

# Satellite Communications and I

NTT DoCoMo, Inc.

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I have worked in Research and Development Division of NTT DoCoMo (DoCoMo) for three years since I joined the company in April 2001. Although DoCoMo is widely known as a “cell-phone” telecommunication carrier, it is regrettable not to be well known that we also provide mobile satellite communication services (collectively called “WideStar”). Even in the company, the number of staffs who are engaged in satellite business is overwhelmingly small compared to staffs in cell-phone business, and they seem to be in the background. Of course, I knew before joining the company that DoCoMo provides mobile satellite communication services, but I never thought that I would work for such business. I remember that I felt a bit of confusion when I heard about my attachment first. However, by engaging in the satellite business, I gained many valuable experiences that I might have been rarely met if I had worked for cell-phone business. And now I feel like I can view the situation of mobile communication industry from all sides.

As a matter of fact, I had some opportunities to think about satellite communications before joining the company. I have used them several times as a communication method. For example, when I was in a national college of maritime technology, technical staffs of college training ship told us that INMARSAT is used all over the world, even at sea, or I took a class of image processing using image data from a GPS (or another) satellite. In university, SCS (Satellite Corroborations System) was often used to discuss or take a lecture with students of



Sayado satellite base station (in Gunma Prefecture)

the other universities or technical colleges. My young brother called me off the coast of Okinawa with our satellite phone. At that time, the Internet or cell-phones were not widely used, therefore I felt that satellite communications might be useful if users do not mind the delay time.



As previously mentioned, DoCoMo provides some mobile satellite communication services, such as maritime telephone, fax, and packet communication services. One of the feature of satellite communications is to be able to communicate anywhere in beam coverage area. Our satellite network is integrated with a cellular

system, and enables two-way communications between ship and shore via one of two N-STAR satellites. Although nearly half of the satellite terminals on the market are for ship and vessel, some companies or schools have portable terminals for emergencies.

I was mainly engaged in examination of development of the next-generation mobile satellite communications systems, especially of the radio facilities; installation of radio experiments, construction of experimental systems outside, application for licensing of experimental radio stations, etc. Actually, I did not have any opportunities to use such radio equipments before, while I have a license of technical radio operator. So it took a long time to get used to operating the measuring instruments, or to calculating in dB. Our co-workers often helped me at that time, and I still thank them.

In addition, I was lucky because I participated in the In-Orbit Test (IOT) of N-STAR c.

I have moved to Intellectual Property Department since April 2004, and now I am engaged in affair of license agreements regarding the cell-phone business.

Although my present job is not directly related to satellite communications, I am still interested in satellite communication technologies and new satellite services, so I occasionally collect information about them on the Internet. Recently, as you may know,



“mobile broadcasting” or “1-segment broadcasting” services are carefully watched around the people, and I am really glad to hear such subjects.

I look forward to the continuing growth of the satellite communication industry.

※ In the Niigata Prefecture Chuetsu Earthquakes, occurred in October 23, 2004, DoCoMo has lent many portable satellite terminals to public institutions or administrations, and tried to ensure the communication methods under the circumstances. This experience may



remind us that satellite communications are surely effective and important in the emergency situations or disasters.

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