the production, processing, and accumulation of information keep pace with the construction. In this sense, Korea has the task of developing database and software industries simultaneously with the construction of its national information infrastructure, because in Korea these industries now lag behind and because cable TV service is just set to begin in 1995.

The construction of the national information infrastructure is expanding to an international level, which means it cannot proceed without international cooperation. The U.S. suggested a Global Information Infrastructure (GII) in March 1994 while Japan recommended an Asia Information Infrastructure (AII) in May, arousing worldwide interest. President Kim Young-Sam of Korea suggested the Asia Pacific Information Infrastructure (APII) during the Asia Pacific Economic Cooperation (APEC) summit meeting November, which was attended by eighteen heads of state, including President Bill Clinton. So, it is clear that the Korean government should continue to strive for close international cooperation in response to the globalization of the information infrastructure.

Preparation for the Era of Satellite Communications. Korea is currently burdened with the task of preparing for the era of mobile satellite communications, which attract a lot of attention around the world. A number of large mobile satellite communications projects, such as IRIDIUM of Motorola, Globalstar of Loral-Qualcomm, and PROJECT 21 of INMARSAT, are currently under way. These projects are expected to lead the way to realizing a global village as they provide services that transcend national borders.

Korea needs to participate actively in these projects. Currently, KMT is preparing to take part in the IRIDIUM project, while DACOM participates in Globalstar and KT in PROJECT 21. I believe that the Korean government has a duty to provide a suitable environment in which these carriers can fully participate in the projects and devise a system in which these services can be provided smoothly in Korea.

Korea plans to launch a satellite in April 1995 that will be used for both telecommunications and broadcasting systems. The satellite, named Koreasat, has three transponders for broadcasting and twelve satellite communications channels for digital transmission. Therefore, Korea will witness an era of multi-channels, with dozens of satellite broadcasting channels as well as terrestrial TV channels, when the Koreasat is launched and cable TV broadcasting begins.

Development of Multimedia Technologies. Finally, the Korean government must promote the development of multimedia technologies. Because the future society will become an information society that focuses on multimedia communications that integrate voice, data, image, and video, the development of multimedia technologies should be emphasized. This means a systematic development should be designed that embraces telecommunications, computers, software, and databases, as well as household appliances. Korea is currently working on consolidating technology development plans to prepare for the era of multimedia, especially research on software and database systems, which have fallen relatively behind, as well as concentrating on the construction of the national information infrastructure. It is also important to build up cooperative relationships between government organizations for the smooth establishment and performance of these plans.

Concluding Remarks

I have talked about the progress of development, the present status, and several tasks of Korean telecommunications. In summary, Korea is actively striving to privatize its telecommunications business and intensify competition following its rapid development of telecommunications throughout the 1980s. However, in order to accelerate this progress, Korea has several tasks: promoting liberalization in the telecommunications industry, constructing the national information infrastructure efficiently, preparing for the era of satellite communications, and the development of multimedia technologies.

As telecommunications policies throughout the world are, almost without exception, moving toward privatization, competition, openness, and globalization, it is absolutely necessary to strengthen cooperative relationships among telecommunications carriers and nations. It is my belief that such relationships should start from the exchange of information about each nation's rapidly changing telecom environment.

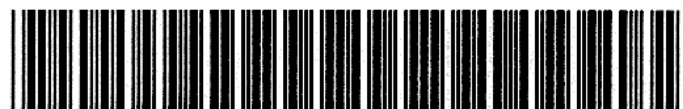
I sincerely hope that what I have said today will help you to understand the telecommunications market and policies in Korea. Finally, I hope that the U.S. and Korea will continue to maintain and improve cooperative relationships in telecommunications and information technologies.

Acronyms

AII	Asia Information Infrastructure
APEC	Asia Pacific Economic Cooperation
APII	Asia Pacific Information Infrastructure
CDMA	code division multiple access
E-Mail	electronic mail
EDI	electronic data interchange
ETRI	Electronics and Telecommunications Research Institute
GII	Global Information Infrastructure
KMT	Korea Mobile Telecom
KT	Korea Telecom
MOC	Ministry of Communications
PC	personal computer
PCS	personal communications service
TRS	a trunked radio system
VOD	video on demand



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