



President Teruhiko ENA

Interview with CEO

Teruhiko Ena

President

Space Communications Corporation

Interviewer

Yoshiaki Suzuki, Communications Research Laboratory

Thank you very much for taking your valuable time for our interview. First of all, satellite communication business has achieved a dramatic success in the late 20th century. What is your perspective on where the satellite business is headed in the 21st century?

The information communication sector has developed rapidly in recent years. We anticipate that satellite communications will also grow in importance, through an expansion in application to new areas that can fully leverage the features and advantages of satellite. And we believe that satellite communications will also become more important through links with other means of communications to form comprehensive networks, in addition to the use of satellite as an independent communication means. The features of

satellite communication include wide area coverage, simultaneous distribution, as well as flexibility and durability in the event of disasters; advantages not evident in other communication methods.

SCC started new satellite services such as satellite internet services. Could you tell us the present status and the future innovative plans of satellite services?

Our principal business is to provide satellite lines (bandwidths) as a Type 1 telecommunications carrier, and we currently operate four satellites: Superbird A, B2, C and D. Superbird D is positioned at 110 degrees east longitude which is the same position of the BS, and will be used for broadcast services that are to start in the spring of 2002. Several consignor broadcasting corporations have been working hard to prepare for this.

We have a number of programs ready for our line provision services, to cater to numerous bandwidths used and time durations. Superbird B2 and C are equipped with overseas beams and movable beams, so they will also have broad application for international communications.



President T. Ena (left) and Director Y. Suzuki (right)

In addition to the sale of bandwidths, we have also launched service businesses to provide specific applications and platforms through our satellite lines, such as the DirecPC services that started in 1996.

Our users are multifarious, and include television stations, newspaper publishers, various broadcasting service providers, business enterprises, public service corporations, local governments and educational institutes. Leading applications include image transmission and relay, broadcasting, corporate (organizational) networks, business training either in-house or outside, disaster and emergency announcements, remote monitoring and control, and content distribution.

We also provide satellite Internet services, such as DirecPC services by linking with terrestrial lines, and DirecWay services for interactive communications that use only satellite lines. Subscriptions to DirecPC services have topped 20,000 stations, and that number is expected to grow further.

Now, the DirecPC services are not provided to individual customers. Please tell us the reason and the future plan of such individual satellite communication services?

One of the main features of satellite communication is that when data is distributed to several points, the number of receiving stations can be changed readily, without modifying the system. Compared to ground communications networks that can send data only after passing through a diverse array

of equipment and lines, satellite communications allow direct communication between the sender and receiver. The DirecPC service earns high marks as a means for in-house corporate communications, because of its feature that allows the most reliable and low-cost distribution to numerous reception points.

When it comes to service provision to individuals, we do not believe it is desirable to ask individual customers to install satellite communications equipment just for data communications, because they usually have limited space. It would be more practical to piggyback with existing infrastructure built mainly for entertainment, such as satellite broadcasting and CATV. Even though we do not provide DirecPC services to individuals, we do provide the HitPops service through HitPops Corporation. This is a service in which multiple distribution is provided to servers on CATV networks via satellites, and individuals can access the servers through CATV's high data rate networks. This allows individuals to enjoy high data rate services, and also eliminates the need to set up individual antennas for satellite communications.

It is possible that other forms of direct data distribution to individuals may be achieved in the future, as a piggyback service through existing infrastructure. One example is simultaneous distribution of data to members in a community that share an interest in specific topics. It would be just as effective as existing services intended for corporate use.

Superbird satellites can provide satellite communications services over the Asia and Pacific region. Could you tell us the present situation and your policy for the future expansion?

As already noted, two of the four satellites we currently operate, or Superbirds B2 and C, are equipped with beams that can be used overseas.

Three categories of overseas use are conceivable, namely singular use for an Asia-Pacific nation, connection among Asia-Pacific nations and connection between Japan and Asia-Pacific nations by Japanese corporations and organizations. We hope that each of these applications will expand in the future.

In Asia, our services are currently being used especially in Taiwan and Vietnam. Satellite communications are an extremely effective solution in regions where ground communication networks fail to respond to growing demand for information. And we believe that this demand will continue to grow in the near future.

Our services are being used primarily by television stations for connections between Japan and Asian countries to relay video signal and to gather materials from overseas. Recent examples include video transmission from near Afghanistan. Satellite communications are far superior to ground lines in terms of prompt and flexible cabling, and satellite is likely to continue to find even broad and more active application.

What do you think about competitions between satellite communication and fiber-optic communication?

Technologies to improve the data rate through optical fibers have progressed dramatically, and nothing can match fiber optics when data rates between two points alone are compared. The applications of satellite communications that can be readily replaced by fiber optics are expected to gradually decline.

The features of satellite communication include wide area coverage irrespective of whether that includes land, ocean or air, reliable simultaneous distribution to several points, an unlimited number of distribution points and the prompt and flexible establishment of lines, durability in the event of earthquakes and other disasters and simplicity that enables direct data distribution. These advantages would not be lost even with the proliferation of fiber optics. While the overall information communication industry continues to grow, satellite communications will also continue to grow steadily as



its features become available to people.

What do you think, in view of a private company, the role of government in the space technology development is?

Satellite communications have grown to become an indispensable infrastructure for a broad array of applications such as communications and broadcasting, and have made a marked contribution to safety and enhanced lives. Nonetheless, we feel that the national government still need to provide sufficient support to that element of the private sector engaged in providing these services. Our company has launched seven satellites to date and has recently ordered an eighth. Each of these satellites and launchers are foreign made. Even though efforts have been made over many years in space development in Japan, there are unfortunately no manufacturers of satellites or launchers that are sufficiently competitive compared with overseas manufacturers. For space development policies, I think the national government needs to strengthen measures to foster related industries.

Similarly, satellite communication service providers like our company have also faced many difficulties. An enormous initial investment is needed, and once a satellite is launched its specifications cannot be changed for more than ten years. If the number of users does not increase during the period, losses steadily increase. As can be seen, satellite communications services are a risky business. It is difficult to maintain a surplus sufficient to engage in technological development on our own or to actively develop new businesses. However, practical technological development is essential if satellite communications are to be promoted further, and a number of overseas organizations are proceeding with these



endeavors. Therefore, we as communication service providers will never cease to be dependent on foreign countries with advanced technologies, if we do not provide effective measures to respond to the situation. I think it is essential that the government lead the development efforts of the leading-edge technologies, and transfer the technologies that result to private enterprise. This, in turn, will encourage domestic space-related manufacturers and communication carriers, and will allow the scope of businesses by the space industry to expand.

What do you expect the role of governmental institutes such as CRL? For example, CRL is now studying the ETS-VIII satellite for the next-generation mobile satellite communications, the WINDS satellite (High-Speed Internet satellite) for broadband internet communications, and quasi-zenith satellites.

Not even necessarily under the direct management of Communications Research Laboratory, but deeper studies do need to be carried out on national strategies concerning international competition, ripple effects for the economy and different scenarios.

It seems that technical concerns are given priority for all ETS-VIII, High-speed Internet satellite and quasi-azimuth satellites. Rather than the basic technologies, applications in the spheres of land measurement, environmental issues, disaster prevention, emergency measures and security need to be studied first, and comprehensive planning is required, especially for fostering the industry.

In terms of technology, I am greatly interested in the development of technologies that enable changes to mission properties on orbits. As I noted previously, satellite communications entail a very large initial investment, and systems cannot be changed for ten or more years following a launch. As such, service providers in the private sector cannot help but lean toward the conservative side when it comes to technologies. If technologies to enable changes in communication methods or beam forms on the orbit are developed, it would allow us to provide flexible measures to respond to market needs, which are likely to change over the coming decade. As such, we would be able to take more active measures to develop our businesses. I am informed that basic research has made considerable progress, and I hope that studies to find practical application will be attempted soon.

Thank you very much.

