

# Global Innovations, Beijing-Style



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DOCOMO Beijing Communications Laboratories (hereinafter referred to as “Beijing Labs”) celebrated the 10th anniversary of its founding this year. With a staff of about 30 members currently, the labs are engaged in research on 3GPP standardization, 5G wireless technologies, and investigation of local services and business models. Needless to say, China has achieved remarkable economic growth during the past decade. In the area of mobile communications, the wireless technology used in the country has evolved from 2G to 3G, and now to Time-Division Long Term Evolution (TD-LTE)\*1. Meanwhile, the number of mobile subscribers has skyrocketed from 300 million to over 1.2 billion. As in Japan, now many young people fiddle with their smartphones while riding the subway.

There may be readers who wonder, “Why did NTT DOCOMO open a research center in Beijing?” If I am asked such a question, my answer would be that conducting R&D only in Japan is inefficient and has its limits. I have also been asked if Beijing Labs primarily carry out R&D aimed at business in China. That is also incorrect. Although research on globally shared technologies like standardized technologies can be conducted anywhere in the world, a company that is actually operating globally today must consider the skills and costs of human resources and carry out research on the most suitable themes in the most suitable locations. The future of companies is no longer based on self-sufficiency. Instead, open innovation, which includes collaborating and cooperating with outside parties, has become critical for R&D. Thus, whether partners exist in a company’s environment is one of the factors for establishing a research center.

What is Beijing’s R&D environment like, then? One aspect is

that it is rich in human resources. Surrounding Beijing Labs are a dozen or so influential universities, including Tsinghua University, Peking University and Beijing University of Posts and Telecommunications. Their students excel in fields like math and programming, and on the whole there are many workers with outstanding abilities in logical thinking. Actually, many of these universities’ graduates can be found in Beijing Labs. They are engaged in research such as creating large-scale simulation platforms to deal with standardization specifications and using the systems to test new ideas. There are also many labs in Beijing carrying out communication-related research, and Beijing Labs are engaged in many collaborative research projects on cutting-edge topics with them.

Another aspect I’d like to point out is China’s technological policy. The country is in the midst of advancing a large-scale national project for advanced technological development called the 863 Program. This wide-ranging initiative includes the areas of computer science and space development. Information and communication is also one of the fields, and many research labs belonging to universities and companies are participating in research on 5G under the leadership of the China Academy of Telecommunication Research\*2. Being involved in this effort, as well as having opportunities to engage in technological exchanges with related institutes, is a major benefit to Beijing Labs in our advancement of research.

The third aspect of Beijing’s research environment is the development of original technologies and services in mobile communication. It is well-known that in China, energy is being devoted to the development of Time Division Duplexing (TDD). The communication system first introduced in 3G and LTE was TDD. A country’s culture, customs, and social structure also have major influences on the development of services, which we also see in China in their original forms of development. For example, as LINE™\*3 is often used as a Social Networking Service (SNS) in Japan, in China WeChat™\*4 is wildly popular, and currently has more than 600 million users. What makes WeChat unique among similar SNS applications is that it comes with a function that allows users to call taxis. Because taxi drivers can also easily join the system by only downloading the app to their smartphones, the use of this service has exploded in China, where taxis serve as the transportation of the common people. Because such upstream service had not been bound to the network originally, it can be applied not just to domestic users but users abroad as well. In this sense, understanding original overseas services in terms of a society’s customs can be said to be extremely effective for NTT DOCOMO for thinking about future service strategies.

At Beijing Labs, I want to take full advantage of the R&D environment that is distinctive to the local community, and continue to send forth waves of new innovations for the next decade in mobile communications.

\*1 **TD-LTE:** LTE using TDD mode (Time Division Duplexing is a method of signal transmission by using the same frequency for the upstream link and downstream link and splitting their time).

\*2 **China Academy of Telecommunication Research:** Public research institute belonging to Ministry of Industry and Information Technology (MIIT).

\*3 **LINE™:** A trademark of LINE Corp.

\*4 **WeChat™:** A trademark of Tencent Inc.