

Keiji Tachikawa, President and CEO, NTT DoCoMo, Inc.

# Have you bought your dog a mobile yet?

It's a serious question. The mobile communications market isn't limited to human use, says this industry visionary. Thanks to 3G technology, it includes anything that can move or be moved—cars, ships, household appliances, computers . . . even pets.

Japan has been known to defy the world's expectations before. Its 19th-century shift from 250 years of self-imposed isolation to industrialization caught most Western observers, who often wrote the country off as a charming cultural backwater, unawares.

Similarly unexpected, not least by the Japanese themselves, was the country's plunge into chronic recession at the end of the 1980s. After all, hadn't Paul Kennedy's 1987 bestseller, *The Rise and Fall of the Great Powers*, tapped Japan as a future world leader? Yet here was the once-invincible Japanese "system" being pummeled by collapsing asset values and a total loss of confidence. It was against that background that one of Japan's more bureaucratic institutions, former telecom monopoly Nippon Telegraph and Telephone Corporation, gave birth to a nimble, stunningly successful offspring.

*Tachikawa: "Seventy percent of the information humans absorb is conveyed by images. That's an area of huge potential growth."*



## Keiji Tachikawa

President & CEO  
NTT DoCoMo, Inc.

**Born:** 1939 in Gifu Prefecture, Japan

**Education:**

1962: Tokyo University, bachelor's degree in technology

1978: Massachusetts Institute of Technology, MBA

1981: Tokyo University, doctorate of engineering

**Professional experience (highlights):**

1962: Joined NTT

1987: Founder and CEO, NTT America

1997: Senior executive vice president, NTT DoCoMo

1998: President & CEO, NTT DoCoMo

**Motto:** "When you think, be drastic. When you act, be steady."

NTT Mobile Communications Network—spun off from NTT in 1992 and renamed NTT DoCoMo in 2000—is, by many yardsticks, Japan's most successful company. DoCoMo broke all records, not just for Japan but for the world, when it listed its stock on the Tokyo Stock Exchange in October 1998. At that time it was the world's largest IPO, with a valuation of \$18.4 billion. Today it boasts Japan's highest market capitalization. With nearly 60 percent of the mobile market and 43 million customers, DoCoMo is the star player in an industry whose share of the Japanese GDP is 4 percent and growing.

In the world mobile market, DoCoMo is considered the industry leader, ranking far ahead of its competitors in the development of new services and of mobile phones that can transmit text and images, not just voice. More than three years ago DoCoMo launched i-mode, which, with 33 million subscribers, is the world's most popular mobile e-mail and Internet access service. And in October 2001 the company introduced FOMA (Freedom of Multimedia Access), the world's first commercial third-generation (3G) mobile service based on W-CDMA.

Of course, no telecom company has been able to escape the effects of the beating taken by the industry, DoCoMo included. For the year ending March 2002, DoCoMo incurred ¥813 billion in paper losses from the stocks of the foreign telecoms it acquired two years ago while trying to build an international circle of users of i-mode. Its operating income forecast for fiscal 2002, ending March 2003, is barely changed from the actual 2001 result, because average revenue per user is shrinking and the growth rate of 2G subscriptions has begun to fall as the company struggles to establish 3G.

Keiji Tachikawa, the Tokyo University- and MIT-trained engineer who heads the DoCoMo management team as President and CEO, isn't troubled by any of this. As he told Tokyo-based journalist Charles Smith when they sat down to discuss the future of the mobile world for *Outlook*, Tachikawa sees DoCoMo not only as a leader but as a company on the cusp of a new growth era, in which images increasingly will replace voice and machines will offer a huge new market for mobile communications.

**Outlook:** 3G is catching on more slowly than many expected. Are you concerned by this?

**Tachikawa:** In February 1999 we launched i-mode, a service which allowed people to download data and access the Internet using 2G handsets. I-mode was meant to be a kind of dress rehearsal for 3G, but it turned out to be a huge success in its own right, actually huge enough to cause us some worries. The question was whether individuals would think they could get all the data services they needed on 2G, so they wouldn't need 3G at that time.

**So do people think they don't need 3G?**

If people do think that, they may have a point, at least for now. Our current 3G service is 40 times faster than 2G and will eventually be upgraded to be 200 times faster. Of course, FOMA—the name we have given to our consumer 3G service—can do things that 2G can't manage, like transmitting moving pictures. But it's clear that most of the information needed by individual users can be received on 2G.

That's why we targeted business users, rather than just individuals, as the main market for 3G. In

business the moving picture function can be vital. For example, a construction company engaged in a big project can do real-time monitoring of work throughout the project using 3G mobiles.

**When you include the business market, how big is the potential market for 3G?**

There are 517 million potential users for mobile in Japan, not just the 127 million humans who live in this country. Mobile communications can be applied to anything that moves—or, indeed, anything that can be moved.

**That is a huge number. How did you come up with it?**

We made a list of objects [that can move or be moved]: cars, ships, bicycles, pets, personal computers and quite a few others. With these things, the location of the object is one valuable type of information that can be transmitted. My list also includes a few things that can't be moved, like air conditioners and refrigerators. We put them in because you might want to know what's happening with your fridge or your air conditioner when you are away from home.

**Why do you include all of these objects?**

The idea that communication isn't just something that happens between humans really stems from the development of computers. Before computers, only people talked to each other. Now machines talk to people, and machines talk to machines. The idea that mobiles are just for human communication, and primarily for voice, is wrong. If you think that, you might conclude that in a country like Japan, the market is nearing the saturation point. That's far from the case.

Images, which are available on 3G, will become a far more important part of what mobiles convey. Thirty percent of the information that humans absorb is conveyed by voice and 70 percent by images, but a mobile system needs 1,000 times more capacity to transmit an image. That's an area of huge potential growth and an area where we have to create new ways to use mobiles.

**Did DoCoMo originate this idea about mobiles being not just for human communication but also for machines?**

It may have been us, but I think it's now becoming generally accepted.

**Was targeting business users a recent idea?**

Not at all. As long ago as 1999, the year before we got our 3G license, we set up a corporate marketing department because we thought business would be the crucial market. Our corporate salespeople have been making huge efforts, proposing new ideas for business use. Unfortunately, those efforts haven't migrated many of our more than 40 million 2G subscribers to 3G.

**Why is that?**

One reason seems to be the bad state of the Japanese economy. When we make sales calls, companies tell us that they are busy writing down their assets, so they can't make new investments. Others say they'll be interested in using 3G after they have restructured themselves with a smaller employee base or after a merger.

**How big is the current business market compared with the consumer market?**

About 15 percent of our customers are business and more than 80 per-

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"For mobile to be useful, you should be able to use the service anywhere in the world."

cent are individuals. Obviously, we need to increase the percentage of business customers.

**How soon do you think 3G will really start to move?**

Given the uncertain state of the economy, it's hard to guess. But even without that, we shouldn't be overly concerned by the short term, because sales of a new system are always volatile during the first year. 1G and 2G both made a slow start but took off afterwards. In the case of 3G, there are several things that still have to be done.

**For example?**

One is to expand geographical coverage. We expect to offer the service in 90 percent of the populated areas in Japan by March 2003, but that's not enough to satisfy Japanese consumers. They want coverage of 99.99 percent, which is what we have achieved with 2G. It may take us another 10 years to reach that point with 3G. Actually, we are still installing new base stations even to serve 2G users. That's the way things are in Japan.

**Is it a competitive disadvantage for DoCoMo in the business market that you offer only mobile while some of your competitors are in both mobile and fixed line?**

We don't think so. We're part of the NTT group, which obviously covers all kinds of telecom services. That means we can make a joint approach to customers with other NTT group companies. However, we are disadvantaged in one small way. Some competitors use a one-stop shopping system: They offer business users a package of services, including both mobile and fixed line, through a single sales window, with one price for the whole package.

**DoCoMo is the only mobile operator that has its own R&D division.**

That ought to mean that you are normally ahead of others in developing new systems. On the other hand, doesn't it mean you're always faced with the challenge of thinking up new applications?

The idea of having an R&D department isn't to be always No. 1.

It's because, as operators, we have to do our own R&D to reflect and respond to users' needs. The problem with mobile operators in Europe and the US is that they leave it up to manufacturers to lead the development process.

That doesn't work well, because manufacturers don't understand the service side of the business. However, this is something that may be changing. Last year Vodafone set up its own application research function.

**You've taken minority stakes in US, European and recently some Asian companies with the idea of encouraging them to use services like i-mode. But isn't the introduction of i-mode something that can be done only within the country where it's being offered? For example,**

**what can DoCoMo do to promote the use of i-mode in Germany?**

You need to understand our basic strategy. For mobile to be useful, you should be able to use the service anywhere in the world. That's why we spent more than 10 years working on a global standard. But what emerged in 1999 was not one standard but multiple standards. That means we have to compete to make our standard the most popular, so it can be used all over the world.

And it's not just standards that are important. We also need common protocols for data services. The protocols for the European

WAP data service and our i-mode service are different, so they're incompatible. Then there are bandwidth compression technologies needed to transmit images. Those also need to be shared. Our policy of buying minority stakes in other carriers is designed to promote the use of common standards. Of course, it's up to the carrier in a particular country to decide how to promote a particular application. That involves language and culture.

**There's one huge potential market that DoCoMo has yet to tackle: China.**

China apparently wants to have three 3G mobile systems: the W-CDMA system, which we share with Vodafone and the rest of Europe; the US CDMA-2000; and its own system. Until we know how this is going to work, it won't be time for us to tackle the Chinese market. For instance, we need to know which Chinese operator is going to use which system. Another question about China that has to be answered is the scope for selling services. We know China is a huge market for manufactured goods, but with a fairly low per capita GDP, will it also be a good market for communications services?

**One-third of your present staff came from NTT when DoCoMo became independent a decade ago, one-third are new recruits and one-third joined in mid-career. That should be a creative mix, especially compared with companies that follow Japan's traditional lifetime employment system. But is it difficult to manage?**  
I don't think we are that different from other Japanese companies. The proportions you mentioned are about right, but most of our

mid-career recruits actually come from elsewhere in the NTT group.

**So is the NTT culture still strong in DoCoMo?**

No. The people who come to us from NTT join as specialists, not just because they are from NTT. When they come here they change their mindset. It doesn't take them long to realize that they are working in a highly competitive industry, not for a monopoly. ■