Making 5G a Reality

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Shortly after the introduction of LTE, we began studying the development of 5G, the fifth-generation mobile communications system, as the mobile communications system for the 2020s. From past experience, we knew that preparing the next-generation mobile communications system requires starting investigations about ten years before. Thus we realized that we had to start soon. However, because at that time LTE-Advanced finally gained momentum in its practical applications, interest in 5G, which still lay in the future, remained at a low level. There were not many partners who listened when we brought up the subject of 5G.

Fortunately, there were engineers and companies who agreed with our thinking. We advanced our studies within NTT DOCOMO as we exchanged views with them, refining the basic concepts of 5G. We also expounded 5G's concepts in as many venues as possible by including 5G-related contents in conferences and lectures on 4G. These efforts paid off. Interest in 5G gradually grew, and opportunities for discussion increased. Dialogues have advanced rapidly in especially the last two years. Study organizations have been established. In academic conferences, many 5G-related sessions are being held. For us who began studying and testing 5G at an early stage, we take pride in being able to take the initiative in a variety of areas. We are thankful to members within this group and other partners who worked hard with us.

However, this is not the time to rest on our laurels. After establishing the basic concepts of 5G, our studies have already entered the standardization and Proof of Concept (PoC) stages. Standardization will begin in earnest from 2016. However, preparations are being made now in 2015. For PoC, we are partnering with 13 major global companies to carry out tests and technical studies. We will present and exhibit the results in many venues. Going forward, we must achieve PoC with technological content that brings more advanced functions to 5G.

Japan is gearing up for the Olympics and Paralympics in 2020. Seizing this opportunity to showcase the country's technological leadership, Japan's academia, industry, and government are conducting studies on a variety of themes. One of these subjects is 5G, and commercial deployment of 5G by 2020 is being sought. NTT DOCOMO has been providing mobile communication services to meet the needs of customers by introducing new generations of mobile communications systems in intervals of roughly ten years. In this sense, 2020 is the right time to introduce 5G. However, with only a little more than four years remaining, this will be a tight schedule, considering the time frame needed for standardization, PoC, and furthermore, full-scale system development. We are prepared for the need of even greater efforts from 2016 onward.

Furthermore, we recognize that to deploy 5G, we need to not only develop mobile communications systems, but to also propose and develop use cases and services in parallel. Toward this end we are soliciting concrete ideas within the company based on one's vision of the world in the 2020s. To promote diverse and outstanding ideas, we are planning ideathons and hackathons and seeking views from people in many different fields. Beginning this year, we are studying PoC implementation of at least some of these outstanding ideas.

As described above, many issues need to be resolved and work remains to be done to introduce 5G. One of NTT DOCOMO's slogans is "Co-creation." With this keyword in mind, we wish to bring 5G a step closer to reality by collaborating with many partners inside and outside the company.