# 'Personal, Intelligent and Multimedia'

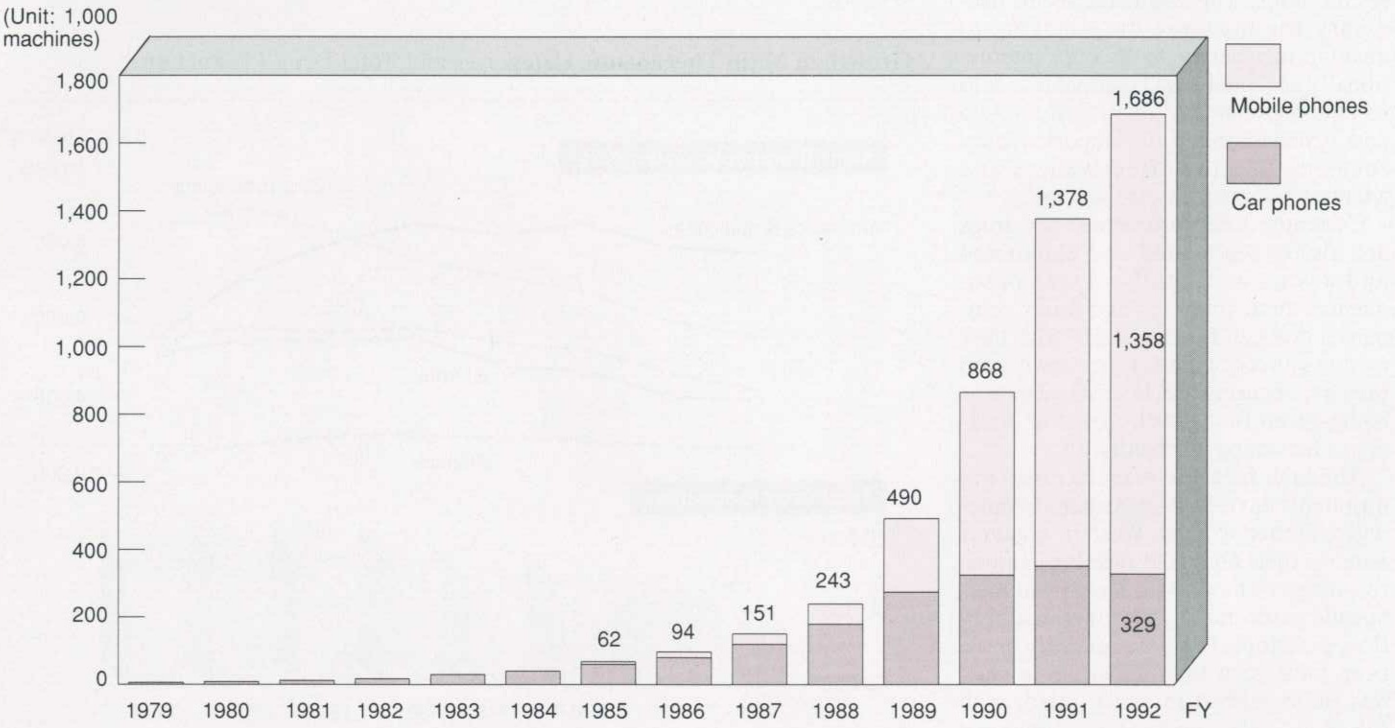
Since 1985 regulatory changes, which introduced the principle of competition, the telecommunications industry has been expanding its market, and combined sales for the first category of telecommunications companies reached nearly ¥7 trillion by the end of March 1993. After sound growth, however, the industry began losing momentum partly due to corporate cost-cutting under the recession. Nonetheless, the industry is expected to retain high levels of growth compared with other industries, through the introduction of new services based on technical innovation and deregulation.

The analog-based cellular phone market (see chart), which has shown particularly strong growth within the industry, is now showing signs of slowing. However, given the start of full-fledged digitally-based services and the introduction of purchasable receivers (previously only rentable), which is expected to lower user costs, the cellular phone market should continue to expand steadily. For digitally-based commercial services, which have been carried out through NTT's cellular phone network in the Kanto area since March 1993, competition is expected to intensify as other companies including existing analog-based car and mobile phone service companies (IDO and Cellular Phone Group) and new digitally-based services (Digital Phone Group and Tu-ka Group) enter the market in this fiscal year.

In addition, for cable services, stronger networks and functional improvements are expected to allow "intelligent" services offering highly customized applications to each user. As has been shown in the U.S., the availability of various intelligent services is likely to lead to continual growth in the telecommunications market with an increase in the volume of services.

After sound growth in the 1980s, the information service industry, since the beginning of the 1990s, has been facing a severe deterioration in the business environment. This is especially true of the software industry, which has been

**Number of Subscriptions to Car and Mobile Phones**




**Note:** Mobile phones include IDO's and NTT's Shoulder Phone and Cellular Phone Group's Carry Phone.


*Demand for cellular phones is expected to expand as digital services take shape in the future.*

showing negative growth since May 1992. In addition to weakening demand, it is facing a technological turning point from integrated data processing based on mainframe computers, to distributed processing systems based on a shift toward downsizing and open systems, a change requiring information service companies to adopt new methods.

In the medium-term, we expect the information service industry to benefit from the demand for applications development and increased outsourcing for a high-speed, wide-band ISDN network, once under construction. According to an estimate published in April 1993, total expenses for applications development for the high-speed, wide-band ISDN are expected to reach ¥8 trillion by 2015 and so should generate huge demands. Also, the outsourcing business has the potential to grow into a major earnings pillar for the information service industry in the latter half of the 1990s, reflecting cost cutting trends in the user industries. In Japan, outsourcing is typically found in system operations which offer integrated services ranging from development to operation of the system.

The market for the land-based broadcasting industry shrank from the previous year for the first time in fiscal 1992 due to corporate cuts in advertising. New subscriptions to NHK's satellite broadcasts, which had grown steadily, are now declining. Nevertheless, subscribers to NHK's satellite broadcasting are expected to reach 8 million in fiscal 1994 and the system has grown into the second largest media after land-based broadcasting in Japan. In May 1993, the Radio Regulatory Council presented a report on the usage of the BS-4 satellite, a successor to the currently used BS-3, indicating a blueprint for the future satellite broadcasting business. This should stimulate behind-the-scene moves to obtain newly created channels.

For the cable television industry, subscribers to urban cable TV networks with bi-directional functions reached 1 million by the end of March 1993, but many of the carriers are still suffering under the heavy burden imposed by huge initial capital investments. In December 1993, the Ministry of Posts and Telecommunications announced plans for major deregulations and supportive measures for urban-based cable TV operators. This would allow Japanese cable TV operators to own more than one major facility in seeking economy of scale, like their American peers. Also, they could receive government support, including financial assistance, tax breaks and encouragement in tie-ups with foreign companies. Thus the focus should lie on the actual effects of future plans.

There are three key words used for projecting a medium-term outlook for the information and telecommunications industry: personal, intelligent and multimedia. These three words are integral in forming new trends in the information and telecommunications industry.

Personal strives to satisfy the individual communication needs of each user, aimed at realizing communication "to anyone in any place at any time." This objective will be approached through development of cellular phone systems. The recent sharp expansion of the cellular phone market seems to be reflecting a strong demand for personal communications. To satisfy such user needs, it seems necessary to soon introduce new services such as personal handy phones.

Intelligent refers to a highly elaborate service, using the existing telephone network alongside a sophisticated controlling computer outside the network. Potential services include free dialing, a virtual private network, telemarketing and personal phone numbers (as opposed to a number allocated to a telephoner). In Japan's telecommunications market, which is nearing the final stage of price-cutting competition, the ability to offer these intelligent services would become the determining factor in one's choice of a carrier in the future.

Multimedia involves the phenomenon blurring the boundaries between broadcasting, communication and computer industries, caused by the rapid progress in digital technologies in both hardware and software. As a consequence of this fusion, it is becoming possible to find new business opportunities in the bordering areas of different media. With this in mind, U.S. telephone companies and cable TV operators have been actively forming alliances and conducting M&As.

This trend in the U.S. market is expected, in the medium- to long-term, to impact the Japanese information and telecommunications market in several ways. In particular, the current market division based on the type of services in the Japanese information and telecommunications market is expected to weaken, allowing new business chances to emerge. However, it seems necessary to concentrate not only on the technical needs of the sending side but to pay close attention to the potential needs of the user as well.

With these three key words forming the trend, the information and telecommunications industry will see diverse development through dynamic competition and more drastic changes than before. JJTI

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