

# “5G Trial Site” Opens

To generate new 5G services, NTT DOCOMO opened a “5G Trial Site” on Monday, May 22, 2017 as an initiative to give customers the opportunity to experience the characteristics of 5G [1].

Firstly, a 4K multi-stream live was fed from the TOKYO SKYTREE®\*1 Tembo Deck to the TOKYO Solamachi®\*2 commercial center in the TOKYO SKYTREE TOWN®, and was open to the public on the first floor event space in TOKYO Solamachi as a “virtual observation deck” until Sunday, May 28, 2017. This system used an optical cable to send images from 4K cameras in six positions around the Tembo Deck to the first floor of TOKYO Solamachi. Then, using that feed through a 5G base station and terminal, three of the six images were displayed with three 4K LCD televisions to reproduce a live 180° image. The presence of this live

feed achieved with 5G’s characteristic high-speed, high-capacity and low latency data transmission enabled customers to experience the sensation of being in a place even though they were actually in a separate location.

Also, an event was held for the opening of the 5G Trial Site at TOKYO SKYTREE on Monday, May 22, 2017, which provided a large number of reporters with a preview experience of the 5G Trial Site.

This event was held on TOKYO SKYTREE Tembo Deck Floor 350 (350 meters high), with CEO Yoshizumi Nezu of Tobu Railway, 5G Trial Site partner company, and NTT DOCOMO President and CEO Kazuhiro Yoshizawa taking the podium to talk about their enthusiasm for the 5G Trial Site. Mr. Nezu described how 5G Trial Site is contributing



4K multi-stream live feed and 5G transmission equipment on the first floor of TOKYO Solamachi

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to making TOKYO SKYTREE and Asakusa area as well as the Nikko and Kinugawa areas become showcases of cutting-edge technology. Mr. Yoshizawa stated that the 5G Trial Site is not only a venue to verify 5G's high-speed, high-capacity and low latency, but also an initiative to generate new services in the 5G era with potentials for new business launches by exploring and discovering the sorts of experiences and services that can be converged with 5G with partners companies. Then in the opening ceremony that followed, in a world first, 8K live, high-resolution images captured with

an 8K Super Hi-Vision camera on the Tembo Deck and transferred with 5G were displayed on an 8K display to attendees.

Furthermore, as an example of a 5G usage case, a demonstration was held for reporters onboard the "Limited Express Revaty" Tobu Railway new express, which began services on Friday, April 21, 2017, to impress upon them the strength of simultaneous 5G connection in actual usage scenes, which entailed simultaneous display on eight tablets via 5G of 4K images captured in advance from the driver's seat.



5G Trial Site opening ceremony and 8K live feed images



4K video multiple simultaneous connection demonstration in the new "Revaty" express train, and 5G transmission equipment



Remote control system for construction equipment



Remote control system for robotic hands

From Wednesday May 24 to Friday 26, 2017, an exhibition was held on initiatives with partner companies at the 5G Tokyo Bay Summit 2017<sup>\*3</sup> pavilion in the Wireless Technology Park 2017 [2] held at Tokyo Big Site as a 5G Trial Site-related event. This pavilion holds the largest national event specializing in 5G, which has been scaled up, planned and operated by NTT DOCOMO since last year.

NTT DOCOMO, its existing and new partner corporations presented details of their initiatives for prototype demonstrations of services utilizing 5G in a range of industries such as demonstrations of 4K and 8K real-time video streaming, remote control systems for construction equipment and robotic hands, and new communications and sports viewing styles with Augmented Reality (AR) and Virtual Reality (VR) [3] - [7]. Also, we displayed the DOCOMO-developed “5G Real-time Radio waves Visualizer” [8], the world’s first demonstration and

experiment equipment for measuring, analyzing and visualizing radio waves arrival in real time, and also presented a demonstration vehicle used with the 5G Trial Site.

Furthermore, a seminar program was held on the 5G Tokyo Bay Summit on Wednesday May 24 and Thursday 25, 2017. On the 24th, lectures and a symposium were held on trends in the latest VR technologies for the 5G era as the “5G Tokyo Bay Summit Workshop.” As the opening lecture, Takehiro Nakamura, General Manager of the 5G Laboratory of NTT DOCOMO delivered a lecture on “Open innovation combining 5G and VR” followed by theme lectures from Crescent, NS Solutions Corporation, Fuji Television Network and Japan Display. After that, a panel discussion was held as the “5G × VR Symposium.” Enthusiastic discussions were held on the global potential for achievements combining 5G and VR. On the 25th, vendor companies also delivered lectures in the “5G Tokyo Bay Summit Technology Seminar.”

The pavilion was constantly full of visitors, and a lot of people including standing attendees enjoyed the seminar program on the 5G Tokyo Bay Summit. With even greater interest in 5G compared to last year, the event ended successfully.



Sports viewing on a smartphone with athletes represented on an AR diorama



5G Real-time Radio waves Visualizer



5G demonstration vehicle

\*3 5G Tokyo Bay Summit: A registered trademark of NTT DOCOMO, INC.

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