

Certificate of Appreciation Received from NGMN Alliance

In March 2015, the Next Generation Mobile Networks (NGMN) Alliance published a white paper on the vision and requirements for the 5th Generation mobile communication networks (5G) [1]. On June 21, 2016, NGMN awarded a Certificate of Appreciation to Dr. Mikio Iwamura of DOCOMO Communications Laboratories Europe GmbH, representing NTT DOCOMO, in appreciation of NTT DOCOMO's proactive contributions to the creation of this white paper.

NGMN was established in 2006 by the world's leading telecommunications operators with a mission to define operator visions and requirements for next-generation mobile communications systems. As a founding member, NTT DOCOMO has been contributing to NGMN activities to continue development of mobile communications systems as a platform to support various activities in society and foster new communications culture.

Currently, 28 operators from around the globe are participating in NGMN, working toward realization of 5G, together with 36 leading global vendors as contributors and 25 university and academic institutions as advisers. After the launch of the NGMN 5G Initiative in March 2014, 5G was discussed from various angles over the course of a year, and the outcomes were summarized in the white paper. Notably, DOCOMO Communications Laboratories Europe led the group discussing 5G technologies and system architecture, and made significant contributions to establish 5G technical concepts and design principles, and build consensus in the industry. These contributions were highly appreciated by NGMN which led to the awarding of this certificate, along with the other leading key members including Deutsche Telekom, Bell Mobility, AT&T, Telecom Italia, Telefonica, China Mobile Communications, Orange, Vodafone Group and British Telecommunications.

Embracing the outlook for technologies and the changing business environments for operators, the NGMN 5G white paper highlights the following points as its 5G vision for building the telecommunications industry ecosystem*1 for 2020 and beyond.

- Support increasing data demands in society and enable seamless user experience.
- Enable secure and trusted ICT environments that are indispensable to improve productivity in society.

- Support the paradigm shift to IoT with the power of ICT.
- Support efficient realization of diverse services using software and cloud computing technologies.
- Foster value creation through partnerships that combine capabilities.

To support these directions, NGMN advocates expansion of capabilities such as data rates, capacity, latency and the number of devices that can be connected, as well as network architecture that enables agile and flexible tailoring of capabilities and network functions to suit various services. This will require integration of a new radio access technology to further improve spectral efficiency and unlock new frequency bands such as millimeter waves, and flexible cloud technologies that exploit virtualization and software.

To integrate various technical concepts into a sensible system in a timely manner, intimate knowledge of technologies and business insights are needed. To facilitate a global 5G ecosystem, the NGMN 5G Initiative successfully synthesized the wisdom of various operators and crystallized the vision into its white paper.

The NGMN 5G white paper has been recognized globally as a key foundation in building the 5G ecosystem, and global standardization and commercial developments are underway toward realization of its vision. Also, from June 2015 to June 2016, NGMN further reviewed 5G requirements from the business [2] and vertical industry [3] perspectives, and studied detailed radio access requirements [4] and so forth published in various white papers. NTT DOCOMO also took initiatives as leader, facilitator and key contributor in these activities, to take the realization of 5G a step further.

REFERENCES

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https://www.ngmn.org/uploads/media/160701_NGMN_BPG_Capabilities_Whitepaper_v1_1.pdf
- [3] NGMN: "Perspectives on Vertical Industries and Implications for 5G." Jun. 2016.
https://www.ngmn.org/uploads/media/160610_NGMN_Perspectives_on_Vertical_Industries_and_Implications_for_5G_v1_0.pdf
- [4] NGMN: "Recommendations for NGMN KPIs and Requirements for 5G." Jun. 2016.
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*1 **Ecosystem:** A symbiotic mechanism in which multiple companies partner across specialties to make use of each other's technologies and assets, and in which consumers and society are included in business activities to create flows from research and development through to sales, advertising and consumption, and enable coexistence and co-prosperity.

