

## HD FG Innovation Company Limited; Patent Issued for Base station, user equipment and related method (USPTO 11290946)

WC 2,288 words

PD 15 April 2022

SN Investment Weekly News

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**PG** 817

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2022 APR 23 (VerticalNews) -- By a News Reporter-Staff News Editor at Investment Weekly News -- A patent by the inventors Liu, Renmao (Shanghai, CN), Xiao, Fangying (Shanghai, CN), Yamada, Shohei (Sakai, JP), filed on November 2, 2017, was published online on March 29, 2022, according to news reporting originating from Alexandria, Virginia, by VerticalNews correspondents.

Patent number 11290946 is assigned to FG Innovation Company Limited (Hong Kong, Hong Kong).

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The following quote was obtained by the news editors from the background information supplied by the inventors: "A new research project on 5G technical standards (see non-patent literature: RP-160671: New SID Proposal: Study on New Radio Access Technology) was proposed by NTT DOCOMO at the 3rd Generation Partnership Project (3GPP) RAN #71 plenary meeting held in March 2016, and was approved. The goal of the research project is to develop a New Radio (NR) access technology to meet all of the application scenarios, requirements, and deployment environments of 5G. NR mainly has three application scenarios: Enhanced Mobile Broadband Communications (Enhanced Mobile Broadband: eMBB), massive Machine Type Communication (mMTC), and Ultra Reliable and Low Latency Communications (URLLC). According to the planning of the research project, the standardization of NR is conducted in two stages: the first-stage standardization will be completed by the middle of 2018; the second-stage standardization will be completed by the end of 2019. The first-stage standard specifications need to be forward-compatible with the second-stage standard specifications, while the second-stage standard specifications need to be established on the basis of the first-stage standard specifications and to meet all requirements of 5G NR technical standards.

"For better energy conservation and emission reduction, the initial requirement of the project is to avoid repeated sending of unnecessary information by the network side. This requirement is based on the following consideration:

"In an existing LTE system, in order to ensure normal access of LTE user equipment (UE), a base station (which may be denoted as eNB or gNB) periodically broadcasts access stratum and non-access stratum information, which is collectively referred to as system information. In the present UTE system, the system information is divided into a Master Information Block (MIB) and multiple System Information Blocks (SIBs) for carrying different content; and up to 20 types of SIBs are defined by LTE so far. The MIB carries the necessary and most frequently transmitted parameters for acquiring basic information of a cell. SIB1 includes parameters for determining whether a cell is suitable for cell selection and time domain scheduling information of other SIBs, The MIB and the SIB1 are sent in a predefined time period. Other SIBs with the same scheduling period are arranged in the same System Information Message (referred to as an SI message) and are periodically sent in a corresponding system information window (SI-window) according to time domain scheduling information carried in the SIB1. Other than MIB and SIB1, not all SIBs need to be broadcast. According to the features supported by a current access network device and the features of the non-access stratum, the eNB selects a system information block relevant to the features for broadcast. For example, if the current access network supports enhanced access control, the eNB broadcasts SIB14, which carries relevant information of EAB; otherwise, broadcasting is not performed. If the current access

network supports a multimedia broadcast multicast service (MBMS), the eNB broadcasts SIB13 and so on. These broadcast SIBs are reflected in the scheduling information carried by the SIB1; and unscheduled SIBs are not broadcast. Prior to initiating the access, the VP further needs to acquire other SIBs based on its own features in addition to the MIB and SIB1 that must he acquired; and then the access is initiated. For example, if the UE supports multiple RATS, SIB8 further needs to be read to acquire inter-RAT-related cell reselection information; otherwise, SIB8 does not need to be read. If the UE supports WLAN interoperation, SIB17 further needs to be acquired; otherwise, SIB17 does not need to be acquired.

"The method of periodic broadcasting of all system information supported by the eNB helps the UE to acquire the corresponding information at any time. However, this method does not consider the acquisition needs of the UE (for example, only a small number of UEs need to acquire some of the system information); and all system information supported by the eNB is broadcast repeatedly on a specific downlink resource, resulting in low system resource utilization and large energy consumption. At the 3GPP RAN2#94 meeting, some manufacturers proposed to transmit system information by combining network autonomous broadcasting and UE request transmission. These manufacturers suggested to classify system information into two categories: one type of system information is sent by the eNB autonomously through periodic broadcasting (this type of system information is referred to as minimum system information or first system information in the present disclosure), where this type of system information may include parameters required for cell access and/or cell selection-related parameters and/or parameters necessary for acquiring other system information or system information required by most UE; and the other type of system information is system information not included in the first system information and is sent in certain cases (for example, when a UP request is received or when an update is required) (this type of system information is referred to as other system information or second system information or supplementary system information in the present disclosure), where the supplementary system information may be sent through broadcast, multicast, or unicast. When the UE needs some or all of the supplementary system information, how to acquire the supplementary system information is a problem that needs to be solved."

In addition to the background information obtained for this patent, VerticalNews journalists also obtained the inventors' summary information for this patent: "According to the present disclosure, a method capable of acquiring supplementary system information, corresponding user equipment (UE), and a corresponding base station are provided.

"According to a first aspect of the present disclosure, a method used in UE is provided, comprising: sending a system information request message to a base station to request required supplementary system information, and meanwhile starting a timer; and receiving the requested supplementary system information within a time window defined by the timer.

"In one embodiment, a value of the time window is set to a multiple of a system information change period.

"In one embodiment, a start position of the time window is set to a start subframe of a next system information change period subsequent to the sending of the system information request message.

"In one embodiment, a start position of the time window is set to a last subframe of the system information request message plus an offset, and a value of the offset is predefined or configured through radio resource control (RRC) signaling."

The claims supplied by the inventors are:

- "1. A method performed by user equipment (UE), comprising: determining whether the UE requires all or only a subset of supplementary system information; generating a system information request message while the UE is in a connected state, wherein the system information request message includes a first information element that indicates a list of requested system information blocks (SIBs), and wherein the list of requested SIBs is selected based on a determination of whether the UE requires all or only the subset of the supplementary system information; sending the system information request message to a base station on an uplink dedicated control channel (DCCH); starting a first timer upon sending the system information request message; and stopping the first timer upon receiving the requested system information blocks (SIBs) sent by the base station to the UE in the connected state in response to the system information request message.
- "2. The method of claim 1, wherein the first information element is denoted as otherSIBRequestList.
- "3. The method of claim 1, wherein the system information request message includes a second information element indicating that all supplementary system information is requested.
- "4. The method of claim 1, further comprising: receiving a system information request response message from the base station that contains the requested system information blocks (SIBs), wherein the system

information request response message is received from the base station on a downlink dedicated control channel (DCCH).

- "5. The method of claim 1, further comprising: receiving a system information request response message from the base station that contains the requested system information blocks (SIBs), wherein the requested system information blocks (SIBs) are included in a second information element, and wherein the second information element is denoted as rrc-Slmessage.
- "6. The method of claim 1, wherein the system information request message includes a second information element that indicates a list of requested system information group identifiers.
- "7. The method of claim 6, wherein the system information block group identifier is configured through radio resource control (RRC) signaling.
- "8. User equipment (UE), comprising: a processor configured to determine whether the UE requires all or only a subset of supplementary system information; a transmitter configured to send to a base station a system information request message while the UE is in a connected state, wherein the system information request message includes a first information element that indicates a list of requested system information blocks (SIBs), wherein the list of requested SIBs is selected based on a determination of whether the UE requires all or only the subset of the supplementary system information, wherein the transmitter is configured to send the system information request message to the base station on an uplink dedicated control channel (DCCH), and wherein the connected state is denoted as RRC\_CONNECTED; and a timer configured to start upon sending the system information request message to the base station and to stop upon receiving the requested system information blocks (SIBs) from the base station in response to the system information request message.
- "9. The UE according to claim 8, further comprising: a receiver configured to receive a system information request response message from the base station that contains the requested system information block (SIBs), and wherein the receiver is configured to receive the system information request response message from the base station on a downlink dedicated control channel (DCCH).
- "10. The UE according to claim 9, wherein the requested system information blocks (SIBs) received from the base station in the system information request response message are included in a second information element denoted as rrc-SImessage.
- "11. The UE according to claim 8, wherein the system information request message includes a second information element indicating that all supplementary system information is requested.
- "12. A method used in a base station, comprising: receiving a system information request message from user equipment (UE) in a connected state on an uplink dedicated control channel (DCCH), wherein the system information request message includes a first information element that indicates a list of requested system information blocks (SIBs), and wherein the list of requested SIBs is selected based on a determination of whether the UE requires all or only a subset of the supplementary system information; and sending the requested system information blocks (SIBs) to the UE in response to receiving the system information request message, wherein the requested system information blocks (SIBs) are contained in a system information request response message sent to the UE on a downlink dedicated control channel (DCCH).
- "13. The method of claim 12, wherein the first information element is denoted as otherSIBRequestList.
- "14. The method of claim 12, wherein the system information request message includes a second information element if the UE is requesting all of the supplementary system information.
- "15. A base station, comprising: a receiver configured to receive a system information request message from user equipment (UE) in a connected state on an uplink dedicated control channel (DCCH), wherein the system information request message includes a first information element that indicates a list of requested system information blocks (SIBs), and wherein the list of requested SIBs is selected based on a determination of whether the UE requires all or only a subset of the supplementary system information; and a transmitter configured to send the requested system information blocks (SIBs) to the UE in response to receiving the system information request message, wherein the transmitter is configured to send the requested system information blocks (SIBs) to the UE in a system information request response message on a downlink dedicated control channel (DCCH).
- "16. The base station of claim 15, wherein the first information element is denoted as otherSIBRequestList.
- "17. The base station of claim 15, wherein the system information request message includes a second information element if the UE is requesting all of the supplementary system information.

- "18. The base station of claim 17, wherein the second information element is denoted as allOtherSIRequest.
- "19. The method of claim 3, wherein the second information element is denoted as allOtherSIRequest.
- "20. The method of claim 14, wherein the second information element is denoted as allOtherSIRequest."

URL and more information on this patent, see: Liu, Renmao. Base station, user equipment and related method. U.S. Patent Number 11290946, filed November 2, 2017, and published online on March 29, 2022. Patent URL:

http://patft.uspto.gov/netacgi/nph-

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- AN Document INVWK00020220415ei4f000je



HD Docomo, JGC to develop digital platforms at large-scale plant construction sites

WC 312 wordsPD 15 April 2022

**SN** Telecompaper Asia

SC TELASI LA English

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Japanese operator NTT Docomo has signed a partnership agreement with JGC. The two companies plan to jointly develop a digital **platform** to enable large plants being constructed overseas to be remotely managed from Japan.

Under the terms of the deal, Docomo and JGC will start the joint development of a platform designed to enable visualization and management of progress at overseas construction sites, while remaining in Japan, with the aim of starting its use at construction sites in Southeast Asia and the Middle East by end-2022.

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The platform will combine JGC's expertise in on-site operations and project-management knowledge for plant construction and Docomo's technologies involving drones, Al, and security. It will also be powered by Visual Command Center, a patented visual construction management solution from US-based company Reconstruct.

Key functions of the Visual Command Center include the creation of a 3D point cloud model of a construction site from images taken with drones or 360-degree cameras; conversion of 2D images to 3D point cloud models; as well as integration of images and 3D point cloud models with BIM / CIM and drawing data; and creation of a 4D model by integrating the schedule data and visualize progress management including construction delays and punctuality.

Since August 2019, Docomo had been working with JGC to identify issues related to plant construction management and explore the creation of new businesses, such as demonstrating systems utilizing drones and IoT, with the aim of digitally transforming plant facility inspection and construction progress management. Through this agreement, Docomo and JGC plan to develop platforms for overseas plant construction sites and develop them with higher functionality, and work to create new businesses to contribute to the promotion of DX not only for the overseas plant construction industry but also for all industries.

co nttmcn: NTT DOCOMO, INC. | ntt: Nippon Telegraph and Telephone Corporation

iS010025 : Industrial Building Construction | iS01 : Building Construction | iS010023 : Non-residential Building Construction | iconst : Construction | icre : Real Estate/Construction | i7902 : Telecommunication Services | i79022 : Wireless Telecommunications Services | i7902202 : Mobile Telecommunications

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RE jap : Japan | apacz : Asia Pacific | asiaz : Asia | easiaz : Eastern Asia

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AN Document TELASI0020220415ei4f00001



HD DOCOMO Concludes a Business Alliance Contract with JGC Corporation to Develop Platforms for DX at Large-scale Plant Construction Sites

WC 452 words

**PD** 14 April 2022

**ET** 19:39

SN JCN Newswire

SC JAPCOR

LA English

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- Aiming for 4D digitalization of overseas plant construction sites, to start use in Southeast Asia and the Middle East by the end of 2022 -

TOKYO, Apr 14, 2022 - (JCN Newswire) - NTT DOCOMO, INC. announced today that it has entered into a business alliance agreement with JGC Corporation on April 14, 2022 to jointly develop a digital **platform** that would enable large plants being constructed overseas to be remotely managed from Japan.

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Under the agreement, the two companies will begin joint development of a platform that will enable accurate and speedy visualization and management of progress at overseas construction sites while remaining in Japan, with the aim of starting its use at construction sites in Southeast Asia and the Middle East by the end of 2022.

The platform will combine JGC's expertise in on-site operations and project-management knowledge for plant construction and DOCOMO's technologies involving drones, AI, and security. It will also be powered by Visual Command Center TM, a patented visual construction management solution from US-based company Reconstruct.

Key functions of the Visual Command Center include.

- Create a 3D point cloud model of a construction site from images taken with drones or 360-degree cameras
- Convert 2D images to 3D point cloud models
- Integrate images and 3D point cloud models with BIM / CIM and drawing data
- Create a 4D model by integrating the schedule data and visualize progress management including construction delays and punctuality.

Since August 2019, DOCOMO had been working with JGC to identify issues related to plant construction management and explore the creation of new businesses, such as demonstrating systems utilizing drones and IoT, with the aim of digitally transforming plant facility inspection and construction progress management. Through this agreement, DOCOMO and JGC will develop platforms for overseas plant construction sites and develop them with higher functionality, and work to create new businesses to contribute to the promotion of DX not only for the overseas plant construction industry but also for all industries.

## About NTT DOCOMO

NTT DOCOMO, Japan's leading mobile operator with over 83 million subscriptions, is one of the world's foremost contributors to 3G, 4G and 5G mobile network technologies. Beyond core communications services, DOCOMO is challenging new frontiers in collaboration with a growing number of entities ("+d" partners), creating exciting and convenient value-added services that change the way people live and work. Under a medium-term plan toward 2020 and beyond, DOCOMO is pioneering a leading-edge 5G

network to facilitate innovative services that will amaze and inspire customers beyond their expectations. <a href="https://www.docomo.ne.jp/english/">www.docomo.ne.jp/english/</a>.

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HD JGC Holdings Corporation - JGC and DOCOMO to Develop Digital Platform for Remotely Managing Construction of Large Plants Overseas

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WC 423 words

**PD** 14 April 2022

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JGC and DOCOMO to Develop Digital Platform for Remotely Managing Construction of Large Plants Overseas

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Apr. 14, 2022

- 4D digitization platform will be deployed in Southeast Asia and Middle East -

TOKYO, JAPAN-- JGC Holdings Corporation announced today that JGC Corporation and NTT DOCOMO, INC., have agreed to form a business alliance aimed at developing a digital platform that would enable large plants being constructed overseas to be remotely managed from Japan on April 14, 2022. The platform will enable fast, accurate visualization and remote management of construction using drones, video, AI and other digital technologies. The platform initially will be tested and introduced at construction sites in Southeast Asia and the Middle East by the end of 2022.

The platform will combine JGC's expertise in on-site operations and project-management knowledge for plant construction and DOCOMO technologies involving drones, AI, security and network construction. It will also be powered by Reconstruct's Visual Command CenterTM, a patented visual construction management solution from US-based Reconstruct®.

Key functions of the Visual Command CenterTM include.

- -Create a 3D point cloud model from a construction site taken with a drone or 360 cameras
- -Measure accurately in 2D and 3D
- -Integrate and superimpose images and 3D point cloud models with BIM / CIM and drawing data
- -Create a 4D model by integrating the schedule data , and visualize progress management including construction delays and punctuality.

JGC and DOCOMO began to jointly study the feasibility of remotely managing plant construction and the creation of related businesses in August 2019. Efforts so far have included demonstrating a system combining drones and IoT that can be used to digitally inspect plant equipment or manage construction progress. Through their new business alliance, JGC and DOCOMO now plan to deploy a working platform connecting construction sites overseas and management offices in Japan. Going forward, they expect to refine the platform's functionality as well as develop businesses that will contribute to the ongoing digital transformation of plant-construction operations.

\* Original Link

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HD JTB, NTT Docomo and others to conduct a demonstration experiment on tourism DX in Dotombori, Osaka Prefecture

WC 319 words

**PD** 12 April 2022

SN Nikkei Business Trends

SC NIKBST

LA English

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JTB (Shinagawa-ku, Tokyo), NTT Docomo (Chiyoda-ku, Tokyo), and Dotombori Night Culture Creation Council will conduct a demonstration experiment on tourism DX "Dotombori XR Park" in Dotombori, Osaka Prefecture from March 18 to April 10, 2022. In anticipation of the Osaka-Kansai Expo in 2025, it aims to improve the value of visitors in the Dotombori area and promote the circulation of shopping streets. It will propose new ways to enjoy Dotombori to tourists and locals. The demonstration experiment will provide a sightseeing experience using smartphones. By installing AR digital content devices in Dotombori Shopping Street and Tonbori Riverwalk, the two companies will develop an entertainment experience that combines real and virtual experiences that only visitors can experience, as well as information dissemination that allows customers to enjoy eating, drinking and shopping with confidence in With Corona.

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It will also develop "Virtual Dotombori", which allows visitors to enjoy Dotombori's tours and games in a virtual space, and work on disseminating information on the new attractions of the city. "Dotombori AR Photo Museum" where you can see photos of the 1970 Osaka Expo and images of Osaka and Kansai Expo in 2025 when using a smartphone for cityscapes and landscapes, and "Dotombori River AR" where you can enjoy fishing games on Dotombori River "Fishing", "Dotombori Sensing AR" to understand the congestion status of the participating stores can be experienced.

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HD Japan speeds up rollout targets to close 5G gap

BY Robert Clark
WC 501 words
PD 11 April 2022
SN Light Reading
SC LITEREAD
LA English

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Japan is making a renewed push to speed its national 5G rollout, a top economic priority of the new government.

In the latest move, SoftBank Corp has <u>announced a plan</u> to raise 35 billion yen (US\$282.5 million) to expand its **5G** network.

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It describes it as a "social loan" aimed at tackling some of Japan's pressing social issues, such as an aging population and the hollowing out of the countryside.

It would also contribute to the birth of new industry sectors and create new corporate value, SoftBank said.

But the accelerated rollout is also a response to the government's more aggressive deployment targets.

## Click here to view Figure 1.

The Ministry of Internal Affairs and Communications (MIC) aims to boost 5G coverage from the current rate of around 30% to 95% of the population by March 2024, <u>public broadcaster NHK</u> reported.

The ministry said after consultation with the operators it was targeting 97% coverage by early 2026 and 99% by 2031.

At launch in 2020, NTT DoCoMo and KDDI aimed to have 90% of the country covered by 2025 while SoftBank set a target of 64%.

"Speedy expansion of 5G availability is a must," Communications Minister Kaneko Yasushi told NHK. "We will swiftly establish the necessary environment so that 5G technology can benefit as many people as possible."

## 5G at the forefront

Prime Minister Kishida Fumio, who took office last October, has placed 5G and digitalization at the forefront of his economic priorities.

In a <u>speech to Davos in January</u>, Koshida said COVID-19 had made Japan realize how far it lagged in digital technology, although it also showed these technologies were "indispensable in solving Japan's social problems."

"Now is a chance for Japan to take this opportunity and I will push forward our digitalization. The key to this is infrastructure."

The government would invest heavily in next-generation networks, optical fiber, subsea cables and 5G-related infrastructure, he said.

Marc Einstein, chief telecom and digital analyst at ITR Corporation, said 5G and 6G were "a much bigger focus of the Kishida government compared to his predecessors."

The government was aware that Japan's 5G deployment lagged behind South Korea and other nations, and while NSA coverage was progressing, "there is still a significant amount of coverage needed using SA mode for mmWave etc."

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Additionally, the Japanese industry had largely missed out on 4G, and vendors like NEC and Fujitsu see a large opportunity in global 5G, he said.

To support this, the government wants to build a robust local ecosystem, "which requires a strong domestic network," Einstein said.

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HD NTT Docomo and others to succeed in a demonstration experiment approved by ETSI's ZSM for automatic operation of 5G network slices

WC 312 words

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SN Nikkei Business Trends

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On March 11, 2022, NTT Docomo (Chiyoda-ku, Tokyo) jointly launched a **5G network** slice together with NTT Communications (Tokyo, Tokyo), NTT Network Service System Laboratory (NS Labs) and NTT Network Innovation Center (NIC) Announced the success of the demonstration experiment of E2EO (End-to-end orchestration technology), which realizes the automatic operation of The demonstration experiment was approved by Working Group ZSM (Zero touch network and Service Management) of ETSI (European Telecommunications Standards Institute), a standardization organization related to telecommunications technology. E2EO will make it possible to automate operations such as construction, monitoring, and operation and maintenance of **5G network** slices. In the demonstration experiment, automatic control of **5G network** slices across multiple domains such as transport network and core network was realized in a multi-vendor environment assuming actual operation.

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E2EO and 5G mobile network, which is the target of E2EO control, have been constructed in an experimental environment by utilizing the technologies of NTTCom, NS Labs, and NIC, and as one of the operations assuming actual operation, They have succeeded in automatically controlling the creation and deletion of 5G network slices under the control of E2EO. Through the demonstration experiment, it has embodied the technical requirements necessary for operation in a commercial environment. The aim is to automate various ICT resource controls through technology development.

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AN Document NIKBST0020220407ei460005p



## HD NTT DOCOMO signs with Oracle Cloud

WC 540 words

**PD** 5 April 2022

SN Optical Networks Daily

SC OBSERV

**LA** English

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https://www.oracle.com/news/announcement/ntt-docomo-selects-oracle-cloud-boosts-development-capabilities-2022-04-04/

Oracle Cloud Infrastructure continues to build

Wednesday, March 23, 2022 Oracle, Oracle Cloud

Oracle Cloud Infrastructure (OCI) is expanding with 11 new compute, networking, and storage services and capabilities that enable customers to run their workloads faster and more securely at lower costs. "OCI continues to break the rules in the cloud, helping customers run their workloads faster, more securely, and

more economically," said Clay Magouyrk, executive vice president, Oracle Cloud Infrastructure. "Customers can build cloud native...

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HD NTT DOCOMO Selects Oracle Cloud to Boost Development Capabilities for One of the World's Largest Customer Information Management Systems

WC 836 words

**PD** 5 April 2022

SN ENP Newswire

SC ENPNEW

**LA** English

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Release date - 04042022

Japanese mobile operator taps Oracle **Cloud** Infrastructure to improve service quality and enable faster delivery through automation of operation management utilizing Oracle Container Engines for Kubernetes.

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Additional Resources

Learn more about Oracle Cloud Infrastructure

NTT DOCOMO

Contact Info

Kazumi Ishiyama

Oracle Corporation Japan PR

pr-room\_jp@oracle.com

+81.3.6834.3238

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## HD DOCOMO Launches Carbon-neutrality Website to Encourage Climate Action

WC 304 wordsPD 5 April 2022

**ET** 10:08

SN JCN Newswire

SC JAPCOR

LA English

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TOKYO, Apr 5, 2022 - (JCN Newswire) - NTT DOCOMO, INC. announced today that it has launched the Caboneu Community website (<a href="https://caboneu.jp/">https://caboneu.jp/</a>) where the general public, opinion leaders, companies and nonprofit organizations can share information on implementing eco-friendly actions in everyday life for increased carbon neutrality. The initiative is an extension of the Caboneu ecosystem DOCOMO launched last September as part of its commitment to reduce greenhouse gas emissions from its business activities effectively to zero by 2030.

The website includes articles about how people are leading eco-friendly lifestyles, information on related events and initiatives, and a members' page that can be personalized to the preferences of each registered user.

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In a related initiative, DOCOMO will set up a Caboneu booth at one of Japan's largest environmental events, Earth Day Tokyo 2022, in central Tokyo's Yoyogi Park on April 16-17 (Sat. & Sun.). The booth will promote the Caboneu Community and provide hands-on experiences for participants to learn about the global environment.

Going forward, DOCOMO will continue pursuing sustainable corporate development, aiming to help create a more secure, convenient and prosperous world for all generations.

## About NTT DOCOMO

NTT DOCOMO, Japan's leading mobile operator with over 83 million subscriptions, is one of the world's foremost contributors to 3G, 4G and 5G mobile network technologies. Beyond core communications services, DOCOMO is challenging new frontiers in collaboration with a growing number of entities ("+d" partners), creating exciting and convenient value-added services that change the way people live and work. Under a medium-term plan toward 2020 and beyond, DOCOMO is pioneering a leading-edge 5G network to facilitate innovative services that will amaze and inspire customers beyond their expectations. https://www.docomo.ne.jp/english/.

Source: NTT DOCOMO

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IN i7902 : Telecommunication Services | i79022 : Wireless Telecommunications Services | i7902202 : Mobile Telecommunications

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HD NTT DOCOMO adopts Oracle Cloud Infrastructure to build new development environment for ALADIN

WC 721 words

**PD** 4 April 2022

**ET** 01:00

SN MarketLine News and Comment

SC DTMNTR

**LA** English

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DOCOMO aims to migrate the final operation testing environment, which is currently in an on-premises location, to the cloud, including Oracle Cloud, to further improve testing efficiency and application quality with flexible development and testing environments in the near future.

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HD NTT Docomo selects Oracle Cloud for customer information management system

WC 272 words

**PD** 4 April 2022

SN Telecompaper Asia

SC TELASI
LA English

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NTT Docomo has adopted Oracle **cloud** Infrastructure (OCI) to build its new development environment for the Aladin (ALI Around Docomo Information Systems) customer information management system. NTT Docomo said it will in this way be benefit from available and secure compute resources, as it expands to broader telecommunications, internet, and smart life services. The company also moved its on-premises Oracle Database for database training to the Oracle Database **Cloud** Service on OCI.

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HD Press Release: NTT DOCOMO Selects Oracle Cloud

to Boost Development Capabilities for One of the World's Largest Customer Information Management

**Systems** 

WC 937 words

**PD** 4 April 2022

**ET** 13:00

SN Dow Jones Institutional News

SC DJDN LA English

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NTT DOCOMO Selects Oracle Cloud to Boost
Development Capabilities for One of the World's Largest

Customer Information Management Systems

PR Newswire

TOKYO, April 4, 2022

Japanese mobile operator taps Oracle Cloud Infrastructure to improve service quality and enable faster delivery through automation of operation management utilizing Oracle Container Engines for Kubernetes

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#### Additional Resources

-- Learn more about Oracle Cloud Infrastructure

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/CONTACT: Kazumi Ishiyama, Oracle Corporation Japan PR, pr-room\_jp@oracle.com, +81.3.6834.3238

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WC 869 words PD 4 April 2022

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HD Docomo launches carbon-neutrality website Caboneu Community

WC 159 wordsPD 4 April 2022

SN Telecompaper Asia

SC TELASI LA English

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LP

NTT Docomo has launched the Caboneu Community website, where the general public, opinion leaders, companies and nonprofit organizations can share information on implementing eco-friendly actions in everyday life for increased carbon neutrality. The initiative is an extension of the Caboneu **ecosystem** Docomo launched in September 2021, as part of its commitment to reduce greenhouse gas emissions from its business activities effectively to zero by 2030.

The website includes articles about how people are leading eco-friendly lifestyles, information on related events and initiatives, and a members' page that can be personalized to the preferences of each registered user.

TD

In a related initiative, Docomo will set up a Caboneu booth at one of Japan's largest environmental events, Earth Day Tokyo 2022, in central Tokyo's Yoyogi Park on 16-17 April. The booth will promote the Caboneu Community and provide hands-on experiences for participants to learn about the global environment.

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IN i7902 : Telecommunication Services | i79022 : Wireless Telecommunications Services | i7902202 : Mobile Telecommunications

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RE jap : Japan | apacz : Asia Pacific | asiaz : Asia | easiaz : Eastern Asia

PUB Telecompaper BV

AN Document TELASI0020220404ei440005l



HD NTT - NTT DOCOMO Ventures Invests in jinjer Co., Ltd. which Offers a Back-Office Cloud Service

CR NTT - Nippon Telegraph & Telephone Corporation published this content on 29 Mar 2022 and is solely responsible for the information contained herein. Distributed by PUBT, unedited and unaltered, on 29 Mar 2022 05:22:02 UTC.

WC 578 words

**PD** 29 March 2022

SN Public Companies News and Documents via PUBT

SC LCDVF

LA English

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NTT DOCOMO Ventures Invests in jinjer Co., Ltd. which Offers a Back-Office Cloud Service

TD

2022.3.29

Investment

NTT DOCOMO Ventures. Inc.

NTT DOCOMO Ventures, Inc. (headquartered in Minato-ku, Tokyo, Japan; President and CEO Yuko Sasahara; hereinafter "NDV"), has invested, through its fund, in jinjer Co., Ltd. (headquartered in Shinjuku-ku, Tokyo, Japan; CEO Ken Kato; hereinafter "jinjer"), which offers a back-office cloud service, "iinier."

Recently, there has been an increasing demand from companies and organizations for revising and improving business processes mainly in back-office operations, reflecting such factors as the introduction of remote work in the wake of the COVID-19 pandemic and the promotion of paperless work in connection with work-style reforms. This increase in demand is expected to accelerate further, in part because of various law revisions such as the revision of the Act concerning Preservation of Electronic Books and the introduction of the invoice system.

The jinjer's cloud services, "jinjer," provides a wide range of support for improving the efficiency of overall back-office operations, including personnel and labor management, attendance management, salary calculation, workflow management, expense reimbursement, handling of electronic contracts, and web conferencing. By integrating data relating to back-office operations under the "jinjer" services, companies can manage, in a single database system, all operations that occur from when an employee is hired until he/she retires (registration of employee information, registration of divisions/departments, attendance management, salary calculation, year-end adjustment, personnel information update, etc.). Furthermore, even when an update occurs due to a personnel change, etc., there is no need to update each service; with one change in the personnel information database, the update is reflected in all services. Therefore, companies can drastically reduce the burden of updates and changes.

The term "digital transformation" is now used commonly, but there is still sufficient room for improving the efficiency of and advancing Japanese companies' business processes. The jinjer has a corporate culture to provide, on a customer-first basis, deep and close support in finding solutions to these challenges faced by companies, and also has strong development capabilities that enable to respond to changes swiftly; therefore, NDV has determined that jinjer is highly valuable. In addition, NDV feels strong empathy for jinjer's business concept and its philosophy concerning computer systems, which both center on people-the strongest element for corporate growth. For these reasons, NDV has decided to invest in Jinjer.

By supporting cooperation between the NTT Group and jinjer, NDV will advance its effort to create new values.

About Jinjer

Company Name: jinjer Co., Ltd.

Address: Shinjuku Sanei Building, 1-22-2 Nishishinjuku, Shinjuku-ku, Tokyo, Japan

Representative: Ken Kato

Description of Business: Development and provision of systems relating to back-office operations

URL: <a href="https://jinjer.co.jp/">https://jinjer.co.jp/</a>

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- RE jap: Japan | tokyo: Tokyo | apacz: Asia Pacific | asiaz: Asia | easiaz: Eastern Asia | kanag: Kanto
- PUB PUBT Inc
- AN Document LCDVP00020220329ei3t00566



SE 5G

HD Keysight, Docomo boost 5G Open RAN ecosystems

BY Staff Writer
WC 341 words

**PD** 24 March 2022

SN Frontier Enterprise

SC FRONSE

LA English

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LP

Keysight Technologies is working with NTT Docomo to support the development and deployment of multi-vendor 5G networks built on open standard interfaces, driving the growing maturity of open radio access network (RAN) ecosystems.

Keysight's open radio access network architect (KORA) has enabled Docomo to establish a 5G Open RAN **Ecosystem** testbed with a virtual RAN (vRAN) verification environment. The test lab offers companies the opportunity to address a diverse range of test, verification, interoperability and optimisation needs.

TD

KORA brings together a comprehensive family of scalable and software-driven solutions, enabling users to effectively address the entire workflow, from early design and development to product validation and deployment.

"Keysight established a strong working relationship with NTT Docomo in 2015, when the industry was in the early stages of creating the initial foundational blocks of the next generation of mobile communications," said Kalyan Sundhar, VP and general manager for Keysight's 5G edge to core industry group.

"Establishing a thriving 5G Open RAN Ecosystem is critical to the success of the O-RAN standard, which makes it possible to deploy a multi-vendor infrastructure in support of operator roll-out plans across different use case requirements," said Sundhar.

Both companies are active contributors to the O-RAN Alliance, which was founded in 2018 and supports more than three hundred companies around the world.

Keysight drives the development of major technical and test specifications for open interfaces, cloud, transport, security and end-to-end test and integration, and co-chairs a committee that drives O-RAN specification priorities.

"NTT Docomo is committed to delivering open and virtualised RAN to global operators through the 5G Open RAN Ecosystem," said Sadayuki Abeta, general manager of Radio Access Network Development Department at NTT Docomo.

The collaboration includes the development of RAN Intelligent Controller (RIC) technology, which improves radio resource management in the RAN and simplifies the use of network function virtualization (NFV), multi-access edge computing (MEC), artificial intelligence (AI) and machine learning (ML) technologies.

- **CO** kysgti : Keysight Technologies, Inc. | nttmcn : NTT DOCOMO, INC. | ntt : Nippon Telegraph and Telephone Corporation
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IPD 5G

PUB Jicara Media Pte Ltd

AN Document FRONSE0020220331ei3o0002x

# HD NTT Docomo Inc. Patent Issued for User device for setting packet data convergence protocol entity in dual connectivity (USPTO 11265967)

**WC** 1,216 words

PD 23 March 2022

**SN** Telecommunications Weekly

sc TELWK

**PG** 5806

LA English

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LP

2022 MAR 23 (VerticalNews) -- By a News Reporter-Staff News Editor at Telecommunications Weekly -- From Alexandria, Virginia, VerticalNews journalists report that a patent by the inventors Hapsari, Wuri Andarmawanti (Tokyo, JP), Takahashi, Hideaki (Tokyo, JP), Uchino, Tooru (Tokyo, JP), filed on June 14, 2018, was published online on March 1, 2022.

The patent's assignee for patent number 11265967 is NTT Docomo Inc. (Tokyo, Japan).

TD

News editors obtained the following quote from the background information supplied by the inventors: "BACKGROUND ART

"3rd Generation Partnership Project (3GPP) specifies Long Term Evolution (LTE), and with an aim of further speeding, specifies LTE-Advanced (hereinafter, it is assumed that the LTE includes the LTE-Advanced). Moreover, in the 3GPP, specifications of a successor system of the LTE called 5G New Radio (NR) and the like are being studied.

"Specifically, a split bearer is stipulated as a type of the bearer of dual connectivity (DC) using a radio base station (eNB) of an LTE system and a radio base station (gNB) of an NR system.

"As a split bearer, Split bearer via MCG that splits from a cell (radio base station) that belongs to a master cell group (MCG) and Split bearer via SCG that splits from a cell (radio base station) that belongs to a secondary cell group (SCG) are stipulated. Furthermore, an ordinary bearer that does not split (MCG bearer, SCG bearer), too, is stipulated.

"Moreover, to reduce the options to be installed on a user device (User Equipment, UE), integrating the Split bearer via MCG and the Split bearer via SCG and stipulating the same as a unified split bearer (Unified split bearer) is being studied. When integrating the split bearers in such manner, using the same PDCP entity as a packet data convergence protocol layer entity in the MCG bearer and the split bearer, in other words, using a single common PDCP entity in both. bearers has been further proposed (Non-Patent Document 1). Accordingly, re-setting of the PDCP entity at the time of switching from the MCG bearer to the split bearer becomes unnecessary.

"Moreover, using a PDCP entity for NR (hereinafter, "NR-PDCP") when the same PDCP entity is to be used for the split bearer and the MCG bearer has also been proposed (see Non-Patent Document 2)."

As a supplement to the background information on this patent, VerticalNews correspondents also obtained the inventors' summary information for this patent: "When a radio base station (eNB) of the LTE system configures as an MCG bearer a data radio bearer (DRB) used in data transmission of a user plane, based on capability information (UE Capability Information) transmitted from UE, the eNB can recognize whether the UE supports a setting in which the same PDCP entity (specifically, NR-PDCP) is used for the split bearer and the MCG bearer. Accordingly, the eNB can determine, based on the UE Capability Information, whether to apply the NR-PDCP in the MCG bearer, and can notify the UE of which PDCP entity (NR-PDCP or LTE-PDCP) is selected to be set.

"On the other hand, the radio base station (eNB) of the LTE system configures as the MCG bearer a signaling radio bearer (SRB) used in the data transmission of a control plane, the eNB sets the PDCP entity without notifying the UE (see 3GPP TS36.331 5.3.10.1 SRB addition/modification). Thus, the UE cannot recognize which PDCP entity is set when the SRB is configured as the MCG bearer.

"Particularly, when SRB 1 that is configured before the eNB acquires the UE Capability Information, because the eNB cannot recognize whether the UE can apply the NR-PDCP setting in the MCG bearer, it is difficult for the eNB to determine which PDCP entity is to be set.

"The present invention has been made in view of the above circumstances. One object of the present invention is to provide a radio communication system, a user device, a radio base station, and a radio communication method capable of setting an appropriate PDCP entity even when the same PDCP entity is applied for a split bearer and an MCG bearer, particularly, even when a signaling radio bearer (SRB) is configured as the MCG bearer.

"A radio communication system according to one aspect of the present invention is a radio communication system (radio communication system 10) that includes a user device (UE 200) and a radio base station (eNB 100A). A split bearer (Unified split bearer) that goes from a core network (EPC 20) via the radio base station and splits toward other radio base station (gNB 100B), and an ordinary bearer (MCG bearer) that goes from the core network via the radio base station are configured. The user device includes a support indication transmitting unit (support indication transmitting unit 240) that transmits to the radio base station a support indication indicating that the user device supports a setting in which the same PDCP entity is used in the split bearer as an entity of a packet data convergence protocol layer and in the ordinary bearer. The radio base station includes a support indication receiving unit (support indication receiving unit 115) that receives the support indication; and a message transmitting unit (RRC controlling unit 120) that transmits to the user device, when the support indication receiving unit receives the support indication, a message of a radio resource control layer that indicates setting contents of the PDCP entity."

The claims supplied by the inventors are:

- "1. A terminal, comprising: a receiver that receives from a first radio base station of a first radio access technology a setting information relating to a signaling radio bearer; and a processor that sets, in a dual connectivity between the first radio base station and a second radio base station of a second radio access technology, based on the setting information, a Packet Data Convergence Protocol (PDCP) entity of the signaling radio bearer to a PDCP entity of the second radio access technology, wherein the PDCP entity of the second radio access technology is a New Ratio (NR) PDCP entity that is used for a split bearer that goes from a core network via the first radio base station and splits toward the second radio base station.
- "2. The terminal as claimed in claim 1, further comprising a transmitter that transmits to the first radio base station an indication indicating information relating to a PDCP entity for the first radio base station and the NR PDCP entity for the second radio base station."

For additional information on this patent, see: Hapsari, Wuri Andarmawanti. User device for setting packet data convergence protocol entity in dual connectivity. U.S. Patent Number 11265967, filed June 14, 2018, and published online on March 1, 2022. Patent URL:

http://patft.uspto.gov/netacgi/nph-

Parser?Sect1=PTO1&Sect2=HITOFF&d=PALL&p=1&u=%2Fnetahtml%2FPTO%2Fsrchnum.htm&r=1&f=G&l=50&s1=11265967.PN.&OS=PN/11265967RS=PN/11265967

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SE CE Noticias Financieras English

HD Big tech takes a big bite out of banks' business

WC 492 words

**PD** 22 March 2022

SN CE Noticias Financieras

SC NFINCE

LA English

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LP

The Covid explosion blew up many paradigms. Big tech stepped on the accelerator to offer services traditionally offered exclusively by traditional financial institutions. This is revealed in a report published yesterday by the Financial Stability Board (FSB)Financial Stability Board (FSB), which warns of advantages, including lower costs, but also of dangers, such as excessive efforts by traditional banks to avoid losing camber or problems with data protection.

**Payment** services are the great battering ram of technology, with direct competition to traditional banks in areas with high profitability rates. Google, Apple, Meta (formerly Facebook), Amazon, Alibaba, Baidu, JD.com, Tencent, NTT DoCoMo and Mercado Libre offer online **payment** formulas that challenge traditional players. And in some cases, they go even further, with the granting of credit and other banking services, according to a study by the Bank of Spain.

TD

For example, here's a button. The use of digital wallets grew from 6.5% of all e-commerce transactions in 2019 to 44.5% in 2020.

The penetration of the big tech payments market is indisputable, according to the FSB. In China and India, the two big mobile payment firms, Alipay and Tenpay, have a combined market share of over 90%.

The global confinement caused by Covid boosted the consumption of technological elements for teleworking and this resulted in strong revenue growth of around 20%, together with strong stock market revaluations of 60% in 2020. Meanwhile, banks suffered from fears of an economic crisis. The Stoxx 600 of banks plunged by 25% in 2020, while the Nasdag soared by more than 40%.

Beneficial effects Big tech entering the financial arena has potential beneficial effects. "The involvement of big tech and fintech in financial services can bring benefits such as improved cost efficiency and greater financial inclusion for previously underserved groups," says the FSB.

But the risks that these new players in the system can produce are high. To begin with, the regulation for technology companies and financial institutions, although getting closer, is far from being the same. Hence, several potential problems.

"There could be negative implications for financial stability arising from the reliance on a limited number of big tech and fintech providers in some markets, the complexity and opacity of their activities, and possible incentives for risk-taking by traditional financial institutions to preserve profitability," the FSB report states. There is also the issue of potential data protection problems for big tech users.

The need to keep a close eye on the behavior of big tech in the financial sphere is key. Their growth may accelerate the urgency regarding financial stability issues, due to the increased importance of new players that may not be subject to financial regulation. "This underscores the need to address the data gaps that currently hinder the assessment of financial risks and the systemic importance of big tech," the Financial Stability Board notes.

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Telecommunication Services | i79022 : Wireless Telecommunications Services | i7902202 : Mobile Telecommunications | i8395464 : Internet Search Engines | iecom : E-commerce | iint : Online Service Providers | imed : Media/Entertainment | iretail : Retail | isocial : Social Media Platforms/Tools

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AN Document NFINCE0020220322ei3m003h1



# HD NTT demos orchestration based on ETSI's ZTM spec

WC 177 words

**PD** 20 March 2022

SN Optical Networks Daily

SC OBSERV

LA English

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LP

NTT DOCOMO, in collaboration with NTT Com, NTT Network Service Systems Laboratories (NS Labs) and NTT Network Innovation Center (NIC), has demonstrated end-to-end orchestration (E2EO) technology based on the Zero Touch Network and Service Management (ZSM) specification of ETSI, the European standardization organization.

E2EO technology automates **5G network** slicing to enable multiple networks to operate on common infrastructure. In the recent demonstration, which is being conducted from November 2021 to March 2022, a 5G mobile network built on a testbed incorporating NTT Com, NS Labs and NIC technologies has been automatically sliced with E2EO technology into multiple networks suitable for each application.

TD

Once fully established, interface specifications for transport-network, core-network and data-network control domains will enable the automatic creation and deletion of 5G network slices. This will also enable service quality to be monitored so that processing capacity can be expanded whenever degraded quality is detected in any slice.

https://www.docomo.ne.jp/english/info/media\_center/pr/2022/0311\_00.html

- co ncommc : NTT Communications Corporation | nttmcn : NTT DOCOMO, INC. | ntt : Nippon Telegraph and Telephone Corporation
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HD NTT Docomo and NEC to conduct technical verification of 5G network equipment in hybrid cloud

WC 196 words

**PD** 18 March 2022

SN Nikkei Business Trends

SC NIKBST

LA English

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LP

On March 1, 2022, NTT Docomo (Chiyoda-ku, Tokyo) and NEC will operate NEC's 5G core network software in a hybrid environment consisting of Amazon Web Services' low-power **cloud** service and NTT Docomo's virtualization **platform** Technical verification will start. The period is from March 2022 to March 2023. Verification of availability and operability when telecommunications carriers utilize hybrid **cloud** configurations, technical verification of flexible and highly expandable deployment form, and performance and power saving using AWS's latest technology "Graviton2" Will be implemented. The company will consider technologies for networks with high reliability and low environmental impact, which can flexibly customize functions according to customer requirements.

TD

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PUB Nikkei Inc.

AN Document NIKBST0020220322ei3i000be



HD NTT Docomo and Mito City to conclude an agreement on the promotion of digitalization

WC 172 words

**PD** 18 March 2022

SN Nikkei Business Trends

SC NIKBST

LA English

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LP

On March 1, 2022, NTT Docomo (Chiyoda-ku, Tokyo) signed an agreement with Mito City on the promotion of digitalization. Through close collaboration and cooperation between the two parties, the two companies plan to enable citizens to use digital **devices** to lead a more comfortable life. The two companies will collaborate and cooperate in promoting the utilization of citizens' digital **devices** and promoting digitalization within the agency. NTT Docomo plans to hold smartphone courses at civic centers and other workshops on digital technology for city employees.

TD

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Mobile Telecommunications

NS cdbus: Digitalization | ccat: Corporate/Industrial News

PUB Nikkei Inc.

AN Document NIKBST0020220322ei3i000bg



HD NTT Docomo to start handling 'Nikko iDeCo for docomo'

WC 241 words

**PD** 18 March 2022

SN Nikkei Business Trends

SC NIKBST

LA English

CY Copyright 2022. Nikkei Inc.

LP

NTT Docomo (Chiyoda-ku, Tokyo) will start handling "Nikko iDeCo for docomo" from February 25, 2022. The purpose is to support the long-term asset formation of a wide range of customers such as the younger generation and those who have no **investment** experience. "Nikko iDeCo for docomo" is a service that links the contract information of "Nikko iDeCo" provided by SMBC Nikko Securities with "D account", which is the membership base of NTT Docomo, and earns 1 d-point for every 5,000 yen of iDeCo's premium. In addition, it is also implementing a program that accumulates d points according to iDeCo's balance and contributions. Customers who do not have a NTT Docomo line can also use the service by linking the contract information of "Nikko iDeCo" with "D account." The service is part of an initiative based on a collaboration study between NTT Docomo, SMBC Nikko Securities, and Money Design (Minato, Tokyo) announced in July 2021.

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PUB Nikkei Inc.

AN Document NIKBST0020220322ei3i0002z

SE Tech

HD This executive is trying to move all of her meetings to the metaverse

BY Zara Stone

**WC** 1.246 words

**PD** 18 March 2022

SN Fast Company

SC FSTC

**LA** English

CY Copyright 2022 Mansueto Ventures LLC

LP

In January, dressed in a crisp white shirt and slacks, with a tidy, consciously androgynous hairstyle, Christina Ku, a director at NTT Docomo Ventures, the Silicon Valley **investment** arm of the Japanese telecom conglomerate Docomo, gestured to the whiteboard behind her as she took her team through a breakdown of her investments and exits. Ku spoke confidently and authoritatively, unfazed when one colleague flickered out of existence, and two more arrived outfitted in Colonel Sanders-esque suits. All in a day's work when you're meeting in the **metaverse**, she says.

TD

There's been massive investment in the metaverse, even before Facebook rebranded itself as Meta in October 2021. The global metaverse space was valued at \$38.85 billion in 2021 by market data platform Statista, which estimates that number will balloon 22% in 2022 and rise to \$678.8 billion by 2030. "Investors [are] pouring capital into the space," says Fred Schebesta, a futurist and cofounder of Hive Empire Capital, a blockchain investment fund. "We've never seen such a rapid explosion of growth." Ku, an investor in the space, has been trying to move all of her meetings—and some reluctant colleagues and entrepreneurs—to the metaverse, which she defines as a digital world interaction and immersion."

Ku's been fascinated with the potential of the metaverse for years. In many ways, it began with Pokémon, she says. Like millions, in 2016 Ku became obsessed with Niantic's Pokémon Go mobile game. She snagged a rare Koffing in Tokyo's Haneda airport, a couple of Psyducks in Austin, and hunted down a Mudkip during a crypto conference in Croatia.

Her San Francisco neighborhood was a hotbed for rare Pokémon, and "friends visited just so we could catch them," she recalls. This augmented reality experience across multiple physical spaces demonstrated a wider application for technology that had previously been relegated to the "hardcore gamer" sphere. The rollout of Virtual YouTuber concerts heightened her excitement. In March 2020, she watched, enthralled, as Kizuna AI streamed a concert in 5G, noticing how thousands of fans responded to the VTuber in real time. "The way that realities and communities merged was fascinating," Ku says.

Ku's investments in early to mid-stage startups reflect her excitement—her portfolio includes WaveXR, which develops VR music concerts for celebrities; Light Field Lab, which designs holographic hardware; and Arcturus Studios, which develops 3D video capture tools.

Her metaverse all hands-meeting in January was not without hiccups—some of her 15 or so colleagues who attended struggled with the user interface of their newly issued headsets, and with navigating around Meta's Horizon Workrooms. But Ku still found it beneficial. "We are investing in the metaverse, so it makes sense that we would eat our own dog food," she says, admitting that Workrooms's avatar fashion was "limited" and that her headset grew uncomfortable during the three-hour session.

Even with these limitations, she says the metaverse is especially attractive in a business context. "Everybody was democratized," she says. The relative conformity of people's avatars made it easier to "focus on what they were saying, and how they interacted with you." In Ku's opinion, the unconscious biases so inherent in most interactions—age, sex, height, etc.—were noticeably absent.

She's been pushing business contacts to have meetings in the virtual world. A couple of months ago, Ku toured an NFT gallery with the founder of a stealth startup; both parties logged on via their VR headsets. "Walking" through the gallery together brought the concept to life, she says. "I wouldn't have been as excited if he'd just shown me a presentation." But despite her prodding, she's had relatively few metaverse meetings—even with metaverse-pitching startups. She says that mostly they send her video demos or Decentraland links.

Ku finds the widespread reluctance to meet in the metaverse frustrating. If startups were able to pivot their pitches to Zoom during COVID-19, why not the metaverse? It would streamline her whole process. "I can meet 10 CEOs in the same [amount of] time" it would take to meet one in the real world, she says.

In her metaverse evangelism, she's even tried loaning VR headsets to some of her VC friends at other firms, but most won't even unbox them. "They're uncomfortable because they don't understand it," Ku says.

But I'm game for a virtual meeting. In March, I boot up my PC, update my Oculus Rift drivers, and head over to Rec Room, a social VR game, to meet Ku for a follow-up interview. The bright primary colors of the Rec Room universe feel dizzying—we're here because I couldn't get VRChat or Spatial, two popular meetup spaces—to play nice with my setup.

For my avatar, I opt for shoulder-length brown hair instead of my regular blond, a tidy mustache, and a fitted red dress with a Peter Pan collar. Then I wander around the main lobby waiting for Ku to arrive, stumbling across a plushie furry-esque store, a laser tag arena, and a bunch of kid-size avatars that throw Frisbees at my head while humming a song from Encanto.

"Where are you?" I text Ku, and a message appears on my avatar's virtual watch, teleporting me to her "dorm room." The sudden locomotion makes me queasy. Ku's room is generic, auto-filled with a wastepaper basketball hoop, bunk bed, and avatar mirror. Ku's avatar, outfitted in an orange-and-white basketball jersey, with sweatbands on her wrists, looks around the space and laughs. "I don't see dorm rooms being a part of business interactions," she says. "But it is roomy." I see what she means. I'm just glad everything has stopped spinning.

We stand in front of her mirror as she walks me through the avatar design process. "One of the appeals of the metaverse is that you can have different identities, different personalities, different personas," she says, cycling through an array of skins: a sports fan, a world traveler, a van lifer. "They're all different versions of yourself. All of these personas could be me."

Of course, it's still early days for this whole space—and before we get better tech, a bunch of housekeeping needs to be worked out: compliance, 5G connectivity, and content moderation being the most pressing, she says. Then there are the innovations that level up the game; Ku has met startups developing touch and smell metaverse add-ons. "This adds to the multilayered sense of the metaverse," she says.

Even as more companies head back to the office, Ku says the global return to IRL interactions has no bearing on this trend, noting, "People have gotten a taste of what is possible." In many ways, the Great Resignation is proof of people's desire to keep—or keep elements of—this new normal. Ku says we're not at the metaverse inflection point yet but it's coming; she predicts buying a headset will become as commonplace as buying a laptop or phone. "People are changing the way they think about personal interactions," she says. "There will always be a place for in-person, but the metaverse can remove a lot of that. This is the future."

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HD Deutsche Telekom, Telefonica, Vodafone, and KPN are Leaders in ABI Research's Telco Operators

Sustainability Index

WC 926 words

**PD** 17 March 2022

SN ENP Newswire

SC ENPNEW

LA English

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The Sustainability Index Telco Operators by global technology intelligence firm ABI Research provides an unbiased examination and ranking of ten leading telecommunications operators for sustainability.

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The in-depth study assesses, compares, and ranks the operators across 30 different action items for their sustainability efforts in six categories: renewable energy, network upgrades, energy efficiency, waste disposal and circular economy, green buildings and vehicles, and reporting and governance. Ranking criteria are split between present-day implementation, including the global roll-out of renewable energy and technologies such as 5G and fiber, and forward-looking impact potential, evaluating the innovation and quality of platforms and programs the operators are using to reach climate targets. The companies evaluated and ranked include:

Market Leaders: Deutsche Telekom, Telefonica, Vodafone, KPN

Mainstream: AT&T, Verizon, Orange

Followers: SK Telecom, NTT DoCoMo, Singtel

Companies around the globe have created climate-related targets for reaching net zero carbon emissions, and telecommunications providers are leading the charge. 'These telco operators are at the intersection of communications and information technology, putting them in a unique position to offer connectivity and technological solutions that are not only lowering their own carbon emissions but also the emissions of their customers,' says Kim Johnson, Principal Analyst at ABI Research.

Each of the leaders in the index has transitioned to using more than 50 percent renewable energy for global purchased electricity and two have reached 100 percent. The use of renewable energy has reduced the leaders' total carbon emissions by 8.4 million metric tons of carbon dioxide (CO2e), which is equivalent to removing the CO2 emissions of 1.8 million passenger vehicles for one year, or 19.4 million barrels of oil consumed. Johnson advises, 'All operators need to focus on the largest source of carbon emissions, which is energy consumption of their networks. The most sustainable companies, though, have a comprehensive strategy, including the deployment of technologies such as 5G, Al, and automation, an in-depth waste recycling program, employee compensation tied to climate targets, and active engagement with suppliers and customers, upstream and downstream from the company's own operations.'

Deutsche Telekom finished first overall in the assessment, followed by Telefonica, Vodafone, and KPN. Deutsche Telekom has received numerous awards globally and regionally for its sustainability reporting. The company also emerged as a leader in European 5G and fiber, while its subsidiary, T-Mobile US, also a leader in 5G, announced in early 2022 that it had become the first U.S. provider to source 100 percent of its electricity from renewable energy sources, helping the global Deutsche Telekom Group reach 100 percent renewables worldwide. T-Mobile reported zero percent renewable energy use just a few years ago in 2017, and this transition to 100 percent occurred during a historic merger with Sprint.

Telefonica led the index in several areas, such as energy efficiency, waste recycled, eco-design, and green bonds, while Vodafone had strong performances in energy efficiency, waste recycled, overall sustainability reporting, and conversion of fleet vehicles to electric vehicles. KPN, an over achiever in sustainability, has been using green electricity since 2011 and has been carbon neutral since 2015. KPN

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The mainstream selections, such as AT&T, Verizon, and Orange, were all very strong in 5G and fiber deployment, and these companies led the index, along with SK Telecom, for network upgrades. However, the mainstream companies lagged the leaders in global percent use of renewable energy for the networks. SK Telecom, NTT DoCoMo, and Singtel emerged as followers, primarily due to challenges in their regions for sourcing renewable energy (the companies are still close to zero percent for renewable energy use, despite future pledges), and for less breadth and depth in overall sustainability tracking and reporting.

'We acknowledged in the index that different regions face different geo-political, cost, and infrastructure barriers for sourcing renewable energy. For example, Korea is the fourth largest importer of coal, after China, India, and Japan. This makes early mover advances, such as SK Group in Korea joining the RE100 coalition and pledging 100 percent renewable energy use by 2050 and NTT DoCoMo pledging 100 percent renewable energy by 2030 even more critical to global climate efforts. The big picture in producing the Sustainability Index is to highlight the sustainability best practices across the telecommunications industry with the goal of further reducing carbon emissions for all,' concludes Johnson.

These findings are from ABI Research's Sustainability Index: Telco Operators report. This report is part of the company's Sustainable Technologies research service, which provides actionable research and data designed to help companies go from sustainability pledges to sustainability execution by identifying technologies, suppliers, and programs that accelerate sustainability efforts, such as reducing carbon emissions. Sustainability Index reports offer comprehensive analysis of implementation strategies and environmental impact, coupled with analysis of both market-driven and regulatory-driven shifts in sustainability, to offer unparalleled insight into a company's sustainability efforts and standing in comparison to its competitors.

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ABI Research is a global technology intelligence firm delivering actionable research and strategic guidance to technology leaders, innovators, and decision makers around the world. Our research focuses on the transformative technologies that are dramatically reshaping industries, economies, and workforces today.

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HD Deutsche Telekom, Telefónica, Vodafone, and KPN are Leaders in ABI Research's Telco
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HD NTT Docomo to accelerate 5G rollout in Japan

WC 111 words

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SN Telecompaper Asia

SC TELASI
LA English

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LP

Japanese operator NTT Docomo plans to accelerate its 5G deployment on the local market. The move comes as market rivals plan quicker rollouts of their 5G networks, NHK reports. NTT Docomo targets a **5G network** coverage of 90 percent of the population by March 2024, which is up from its previous goal of 80 percent.

NTT Docomo commercially launched 5G services in Japan in 2020.

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Market competitor KDDI also announced plans to expand its 5G network coverage to 90 percent of the country's population by the beginning of the fiscal year starting April 2022, while SoftBank says it will reach this milestone this spring.

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HD Kao and NTT Docomo to collaborate in the healthcare field

WC 228 words

PD 14 March 2022

SN Nikkei Business Trends

SC NIKBST

LA English

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Kao will collaborate with NTT Docomo (Tokyo) in healthcare solutions (announced on February 28, 2022). They agreed on the same day. Kao will provide a newly developed virtual human body generation model and life care related products and services in collaboration with Preferred Networks (Chiyoda-ku, Tokyo). NTT Docomo will provide healthcare services and Al estimation technology. Based on the consent of the customer, a part of the daily record data of the customer of the NTT Docomo's health management and promotion application "D Healthcare", When input to Kao's virtual human body generation model, it will be possible to estimate more than 1,600 items of data related to health and life. Based on each estimated data, by linking with "D Healthcare" etc., in addition to providing advice on health behavior suitable for each individual, it will propose life care related products and services.

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HD NTT DOCOMO; NTT DOCOMO to Present Open RAN Technologies at MWC Barcelona 2022 via On-site Demonstrations and Online Sessions

WC 682 words

**PD** 14 March 2022

SN Journal of Engineering

sc JOENG

**PG** 17

**LA** English

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2022 MAR 14 (VerticalNews) -- By a News Reporter-Staff News Editor at Journal of Engineering -- NTT DOCOMO, INC. announced that during MWC Barcelona 2022 the company will introduce its Open RAN initiatives via presentations and demonstrations at partners' on-site stands as well as via online exhibitions from February 28 to March 3. As shown below, several senior spokespersons from DOCOMO will give live presentations regarding Open RAN. In addition, DOCOMO will jointly conduct O-RAN demonstrations with partners in the 5G Open RAN **Ecosystem** (OREC). Seizo Onoe, Chief Standardization Strategy Officer of NTT CORP. and Fellow of NTT DOCOMO, will make a presentation during OpenRAN: A Vision of 5G & the Future of 6G at MWC Stage A in Hall 5 on Monday, February 28 from 13:15-14:15 CET. Topics will include interoperability standards for Open RAN and solutions for facilitating 5G deployment and ensuring the future of 6G.

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Also, DOCOMO's Naoki Tani, Executive Vice President & Chief Technology Officer, and Sadayuki Abeta Ph.D., Vice President & General Manager of the Radio Access Network Development Department, will make a presentation on The Reality of Open RAN, which will be organized by Fujitsu at Theatre 1, Hall 7 on Wednesday, March 2 from 09:30-11:00 CET. Together with other industry leaders, they will discuss learnings, challenges and the true value of Open RAN deployment as well as related security, integration, etc.

DOCOMO will additionally join OREC members Fujitsu, Wind River and NVIDIA at the Fujitsu stand (2G60, Hall 2) to demonstrate an Open vRAN with an O-RAN open fronthaul interface between O-RU and O-DU. Going forward, the partners are scheduled to launch an Open vRAN network offering multi-vendor connectivity.

DOCOMO will also join OREC members NEC, Dell, Red Hat and Xilinx at the NEC stand (2F10, Hall 2) to demonstrate a vRAN incorporating software compatible with O-RAN Reference Architecture. The vRAN will be implemented on the latest virtualization infrastructure and also a general-purpose server incorporating the latest microprocessors and hardware acceleration.

In addition to these on-site activities, DOCOMO will conduct a virtual exhibition during MWC Barcelona 2022, showcasing the company's evolving 5G and 6G technologies, global O-RAN business and services. Exhibits and presentations will be viewable on the DOCOMO website, NTT DOCOMO, a leading developer of Open RAN and one of the founders of the O-RAN Alliance, became the world's first mobile operator to launch a commercial 5G service with an Open RAN in March 2020. Also, the company partnered with globally recognized vendors to establish the 5G Open RAN Ecosystem (OREC) last February, Currently, DOCOMO and its 13 partners are conducting verifications to develop truly flexible Open RAN capable of interconnecting equipment of multiple vendors. The 13 OREC members are Dell Technologies Japan Inc., Fujitsu Limited, Hewlett Packard Japan, G.K., Intel K.K., Mavenir, NEC Corporation, NTT DATA Corporation, NVIDIA, Qualcomm Technologies, Inc., Red Hat, VMware K.K., Wind River and Xilinx, Inc. For additional information and interview opportunities, please contact: global\_pr@nttdocomo.com. About NTT DOCOMO NTT DOCOMO, Japan's leading mobile operator with over 83 million subscriptions, is one of the world's foremost contributors to 3G, 4G and 5G mobile network technologies. Beyond core communications services, DOCOMO is challenging new frontiers in collaboration with a growing number of entities ("+d" partners), creating exciting and convenient value-added services that change the way people live and work. Under a medium-term plan toward 2020 and beyond, DOCOMO is pioneering a leading-edge 5G network to facilitate innovative services that will

amaze and inspire customers beyond their expectations. <a href="https://www.nttdocomo.co.jp/english/">https://www.nttdocomo.co.jp/english/</a>. View source version on businesswire.com: <a href="https://www.businesswire.com/news/home/20220225005111/en/">https://www.businesswire.com/news/home/20220225005111/en/</a>

Keywords for this news article include: Business, NTT DOCOMO, Technology, Cybersecurity, Mobile Communications Companies, NTT - Nippon Telegraph and Telephone Corporation.

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HD NTT Docomo, partners achieve ZSM-based orchestration of 5G network slicing

WC 202 words

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**SN** Telecompaper World

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LA English

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NTT Docomo has collaborated with NTT Communications (NTT Com), NTT Network Service Systems Laboratories (NS Labs) and NTT Network Innovation Center (NIC) to successfully test orchestration (E2EO) technology based on the Zero Touch Network and Service Management (ZSM) specification of ETSI, the European standardisation organisation. The company said this is the first successful deployment of the technology by Japanese telecom operators. It is expected to clarify the degree of fulfillment of ZSM-specified management services and information models and thereby firm up technical requirements for commercial operation.

E2EO technology automates **5G network** slicing to enable multiple networks to operate on common infrastructure. In the recent demonstration, conducted from November 2021 to March 2022, a 5G mobile network built on a testbed incorporating NTT Com, NS Labs and NIC technologies has been automatically sliced with E2EO technology into multiple networks suitable for each application.

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Once fully established, interface specifications for transport network, core network and data network control domains will enable the automatic creation and deletion of 5G network slices. This will also enable service quality to be monitored so that processing capacity can be expanded whenever degraded quality is detected in any slice.

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HD (Topics) NTT DOCOMO, NTT Com, NTT Network Service Systems Laboratories and NTT Network Innovation Center Achieve Japan's First ETSI ZSM-based End-to-End Orchestration of 5G

Network Slicing

WC 807 words

**PD** 12 March 2022

SN M2 Presswire

SC MTPW

LA English

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LP

NTT DOCOMO, NTT Com, NTT Network Service Systems Laboratories and NTT Network Innovation Center Achieve Japan's First ETSI ZSM-based End-to-End Orchestration of **5G Network** Slicing

TOKYO, JAPAN - NTT DOCOMO, INC. announced today that it collaborated with NTT Communications Corporation (NTT Com), NTT Network Service Systems Laboratories (NS Labs) and NTT Network Innovation Center (NIC) to successfully test end-to-end orchestration (E2EO) technology based on the Zero Touch Network and Service Management (ZSM) specification of ETSI, a European standardization organization. This first successful deployment of the technology by Japanese telecom operators is expected to clarify the degree of fulfillment of ZSM-specified management services and information models and thereby firm up technical requirements for commercial operation.

TD

E2EO technology automates 5G network slicing to enable multiple networks to operate on common infrastructure. In the recent demonstration, which is being conducted from November 2021 to March 2022, a 5G mobile network built on a testbed incorporating NTT Com, NS Labs and NIC technologies has been automatically sliced with E2EO technology into multiple networks suitable for each application.

Once fully established, interface specifications for transport-network, core-network and data-network control domains will enable the automatic creation and deletion of 5G network slices. This will also enable service quality to be monitored so that processing capacity can be expanded whenever degraded quality is detected in any slice. Technology deployed in demonstration Technology deployed in demonstration NTT Com

\* Qmonus®: Platform-as-a-service technology for cloud-native applications and enhanced delivery and operation

# NS Labs

- \* Multi-layer Transport Provisioning Engine: Design-optimization engine meeting the slice-quality needs of optical-to-packet transport networks, and software-defined networking-control technology
- \* Automated CNF Provisioning Engine (ACPE): Optimization engine for designing server resources needed to implement 5G cloud-native network functions

## NIC

- \* One-stop construction agent technology (APIO): Builds multi-domain services in bulk through API integration
- \* Slice gateway (SLG): Connections for end-to-end network slices, including inter-sliced closed networks, and network-quality control
- \* High-accuracy Network Monitoring and Control (HANMOC): Accurately measures each network slice's service quality (delay time, etc.)

Roles of participants Roles of participants NTT DOCOMO

- \* Overall management
- \* Planning of scenarios and clarification of information flow based on ZSM specifications
- \* Coordination with ETSI ZSM group

#### NTT Com

- \* Provision of Qmonus SDK and other Qmonus orchestration platforms, for development environment
- \* Implementation of ETSI ZSM-compatible functions

#### NS Labs and NIC

- \* Implementation of domain controller-equivalent functions
- \* Provision of test environment for operable 5G mobile network

Configuration of demonstration network

The ongoing demonstration, which has been recognized by the ETSI ZSM group for compliance with its PoC requirements, will further the development of required specifications. In turn, this will encourage vendors and operators to develop equipment and services based on the ZSM specification and thereby accelerate the realization of end-to-end orchestration for 5G network slicing. In addition, automatic network slicing demonstrated in the test will further the cognitive foundations of the NTT group's IOWN (Innovative Optical and Wireless Network) concept for automating the control of ICT resources.

Going forward, the four participants plan to continue studying new technologies for advanced 5G networks.

DOCOMO, a core member of ZSM since 2018, has been pursuing the standardization of E2EO specifications. The company aims to apply E2EO technology for centralized network control, from radio access to core network facilities, including 5G network slicing across entire mobile networks, which would realize high-quality, low-cost networks that flexibly meet the needs of diverse customers.

ETSI, established in 1988 as a European standardization organization for telecommunications technology, has more than 900 member companies and research institutes from 65 countries. In ZSM, one of its working groups, participating companies are discussing the standardization of automation technology for network operation.

Qmonus is a registered trademark of NTT Communications Corporation. About NTT DOCOMO

NTT DOCOMO, Japan's leading mobile operator with over 83 million subscriptions, is one of the world's foremost contributors to 3G, 4G and 5G mobile network technologies. Beyond core communications services, DOCOMO is challenging new frontiers in collaboration with a growing number of entities ("+d" partners), creating exciting and convenient value-added services that change the way people live and work. Under a medium-term plan toward 2020 and beyond, DOCOMO is pioneering a leading-edge 5G network to facilitate innovative services that will amaze and inspire customers beyond their expectations. https://www.nttdocomo.co.jp/english/.

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- PUB Normans Media Ltd
- **AN** Document MTPW000020220314ei3c002pp

HD AGC develops glass antenna for all frequencies in the 5G Sub6 band in Japan.

WC 332 words

**PD** 11 March 2022

SN Company Reports

SC CHPR

LA English

CY (c) 2022 Elsevier Engineering Information

LP

AGC Inc, a world-leading manufacturer of glass, chemicals and high-tech materials, has announced that it has developed a WAVEATTOCH glass antenna that is compatible with all frequencies of the 5G Sub6 band allocated to the four Mobile Network Operators (MNOs) in Japan, with the technical cooperation of NTT DOCOMO INC and JTOWER Inc. This product can be used for "infrastructure-sharing", in which telecom infrastructures are shared among multiple MNOs, and contributes to reducing their capital **investment**. In addition, since the design does not interfere with the appearance of the building, it is expected to be introduced in locations where consideration for the cityscape is important. Commercial experiments are scheduled to begin this fall of 2022 with the cooperation of JTOWER, followed by commercial production planned to begin in Nov 2022.

TD

The glass antenna WAVEATTOCH launched in 2020, is the world's first antenna that turns a window into a base station that can be attached to the window (on the interior side) of a building to establish a wireless service area on the exterior side without damaging the cityscape or the aesthetics of the building. The newly developed product covers all the frequencies in the 5G Sub6 band allocated to the four domestic MNOs with a single unit and is also more compact than AGC's current model. Going forward, AGC aims to sell its products widely to the Japanese MNOs and "infrastructure-sharing" companies. Under its AGC plus 2.0 management policy, the AGC Group is working to create products that add a "plus" by providing safety, security and comfort to society and new value and functions to customers. Going forward, AGC will continue its efforts to contribute to the expansion of 5G communication areas in cooperation with MNOs and local governments that are aiming to develop 5G networks. Original source: AGC Asahi Glass, website: <a href="http://www.agc.com">http://www.agc.com</a>. Copyright Asahi Glass Co Ltd 2022.

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i7902202 : Mobile Telecommunications | idct : Digital Cellular Technology | i247 : Glass/Glass Products | i25 : Chemicals | i3302 : Computers/Consumer Electronics | i3303 : Networking | i7902 : Telecommunication Services | i79022 : Wireless Telecommunications Services | ibasicm : Basic Materials/Resources | iindstrls : Industrial Goods | itech : Technology | iwrlssl : Wireless Area Network Technology

NS ccat : Corporate/Industrial News | c23 : Research/Development | nabst : Abstracts | ncat : Content Types

RE jap : Japan | apacz : Asia Pacific | asiaz : Asia | easiaz : Eastern Asia

IPD Glass Products

PUB Elsevier Science Ltd.

AN Document CHPR000020220317ei3b0001u



HD Beyond Now's digital business platform powers DOCOMO SME marketplace

BY CT Bureau

CR Distributed by Contify.com

WC 495 words

**PD** 11 March 2022

**SN** Communications Today

SC ATCOMT

**LA** English

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Beyond Now, a fast-growing **ecosystem** orchestration and digital **platform** provider, announced that it's providing NTT DOCOMO, INC. (DOCOMO), Japan's leading mobile operator, with a partner orchestration hub for its newly launched SME marketplace. Beyond Now's Infonova Digital Business **Platform**'s unique **ecosystem** orchestration and monetization capabilities make it simple for DOCOMO's partners including, NewsPicks + d, Relo Club and Meet In to rapidly onboard and sell their solutions through the marketplace. This enables the CSP's SME customers to access a range of services such as remote sales, telecommunications, labor management, and subsidy support that will help them to improve their efficiency and productivity.

TD

SME demand for digital transformation has grown exponentially in response to the pandemic, to support the shift to flexible working and deliver increased business efficiency. However, SMEs still face challenges like knowing which service to choose from the many options available, as well as overcoming budget limitations. Helping SMEs to navigate this complexity was the prime objective of DOCOMO, and with the support of Beyond Now, they can give SMEs customers access to a growing number of partners. Especially when 93% of SMEs state that it's important for CSPs to collaborate with an ecosystem of partners to build solutions that better fit their needs.

In 2019, NTT Group, Japan's largest fixed-line and mobile communications carrier, began working with Beyond Now through its systems subsidiary NTT Comware. By modernizing and simplifying NTT's business support system, Beyond Now aimed to improve customer service, operational efficiency, and generate new revenue. Two years later, both companies worked together to instill a new IT program that can be used not only by all of NTT Group's Japanese subsidiaries, but also external partners. As a result, DOCOMO is creating a "marketplace" where small and midsized companies can access the digital services they need at an affordable price.

Through the Infonova Digital Business Platform, DOCOMO is able to:

- \* Grow revenue and scale with an ecosystem of partners
- \* Empower its partners to self-onboard and manage the sale of their services in the marketplace
- \* Automate partners services, including ordering and fulfilment processes
- \* Support the monetization of partners solutions, covering any partnership model, any commercial model or any settlement agreement

"We are proud to continue cementing a strong relationship with a pioneering organization like NTT Group since 2019. It began as a shared vision for how NTT needed to transform to support new business models, 5G monetization, B2B2X models and the launch of digital marketplaces. Now, with digitalization and COVID-19 transforming the needs of SMEs, this vision has become a reality with NTT subsidiaries like DOCOMO configuring and monetizing their networks and services in ways that were not previously possible. We commend NTT for recognizing the importance of building partner ecosystems to create real customer value," said Angus Ward, CEO of Beyond Now.

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- PUB ADI Media Pvt. Ltd.
- AN Document ATCOMT0020220312ei3b0002u



HD NTT DoCoMo hires Beyond Now for SME biz

BY Anne Morris
WC 437 words
PD 11 March 2022
SN Light Reading
SC LITEREAD

English

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LA

Japan's NTT has been working with European consulting firm BearingPoint for some time to help it become a "platform" player that is then able to offer a buffet of digital services to business customers.

The relationship began in 2019, when NTT Comware, the systems integrator part of NTT, started to support a new cloud-based software platform called Infonova, provided by the "Beyond by BearingPoint" unit.

TD

The Beyond unit has now gone solo after completing a management buyout from BearingPoint in November 2021.

In February this year, it relaunched itself under the Beyond Now brand with a new identity as an independent ecosystem orchestration and digital platform provider, although BearingPoint and Beyond Now said they will continue to work together on shared customers.

NTT's mobile unit, NTT DoCoMo, has now turned to Beyond Now to help it better serve its small and midsized enterprise (SME) customers. Indeed, the new DoCoMo deal looks to be Beyond Now's first major announcement since it cast itself adrift from its former parent.

In essence, Beyond Now is now also supplying the Infonova platform to support DoCoMo's newly launched SME marketplace. It had always been likely that NTT's other subsidiaries – of which there are many – would be able to jump on this platform with their own partners, sales channels and customers.

Want to know more about 5G? Check out our dedicated 5G content channel here on Light Reading.

The idea is that the mobile carrier's SME customers will be able to access a range of services such as remote sales, telecommunications, labor management and subsidy support.

Beyond Now commented that SMEs face challenges such as knowing which service to choose from the many options available, as well as overcoming budget limitations. DoCoMo wanted to help SMEs navigate this complexity and provide them with one-stop access to a growing number of partners.

Angus Ward, the CEO of Beyond Now said Beyond Now, when still part of BearingPoint, began its relationship with NTT as part of a "shared vision for how NTT needed to transform to support new business models, 5G monetization, B2B2X models and the launch of digital marketplaces."

"Now, with digitalization and COVID-19 transforming the needs of SMEs, this vision has become a reality with NTT subsidiaries like DoCoMo configuring and monetizing their networks and services in ways that were not previously possible," Ward said.

## Related posts:

- \* Japan's NTT Hires BearingPoint to Fix BSS Shortcomings
- \* DoCoMo opens up labs for open RAN verifications

- Anne Morris, contributing editor, special to Light Reading

CT annelmorris@gmail.com

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HD NTT DOCOMO, NTT Com, NTT Network Service Systems Laboratories and NTT Network Innovation Center Achieve Japan's First ETSI ZSM-based End-to-End Orchestration of 5G
Network Slicing

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**PD** 11 March 2022

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- HD NTT NTT DOCOMO, NTT Com, NTT Network Service Systems Laboratories and NTT Network Innovation Center Achieve Japan's First ETSI ZSM-based End-to-End Orchestration of 5G

  Network Slicing
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WC 556 words

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- PUB PUBT Inc
- AN Document PCNVB00020220311ei3b001md



HD Beyond Now's Digital Business Platform Powers DOCOMO SME Marketplace

WC 685 words

**PD** 11 March 2022

**ET** 02:40

SN Korea Newswire

SC KORNEW

LA English

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TD

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**About Beyond Now** 

Beyond Now is a fast-growing ecosystem orchestration and digital platform provider, powering organizations to launch new services at speed and grow revenue by utilizing our digital platform, digital marketplace and SaaS BSS.

Our platforms are designed to help our customers experiment, monetize and orchestrate services while taking advantage of new technologies such as cloud, edge, IoT, AI, 5G and more. We enable them to co-create solutions with a growing network of partners; bringing them closer to their customers, helping drive higher efficiency and automation, taking them further, faster, Beyond Now.

We serve customers across Asia-Pacific, Europe, Middle East, Africa and the Americas, spanning industries from telecommunications, media and entertainment, to tech and IT, financial, and automotive.

In November 2021, Beyond Now completed a management buyout (from BearingPoint), supported by a small group of professional investors, and now operates as an independent technology company. Beyond Now is the company name replacing Beyond by BearingPoint.

For more information, please visit: www.beyondnow.com

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HD Beyond Now's Digital Business Platform Powers DOCOMO SME Marketplace

WC 733 words

**PD** 10 March 2022

**ET** 10:19

SN Business Wire

sc BWR

LA English

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LΡ

Beyond Now's Infonova Digital Business **Platform** will support DOCOMO's goal to onboard hundreds of partners into its marketplace for small and midsized enterprises

DUBLIN--(BUSINESS WIRE) -- March 10, 2022--

TD

Beyond Now, a fast-growing ecosystem orchestration and digital platform provider, today announced that it's providing NTT DOCOMO, INC. (DOCOMO), Japan's leading mobile operator, with a partner orchestration hub for its newly launched SME marketplace. Beyond Now's Infonova Digital Business Platform's unique ecosystem orchestration and monetization capabilities make it simple for DOCOMO's partners including, NewsPicks + d, Relo Club and Meet In to rapidly onboard and sell their solutions through the marketplace. This enables the CSP's SME customers to access a range of services such as remote sales, telecommunications, labor management, and subsidy support that will help them to improve their efficiency and productivity.

SME demand for digital transformation has grown exponentially in response to the pandemic, to support the shift to flexible working and deliver increased business efficiency. However, SMEs still face challenges like knowing which service to choose from the many options available, as well as overcoming budget limitations. Helping SMEs to navigate this complexity was the prime objective of DOCOMO, and with the support of Beyond Now, they can give SMEs customers access to a growing number of partners. Especially when 93% of SMEs state that it's important for CSPs to collaborate with an ecosystem of partners to build solutions that better fit their needs.

In 2019, NTT Group, Japan's largest fixed-line and mobile communications carrier, began working with Beyond Now through its systems subsidiary NTT Comware. By modernizing and simplifying NTT's business support system, Beyond Now aimed to improve customer service, operational efficiency, and generate new revenue. Two years later, both companies worked together to instill a new IT program that can be used not only by all of NTT Group's Japanese subsidiaries, but also external partners. As a result, DOCOMO is creating a "marketplace" where small and midsized companies can access the digital services they need at an affordable price.

Through the Infonova Digital Business Platform, DOCOMO is able to:

- -- Grow revenue and scale with an ecosystem of partners
- $\mbox{--}\mbox{ Empower its partners to self-onboard}$  and manage the sale of their services in the marketplace
- -- Automate partners services, including ordering and fulfilment processes

 $\mbox{--}\mbox{Support}$  the monetization of partners solutions, covering any partnership

model, any commercial model or any settlement agreement

"We are proud to continue cementing a strong relationship with a pioneering organization like NTT Group since 2019. It began as a shared vision for how NTT needed to transform to support new business

models, 5G monetization, B2B2X models and the launch of digital marketplaces. Now, with digitalization and COVID-19 transforming the needs of SMEs, this vision has become a reality with NTT subsidiaries like DOCOMO configuring and monetizing their networks and services in ways that were not previously possible. We commend NTT for recognizing the importance of building partner ecosystems to create real customer value," said Angus Ward, CEO of Beyond Now.

- ENDS --

**About Beyond Now** 

Beyond Now is a fast-growing ecosystem orchestration and digital platform provider, powering organizations to launch new services at speed and grow revenue by utilizing our digital platform, digital marketplace and SaaS BSS.

Our platforms are designed to help our customers experiment, monetize and orchestrate services while taking advantage of new technologies such as cloud, edge, IoT, AI, 5G and more. We enable them to co-create solutions with a growing network of partners; bringing them closer to their customers, helping drive higher efficiency and automation, taking them further, faster, Beyond Now.

We serve customers across Asia-Pacific, Europe, Middle East, Africa and the Americas, spanning industries from telecommunications, media and entertainment, to tech and IT, financial, and automotive.

In November 2021, Beyond Now completed a management buyout (from BearingPoint), supported by a small group of professional investors, and now operates as an independent technology company. Beyond Now is the company name replacing Beyond by BearingPoint.

For more information, please visit: www.beyondnow.com

View source version on businesswire.com: https://www.businesswire.com/news/home/20220310005501/en/

CONTACT: Press contact:

**Beyond Now** 

Stephanie Ross

PR & Communications Manager

Phone: +44 20 7337 3106

Email: stephanie.ross@beyondnow.com

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co nttmcn: NTT DOCOMO, INC. | ntt: Nippon Telegraph and Telephone Corporation

IN i7902 : Telecommunication Services | i79022 : Wireless Telecommunications Services | i7902202 : Mobile Telecommunications

NS csmlbs : Small/Medium Businesses | ccat : Corporate/Industrial News | cdbus : Digitalization | npress : Press Releases | ncat : Content Types | nfact : Factiva Filters | nfcpex : C&E Executive News Filter

RE jap : Japan | apacz : Asia Pacific | asiaz : Asia | easiaz : Eastern Asia

PUB Business Wire, Inc.

AN Document BWR0000020220310ei3a0003c



HD Nippontect systems to collaborate with NTT Docomo on phone-based cognitive function check

WC 244 words

**PD** 9 March 2022

SN Nikkei Business Trends

SC NIKBST

LA English

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LP

DeNA's subsidiary Nipponectect Systems (Minato, Tokyo), which provides cognitive function testing support systems for medical institutions, collaborated with NTT Docomo (Chiyoda-ku, Tokyo) on February 24, 2022 for the purpose of checking cognitive functions by telephone Has been concluded. The effectiveness of the solution will be verified from the beginning of April 2022. By providing a service that allows users to check their cognitive functions by talking with AI on the phone by linking "ONSEI", a cognitive function check tool based on voice recognition of nippontect systems, with NTT Docomo's automated telephone response service "AI Phone Service" Aim to Users can check cognitive functions simply by making and receiving calls. It will proceed with verification of effectiveness in use cases such as confirming the cognitive function of the elderly, pre-checking the cognitive function when the driver's license is renewed, and confirming the healthcare of employees.

TD

It will also consider a business model for service provision.

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nttmcn: NTT DOCOMO, INC. | ntt: Nippon Telegraph and Telephone Corporation

IN ivoicr : Voice Recognition Software | i3302 : Computers/Consumer Electronics | i330202 : Software | i3302021 : Applications Software | icomp : Computing | itech : Technology | i7902 : Telecommunication Services | i790222 : Wireless Telecommunications Services | i7902202 : Mobile Telecommunications

NS gment: Mental Disorders | gcat: Political/General News | ghea: Health | gmed: Medical Conditions

RE tokyo: Tokyo | jap: Japan | apacz: Asia Pacific | asiaz: Asia | easiaz: Eastern Asia | kanag: Kanto

PUB Nikkei Inc.

AN Document NIKBST0020220310ei390005n



HD Hanshin Electric Railway and NTT Docomo to conduct a food delivery demonstration experiment at Koshien Stadium

WC 186 words

**PD** 7 March 2022

SN Nikkei Business Trends

SC NIKBST

LA English

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Hanshin Electric Railway (Osaka) and NTT Docomo (Chiyoda-ku, Tokyo) will conduct a demonstration experiment on food delivery at a part of the seats at Hanshin Koshien Stadium from September 17, 2021. Using "EasyEat", a mobile ordering system for restaurants of NTT Docomo, the entire process from ordering to **payment** is completed with seats. You can receive products while enjoying watching games. The spectator will read the QR code attached near the seat with a smartphone etc. to access "EasyEat." Select the desired product from the delivery target menu. You can pay by credit card or "d payment."

TD

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co nttmcn: NTT DOCOMO, INC. | ntt: Nippon Telegraph and Telephone Corporation

IN i7902 : Telecommunication Services | i79022 : Wireless Telecommunications Services | i7902202 : Mobile Telecommunications

RE jap : Japan | apacz : Asia Pacific | asiaz : Asia | easiaz : Eastern Asia

PUB Nikkei Inc.

AN Document NIKBST0020220308ei370008j



SE 5G

HD NTT Docomo, NEC, AWS piloting 5G core network on hybrid cloud

BY Staff Writer

WC 236 words

PD 4 March 2022

**SN** Frontier Enterprise

SC FRONSE

LA English

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LP

Japanese mobile operator NTT Docomo and IT firm NEC have launched a proof-of-concept (PoC) testing to run the latter's 5G core network (5GC) service in a hybrid cloud environment.

The undertaking will use Amazon Web Services' (AWS) **cloud**. Through the PoC, Docomo, NEC, and AWS expect to prove the viability of **cloud**-native mobile networks leveraging a public **cloud** for network function virtualisation.

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As the first step, 5GC network functions will run in the cloud on AWS infrastructure, and corresponding 5GC network functions will reside on Docomo's on-premises infrastructure to verify availability and operational feasibility.

The second step will deploy the 5GC network function on AWS outposts (on Amazon EC2 compute instances, which use Graviton2 processors) on Docomo's premises.

"We believe this collaboration will lead to the further evolution of networks and network virtualisation," says Naoki Tani, Executive Vice President, Chief Technology Officer, Executive General Manager of the R&D Innovation Division of Docomo. "The PoC will realise a hybrid cloud environment for telecom operators."

According to Atsuo Kawamura, Executive Vice President of NEC Corporation, the test is proof that NEC 5GC is operable under a multi-platform environment.

"AWS Graviton2 processors accelerate a carbon footprint reduction and meet high-performance requirements for 5G SA networks," added Adolfo Hernandez, Vice President and General Manager Telecom Industry Business Unit at AWS.

- co nttmcn: NTT DOCOMO, INC. | zxamaz: Amazon Web Services, Inc. | nipel: NEC Corporation | amzcom: Amazon.com, Inc. | ntt: Nippon Telegraph and Telephone Corporation
- idct: Digital Cellular Technology | i3302: Computers/Consumer Electronics | iappsp: Cloud Computing | i3303: Networking | i8394: Computer Services | ibcs: Business/Consumer Services | idserv: Data Services | iint: Online Service Providers | itech: Technology | iwrlssl: Wireless Area Network Technology | i7902: Telecommunication Services | i79022: Wireless Telecommunications Services | i7902202: Mobile Telecommunications | icomp: Computing

IPD 5G

PUB Jicara Media Pte Ltd

AN Document FRONSE0020220331ei340004f



HD NTT DOCOMO and NEC are Onboarding 5G SA Core Using Energy-efficient and High-performance AWS Cloud Computing Services

**WC** 1,138 words

**PD** 2 March 2022

SN M2 Presswire

SC MTPW

**LA** English

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LP

TOKYO, JAPAN — NTT DOCOMO, INC. (DOCOMO) and NEC Corporation (NEC) have launched a proof-of-concept (PoC) testing to run NEC's 5G core network (5GC) service in a hybrid **cloud** environment that leverages the Amazon Web Services (AWS) **cloud** using end-to-end **cloud**-native network architecture. Through the PoC, DOCOMO, NEC, and AWS expect to prove the viability of **cloud**-native mobile networks leveraging a public **cloud** for network function virtualization (NFV).

TD

The PoC will validate the energy efficiency and high performance that AWS Graviton2 processors can bring to NEC's 5GC in the AWS cloud to achieve an energy-performance advantage over comparable solutions. As the first step, 5GC network functions will run in the cloud on AWS infrastructure and corresponding 5GC network functions will reside on DOCOMO's on-premises infrastructure to verify availability and operational feasibility. The second step will deploy the 5GC network function on AWS Outposts (on Amazon EC2 compute instances powered by Graviton2 processors) on DOCOMO's premises. AWS Graviton2 processors deliver a major leap in performance and reduce the carbon footprint for energy efficiency.

"We are excited to conduct this proof-of-concept with NEC's advanced cloud-native 5GC and AWS's innovative cloud infrastructure technology. We believe this collaboration will lead to the further evolution of networks and network virtualization," says Naoki Tani, Executive Vice President, Chief Technology Officer, Executive General Manager of R&D Innovation Division of DOCOMO. "The PoC will realize a hybrid cloud environment for telecom operators, resulting in accelerating the telecom industry's evolution by delivering significant value to our customers."

"I am delighted to be able to contribute to the successful verification of 5GC running on a hybrid platform of AWS's public cloud and DOCOMO's private cloud," said Atsuo Kawamura, Executive Vice President of NEC Corporation. "This achievement is a proof of NEC 5GC being operable under a multi-platform environment. Together with DOCOMO and AWS, NEC is committed to introducing a highly available, highly reliable, sustainable and environmentally friendly next generation mobile infrastructure and to contributing to acceleration of digital transformations."

"We are thrilled to be part of DOCOMO's innovation project for their digital transformation journey with NEC's cloud-native 5G Core on AWS," says Adolfo Hernandez, Vice President and General Manager Telecom Industry Business Unit at AWS. "AWS Graviton2 processors accelerate a carbon footprint reduction and meet high-performance requirements for 5G SA networks."

## Appendix Abstract

The PoC, which will run from March 2022 to March 2023, will deploy 5GC network functions both in the AWS public cloud and DOCOMO's on-premises cloud infrastructure to verify availability and operational feasibility from the perspective of brown-field telecom operators. The PoC also will evaluate a prototype 5GC cloud-native architecture optimized for highly flexible and scalable public-cloud environments. Successful results are expected to be incorporated in DOCOMO's future 5GC initiatives and other network functions, paving the way for increasingly available 5G networks that could be deployed with exceptional flexibility.

Additionally, the 5GC network deployed in the AWS public-cloud environment and AWS Outposts will be used to demonstrate possible enterprise services of the future. Various industrial applications for machine learning, AI, IoT and extended reality (XR) have been deployed on AWS, reflecting the fact that

industrial-application developers are now highly familiar with AWS. As such, the 5GC network deployed in the AWS public-cloud environment will enable easy collaboration with such applications. Further, these collaborations are expected to lead the creation of brand-new solutions and services like new ultra-low-latency services for IoT and XR. In view of 5GC's potential to enhance industrial functionality and AWS's proven track record with industrial and enterprise applications, orchestrating 5GC networks on AWS also will help enterprise customers accelerate their digital transformations.

5GC network functions also will be tested on Graviton2, AWS's energy-efficient processors, with an eye to providing customers with flexible, energy-efficient networks.

#### Background

DOCOMO, a leader among telecom operators in NFV research and development, began conducting basic research in 2005 and subsequently developed the world's first NFV technology for multi-vendor 4G core networks, based on which the company launched a commercial service in 2016. Today, more than 70% of DOCOMO's core network has been shifted to NFV and its 5GC network is fully virtualized. As an NFV frontrunner, DOCOMO is actively driving the evolution of this network technology.

NEC commercialized a reliable, high-quality mobile core solution on AWS in 2019 and began offering its Stand Alone 5G mobile core (SA-type 5GC) solution for the AWS cloud in 2021. Items to Examine Items to Examine Items to Examine Item 1 Validation of availability and operability of hybrid cloud environment for telecom operators 2 Development and validation of flexibility and scalability of prototype 5GC optimized for public clouds 3 Validation of performance and power consumption of 5GC on Graviton2 Roles of Each Company Roles of Each Company DOCOMO Provide on-premises NFV infrastructure to run 5GC networks and lead the PoC by planning items to be verified from the perspective of telecom operators. NEC Provide 5GC software to run on Graviton2 and support 5GC provisioning and testing in the hybrid-cloud environment. AWS Provide Graviton2, a leading low-power public-cloud processor, and support 5GC provisioning in the AWS public-cloud environment. References

#### About NTT DOCOMO

NTT DOCOMO, Japan's leading mobile operator with over 83 million subscriptions, is one of the world's foremost contributors to 3G, 4G and 5G mobile network technologies. Beyond core communications services, DOCOMO is challenging new frontiers in collaboration with a growing number of entities ("+d" partners), creating exciting and convenient value-added services that change the way people live and work. Under a medium-term plan toward 2020 and beyond, DOCOMO is pioneering a leading-edge 5G network to facilitate innovative services that will amaze and inspire customers beyond their expectations. https://www.nttdocomo.co.jp/english/.

# **About NEC Corporation**

NEC Corporation has established itself as a leader in the integration of IT and network technologies while promoting the brand statement of "Orchestrating a brighter world." NEC enables businesses and communities to adapt to rapid changes taking place in both society and the market as it provides for the social values of safety, security, fairness and efficiency to promote a more sustainable world where everyone has the chance to reach their full potential. For more information, visit NEC at <a href="https://www.nec.com">https://www.nec.com</a>.

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- RE jap : Japan | apacz : Asia Pacific | asiaz : Asia | easiaz : Eastern Asia
- PUB Normans Media Ltd



HD Keysight, Docomo to develop Open RAN ecosystem in Japan

WC 296 wordsPD 2 March 2022

**SN** Telecompaper Asia

SC TELASI LA English

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LP

Keysight Technologies has signed a memorandum of understanding with Japanese operator NTT Docomo to support the development and deployment of multi-vendor 5G networks built on open standard interfaces. Keysight reports that its open radio access network architect (KORA) has enabled NTT Docomo to establish a 5G Open RAN **Ecosystem** testbed with a virtual RAN (vRAN) verification environment.

The 5G Open RAN **Ecosystem** test lab is designed to offer companies the opportunity to address test, verification, interoperability and optimization needs. KORA brings together a family of software-driven services, enabling users to address the entire workflow, from early design and development to product validation and deployment.

TD

Both companies are active contributors to the O-RAN Alliance, which was founded in 2018 and supports more than three hundred companies around the world. Keysight drives the development of major technical and test specifications for open interfaces, cloud, transport, security and end-to-end test and integration, and co-chairs a committee that drives O-RAN specification priorities.

KORA is designed to enable users to perform testing, from the edge of the RAN to the cloud, as well as from early pre-silicon development to system integration. Vendors of various components of the RAN across the ecosystem, hyperscalers, Open Test and Integration Centers (OTIC) and mobile operators are currently using the KORA platform.

The collaboration includes the development of RAN Intelligent Controller (RIC) technology, which is expected to improve radio resource management in the RAN and simplify the use of NFV, multi-access edge computing (MEC), artificial intelligence (AI) and machine learning (ML) technologies. Keysight's RICtest is designed to enable users to simulate thousands of O-RAN network elements for validation of near and non-real time RIC behavior.

**CO** kysgti : Keysight Technologies, Inc. | nttmcn : NTT DOCOMO, INC. | ntt : Nippon Telegraph and Telephone Corporation

idct: Digital Cellular Technology | i8371: Architects | i3302: Computers/Consumer Electronics | i3303: Networking | i837: Technical Services | i8372: Design Services | ibcs: Business/Consumer Services | icre: Real Estate/Construction | itech: Technology | iwrlssl: Wireless Area Network Technology | i371: Measuring/Precision Instruments | i7902: Telecommunication Services | i79022: Wireless Telecommunications Services | i7902202: Mobile Telecommunications | iindele: Industrial Electronics | iindstrls: Industrial Goods

NS ccat : Corporate/Industrial News | c23 : Research/Development

RE jap : Japan | apacz : Asia Pacific | asiaz : Asia | easiaz : Eastern Asia

PUB Telecompaper BV

AN Document TELASI0020220302ei320002t



HD DOCOMO launches VRAN verification facility to global mobile operators

WC 316 words

**PD** 1 March 2022

**ET** 00:00

SN MarketLine News and Comment

SC DTMNTR
LA English

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NTT DOCOMO has started allowing overseas mobile operators to access its Shared Open Lab environment, located in DOCOMO's R&D Center in Yokosuka, Japan, to verify their virtualized radio access networks (vRAN), with immediate effect.

The lab is one of the initiatives of the5G Open RAN **Ecosystem**(OREC) project under which DOCOMO and 13 leading global vendors\*are working to develop truly flexible Open RAN capable of incorporating interoperable equipment of multiple vendors.

TD

Since its establishment last October, the Shared Open Lab has deployed virtualized base stations made with equipment from multiple OREC partners. The verification environment is now open to remote access by global operators, eliminating their need to prepare in-house verification environments.

DOCOMO believes the lab will help operators to greatly reduce overall costs, including constructing in-house labs and/or traveling to vendors' labs, for the verification of base station functions and performance prior to commercial deployment.

DOCOMO, which has been a leader in the development of Open RAN for many years, became the world's first mobile operator to launch a commercial 5G service via Open RAN in March 2020. The company's 5G Open RAN currently includes more than 10,000 base stations and more than 10 million subscribers. Furthermore, within fiscal year 2022, DOCOMO expects to commercialize highly flexible and scalable vRANs for international mobile operators, including by leveraging the know-how and integrated strengths of its OREC partners.

DOCOMO looks forward to deepening its cooperation with an expanding range of stakeholders, including overseas mobile operators, via the Shared Open Lab. DOCOMO is committed to working with its OREC partners to develop further technologies and know-how for the increased adoption of Open RAN, vRAN and other open networks capable of responding flexibly and quickly to diversifying needs in the worldwide mobile communication market.

**RF** 5316F816-446E-4C27-99A9-1BCBDE58A7A3

nttmcn: NTT DOCOMO, INC. | ntt: Nippon Telegraph and Telephone Corporation

IN i7902202 : Mobile Telecommunications | i34411 : Mobile Communications Devices | i3441 : Telecommunications Equipment | i7902 : Telecommunication Services | i79022 : Wireless Telecommunications Services | itech : Technology

NS cprdop : Facility Openings | c22 : New Products/Services | c24 : Capacity/Facilities | ccat : Corporate/Industrial News | cexpro : Products/Services | ncat : Content Types | nfact : Factiva Filters | nfcpin : C&E Industry News Filter

IPD Mobile

PUB Progressive Digital Media Ltd

AN Document DTMNTR0020220303ei3100093



HD Kanematsu Communications to acquire all shares of Kinki Telecom

WC 200 words

**PD** 1 March 2022

SN Nikkei Business Trends

SC NIKBST

**LA** English

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Kanematsu Communications (Shibuya, Tokyo), a wholly-owned subsidiary of Kanematsu, will acquire all shares of Kinki Telecom (Himeji, Hyogo Prefecture) on April 1, 2022. Kanematsu Communications is a nationwide distributor of mobile communication **devices** such as mobile phones as the first agent of communication carriers such as NTT Docomo, KDDI, and SoftBank. Kinki Telecom is developing a wide range of businesses as a sales agent for NTT Group companies based in the southwestern part of Hyogo Prefecture, as well as operating solar power plants in the prefecture. Through this share acquisition, Kanematsu Communications will expand and strengthen the sales network of mobile terminals, and also aim to expand the business for corporations by collaborating with Kinki Telecom.

TD

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IN i7902 : Telecommunication Services | i7902202 : Mobile Telecommunications | i79022 : Wireless Telecommunications Services | i8396 : Diversified Holding Companies | ibcs : Business/Consumer Services

NS c181 : Acquisitions/Mergers/Shareholdings | cacqu : Acquisitions/Mergers | c18 : Ownership Changes | cactio : Corporate Actions | ccat : Corporate/Industrial News | ncat : Content Types | nfact : Factiva Filters | nfcpin : C&E Industry News Filter

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AN Document NIKBST0020220302ei310008k



HD NTT DOCOMO, AWS and NEC collaborate on evolution of networks

BY By Total Telecom Staff

WC 260 words

**PD** 1 March 2022

SN Total Telecom Plus

SC TOTEL

LA English

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PoC examines NEC 5G SA core in a hybrid cloud environment

TD

A proof of concept (PoC) launched by NTT DOCOMO, NEC, and AWS is expected to prove the viability of cloud-native mobile networks leveraging a public cloud for network function virtualization (NFV). The PoC utilises NEC's 5G core network(5GC) service in a hybrid cloud environment that involves AWS cloud using end-to-end cloud-native network architecture. The trial shows that an energy and performance advantage can be delivered for NEC's 5GC when compared to other comparable solutions by utilising Amazon Web Services (AWS) Graviton2 processors in the AWS cloud. The AWS processors offer a considerable step up in performance and a reduced carbon footprint Naoki Tani, Executive Vice President, Chief Technology Officer, Executive General Manager of the R&D Innovation Division of DOCOMO said he believed the collaboration collaboration would drive evolution of networks and network virtualization, going on to say "The PoC will realize a hybrid cloud environment for telecom operators, resulting in accelerating the telecom industry's evolution by delivering significant value to our customers."

Adolfo Hernandez, Vice President and General Manager Telecom Industry Business Unit at AWS said they were "thrilled to be part of DOCOMO's innovation project" whilst Executive Vice President of NEC Corporation, Atsuo Kawamura said working with DOCOMO and AWS "NEC is committed to introducing a highly available, highly reliable, sustainable and environmentally friendly next generation mobile infrastructure and to contributing to acceleration of digital transformations."

RF 512643

nttmcn: NTT DOCOMO, INC. | zxamaz: Amazon Web Services, Inc. | amzcom: Amazon.com, Inc. | ntt: Nippon Telegraph and Telephone Corporation

i3302 : Computers/Consumer Electronics | iappsp : Cloud Computing | i8394 : Computer Services | ibcs : Business/Consumer Services | idserv : Data Services | iint : Online Service Providers | itech : Technology | i7902 : Telecommunication Services | i79022 : Wireless Telecommunications Services | i7902202 : Mobile Telecommunications

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HD Keysight, NTT DOCOMO Collaborate to Accelerate Open RAN Ecosystem Maturity

WC 708 words

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Companies advance deployment of multi-vendor 5G networks built on open standard interfaces.

TD

Keysight Technologies, Inc. (NYSE: KEYS), a leading technology company that delivers advanced design and validation solutions to help accelerate innovation to connect and secure the world, has signed a memorandum of understanding (MoU) with NTT DOCOMO, INC., Japan's largest telecommunications company, to support the development and deployment of multi-vendor 5G networks built on open standard interfaces, driving the growing maturity of open radio access network (RAN) ecosystems.

Keysight's open radio access network architect (KORA) has enabled NTT DOCOMO, a provider of innovative, convenient and secure mobile services, to establish a 5G Open RAN Ecosystem testbed with a virtual RAN (vRAN) verification environment. The 5G Open RAN Ecosystem test lab offers companies the opportunity to address a diverse range of test, verification, interoperability and optimization needs. KORA brings together a comprehensive family of scalable and software-driven solutions, enabling users to effectively address the entire workflow, from early design and development to product validation and deployment.

'Keysight established a strong working relationship with NTT DOCOMO in 2015, when the industry was in the early stages of creating the initial foundational blocks of the next generation of mobile communications,' said Kalyan Sundhar, vice president and general manager for Keysight's 5G edge to core industry group. 'Establishing a thriving 5G Open RAN Ecosystem is critical to the success of the O-RAN standard, which makes it possible to deploy a multi-vendor infrastructure in support of operator roll-out plans across different use case requirements.'

Both companies are active contributors to the O-RAN Alliance, which was founded in 2018 and supports more than three hundred companies around the world. Keysight drives the development of major technical and test specifications for open interfaces, cloud, transport, security and end-to-end test and integration, and co-chairs a committee that drives O-RAN specification priorities.

'NTT DOCOMO is committed to delivering open and virtualized RAN to global operators through the 5G Open RAN Ecosystem,' said Sadayuki Abeta, general manager of Radio Access Network Development Department at NTT DOCOMO. 'Keysight is a leading contributor to test and integration for 5G development, and we expect their test equipment and capabilities will help to accelerate open RAN to the next stage of commercialization.'

KORA enables users to perform end-to-end testing, from the edge of the RAN to the cloud, as well as from early pre-silicon development to system integration. Vendors of various components of the RAN across the ecosystem, hyperscalers, Open Test and Integration Centers (OTIC) and mobile operators use KORA to ensure desired levels of performance, quality of service, interoperability, security and compliance to the latest specifications.

The collaboration includes the development of RAN Intelligent Controller (RIC) technology, which improves radio resource management in the RAN and simplifies the use of network function virtualization (NFV), multi-access edge computing (MEC), artificial intelligence (AI) and machine learning (ML) technologies. Keysight's RICtest enables users to simulate thousands of O-RAN network elements for efficient validation of near and non-real time RIC behavior.

## About Keysight Technologies

Keysight delivers advanced design and validation solutions that help accelerate innovation to connect and secure the world. Keysight's dedication to speed and precision extends to software-driven insights and analytics that bring tomorrow's technology products to market faster across the development lifecycle, in design simulation, prototype validation, automated software testing, manufacturing analysis, and network performance optimization and visibility in enterprise, service provider and cloud environments. Our customers span the worldwide communications and industrial ecosystems, aerospace and defense, automotive, energy, semiconductor and general electronics markets. Keysight generated revenues of \$4.9B in fiscal year 2021. For more information about Keysight Technologies (NYSE: KEYS), visit us at <a href="https://www.keysight.com">www.keysight.com</a>.

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Additional information about Keysight Technologies is available in the newsroom at <a href="https://www.keysight.com/go/news">https://www.keysight.com/go/news</a> and on Facebook, LinkedIn, Twitter, and YouTube.

**Keysight Contact:** 

Geri Lynne LaCombe, Americas/Europe

+1 303 662-4748

geri\_lacombe@keysight.com

Fusako Dohi, Asia

+81 42 660-2162

fusako\_dohi@keysight.com

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HD Docomo, NEC test 5G SA core using AWS cloud computing services

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Japanese operator NTT Docomo and NEC have launched a proof-of-concept (PoC) testing to run NEC's 5G core network service in a hybrid **cloud** environment that uses the Amazon Web Services (AWS) **cloud** and **cloud**-native network architecture. Through the PoC, Docomo, NEC, and AWS intend to prove the viability of **cloud**-native mobile networks leveraging a public **cloud** for network function virtualization (NFV).

The PoC is expected to validate the energy efficiency and performance that AWS Graviton2 processors can bring to NEC's 5GC in the AWS **cloud**. As the first step, 5GC network functions will run in the **cloud** on AWS infrastructure and corresponding 5GC network functions will reside on Docomo's on-premises infrastructure to verify availability and operational feasibility. The second step will deploy the 5GC network function on AWS Outposts (on Amazon EC2 compute instances powered by Graviton2 processors) on Docomo's premises.

nttmcn: NTT DOCOMO, INC. | zxamaz: Amazon Web Services, Inc. | amzcom: Amazon.com, Inc. | ntt: Nippon Telegraph and Telephone Corporation

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TOKYO, Mar 1, 2022 - (JCN Newswire) - NTT DOCOMO, INC. (DOCOMO) and NEC Corporation (NEC) have launched a proof-of-concept (PoC) testing to run NEC's 5G core network (5GC) service in a hybrid cloud environment that leverages the Amazon Web Services (AWS) cloud using end-to-end cloud-native network architecture. Through the PoC, DOCOMO, NEC, and AWS expect to prove the viability of cloud-native mobile networks leveraging a public cloud for network function virtualization (NFV).

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"We are excited to conduct this proof-of-concept with NEC's advanced cloud-native 5GC and AWS's innovative cloud infrastructure technology. We believe this collaboration will lead to the further evolution of networks and network virtualization," says Naoki Tani, Executive Vice President, Chief Technology Officer, Executive General Manager of the R&D Innovation Division of DOCOMO. "The PoC will realize a hybrid cloud environment for telecom operators, resulting in accelerating the telecom industry's evolution by delivering significant value to our customers."

"I am delighted to be able to contribute to the successful verification of 5GC running on a hybrid platform of AWS's public cloud and DOCOMO's private cloud," said Atsuo Kawamura, Executive Vice President of NEC Corporation. "This achievement is proof of NEC 5GC being operable under a multi-platform environment. Together with DOCOMO and AWS, NEC is committed to introducing a highly available, highly reliable, sustainable and environmentally friendly next generation mobile infrastructure and to contributing to acceleration of digital transformations."

"We are thrilled to be part of DOCOMO's innovation project for their digital transformation journey with NEC's cloud-native 5G Core on AWS," says Adolfo Hernandez, Vice President and General Manager Telecom Industry Business Unit at AWS. "AWS Graviton2 processors accelerate a carbon footprint reduction and meet high-performance requirements for 5G SA networks."

## About NTT DOCOMO

NTT DOCOMO, Japan's leading mobile operator with over 83 million subscriptions, is one of the world's foremost contributors to 3G, 4G and 5G mobile network technologies. Beyond core communications services, DOCOMO is challenging new frontiers in collaboration with a growing number of entities ("+d" partners), creating exciting and convenient value-added services that change the way people live and work. Under a medium-term plan toward 2020 and beyond, DOCOMO is pioneering a leading-edge 5G network to facilitate innovative services that will amaze and inspire customers beyond their expectations. <a href="https://www.nttdocomo.co.jp/english/">https://www.nttdocomo.co.jp/english/</a>.

## **About NEC Corporation**

NEC Corporation has established itself as a leader in the integration of IT and network technologies while promoting the brand statement of "Orchestrating a brighter world." NEC enables businesses and communities to adapt to rapid changes taking place in both society and the market as it provides for the social values of safety, security, fairness and efficiency to promote a more sustainable world where everyone has the chance to reach their full potential. For more information, visit NEC at <a href="https://www.nec.com">https://www.nec.com</a>.

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# HD NTT - NTT DOCOMO and NEC are Onboarding 5G SA Core Using Energy-efficient and High-performance AWS Cloud Computing Services

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NTT DOCOMO and NEC are Onboarding 5G SA Core Using Energy-efficient and High-performance AWS Cloud Computing Services

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March 1, 2022

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HD Qualcomm Unveils Fully-Integrated Open RAN Solution in Collaboration with Fujitsu for 5G mmWave Proliferation

WC 845 words

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sc MTPW

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\* Company to Develop Next-Generation mmWave Global Solution within NTT DOCOMO's 5G Open RAN Ecosystem (OREC) Initiative, Ushering in Global Open RAN Deployments February 28, 2022BARCELONA

Highlights:

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- Qualcomm Technologies collaborates with Fujitsu to commercialize next-generation 5G mmWave integrated DU and RU to drive the transition towards the modern network.
- The companies are developing solutions under NTT DOCOMO's 5G OREC initiative, with the objective to globally accelerate Open RAN deployments.

Building off years of collaboration, Qualcomm Technologies today announced plans to commercialize 5G open and virtualized integrated distributed unit (DU) and radio unit (RU) solutions with powerful 5G mmWave performance capabilities to drive the transition towards next generation 5G mobile infrastructure. Qualcomm Technologies is coming together with Fujitsu - within NTT DOCOMO, INC.'s 5G OREC initiative - to address the demands of modern networks, streamline deployments and lower the total cost of ownership by delivering high-performance, O-RAN-compliant, energy-efficient, virtualized, cloud-native 5G solutions.

The new solution intends to fast track commercialization and proliferate adoption of 5G open and virtualized infrastructure globally at scale. Combining a high-power 5G mmWave antenna module, integrated with DUs and RUs in one compact design, Fujitsu will support the deployment of these solutions to optimize the front haul capacity and operators to meet performance demands. This collaboration and new solution will activate a full-swing of powerful mmWave performance applications into global operators and provide operators new opportunities to create innovation within their networks.

Today, network operators strive to obtain solutions to support the deployment of cost-effective 5G network infrastructure, while continuing to address the complexities and demands of next-generation networks that are needed to enhance customer experiences. Qualcomm Technologies and Fujitsu are tackling these challenges by developing high-performance, O-RAN compliant and power-efficient solutions to redefine how mobile networks are designed and deployed and how next-generation services are delivered.

"We are pleased to work together with Fujitsu with respect to NTT DOCOMO's 5G OREC initiative, to collaborate on accelerating the innovation cycle to fast track the deployment of modern networks at scale," said Durga Malladi, senior vice president and general manager, 5G, mobile broadband and infrastructure, Qualcomm Technologies, Inc. "With Qualcomm Technologies global leadership in 5G, we're uniquely positioned to enable the industry and proliferate 5G open and virtualized solutions with powerful 5G mmWave performance capabilities, driving the transition towards the modern network with ability to support new and exciting user experiences around the world."

"This joint collaboration will encourage 5G mmWave enhancement through NTT DOCOMO's 5G OREC for global expansion," said Junko Sunaga, vice president, Qualcomm Japan GK and president, Qualcomm Japan. "In addition to a long historic relationship between Fujitsu and Qualcomm Technologies, we're together striving to succeed in next generation 5G Mobile Infrastructure to contribute to NTT DOCOMO's 5G OREC initiatives."

"Qualcomm Technologies is a leader in 5G mmWave technology innovation in the mobile industry along with Fujitsu. We anticipate that this joint collaboration will allow us to launch breakthrough technology for enabling full package mmWave DU and RU solutions to deliver success through NTT DOCOMO's 5G OREC initiative globally," said Masaki Taniguchi, senior vice president and head of the mobile system business unit, Fujitsu. "We are expanding mobile technological capabilities, consolidating Fujitsu's accumulated technologies and Qualcomm Technologies' Open RAN mmWave solutions to create the 5G mmWave foundation for the Open RAN Ecosystem with NTT DOCOMO."

"We are excited to have Qualcomm Technologies and Fujitsu collaborating to develop modern, cloud-native 5G RAN solutions," said Sadayuki Abeta, general manager, radio access network development department, NTT DOCOMO. "The development of 5G open and virtualized DU solutions will help drive our 5G OREC initiatives and streamline 5G RAN deployments, making it more flexible and interoperable for global industry leaders."

The collaboration aims for solutions becoming available for global deployment in 2024.

#### About Qualcomm

Qualcomm is the world's leading wireless technology innovator and the driving force behind the development, launch, and expansion of 5G. When we connected the phone to the internet, the mobile revolution was born. Today, our foundational technologies enable the mobile ecosystem and are found in every 3G, 4G and 5G smartphone. We bring the benefits of mobile to new industries, including automotive, the internet of things, and computing, and are leading the way to a world where everything and everyone can communicate and interact seamlessly.

Qualcomm Incorporated includes our licensing business, QTL, and the vast majority of our patent portfolio. Qualcomm Technologies, Inc., a subsidiary of Qualcomm Incorporated, operates, along with its subsidiaries, substantially all of our engineering, research and development functions, and substantially all of our products and services businesses, including our QCT semiconductor business. Qualcomm contacts: Pete Lancia Mauricio Lopez-Hodoyan

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HD Keysight Technologies Inc. - Keysight, NTT DOCOMO Collaborate to Accelerate Open RAN Ecosystem Maturity

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Keysight, NTT DOCOMO Collaborate to Accelerate Open RAN Ecosystem Maturity

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#### **News Releases**

Keysight, NTT DOCOMO Collaborate to Accelerate Open RAN Ecosystem Maturity

Companies advance deployment of multi-vendor 5G networks built on open standard interfaces

SANTA ROSA, Calif. February 28, 2022

Keysight Technologies, Inc. (NYSE: KEYS), a leading technology company that delivers advanced design and validation solutions to help accelerate innovation to connect and secure the world, has signed a memorandum of understanding (MoU) with <a href="NTT DOCOMO">NTT DOCOMO</a>, INC., Japan's largest telecommunications company, to support the development and deployment of multi-vendor 5G networks built on open standard interfaces, driving the growing maturity of open radio access network (RAN) ecosystems.

Keysight's open radio access network architect (KORA) has enabled NTT DOCOMO, a provider of innovative, convenient and secure mobile services, to establish a 5G Open RAN Ecosystem testbed with a virtual RAN (vRAN) verification environment. The 5G Open RAN Ecosystem test lab offers companies the opportunity to address a diverse range of test, verification, interoperability and optimization needs. KORA brings together a comprehensive family of scalable and software-driven solutions, enabling users to effectively address the entire workflow, from early design and development to product validation and deployment.

"Keysight established a strong working relationship with NTT DOCOMO in 2015, when the industry was in the early stages of creating the initial foundational blocks of the next generation of mobile communications," said Kalyan Sundhar, vice president and general manager for Keysight's 5G edge to core industry group. "Establishing a thriving 5G Open RAN Ecosystem is critical to the success of the O-RAN standard, which makes it possible to deploy a multi-vendor infrastructure in support of operator roll-out plans across different use case requirements."

Both companies are active contributors to the O-RAN Alliance, which was founded in 2018 and supports more than three hundred companies around the world. Keysight drives the development of major technical and test specifications for open interfaces, cloud, transport, security and end-to-end test and integration, and co-chairs a committee that drives O-RAN specification priorities.

"NTT DOCOMO is committed to delivering open and virtualized RAN to global operators through the 5G Open RAN Ecosystem," said Sadayuki Abeta, general manager of Radio Access Network Development Department at NTT DOCOMO. "Keysight is a leading contributor to test and integration for 5G development, and we expect their test equipment and capabilities will help to accelerate open RAN to the next stage of commercialization."

KORA enables users to perform end-to-end testing, from the edge of the RAN to the cloud, as well as from early pre-silicon development to system integration. Vendors of various components of the RAN across the ecosystem, hyperscalers, Open Test and Integration Centers (OTIC) and mobile operators use KORA to ensure desired levels of performance, quality of service, interoperability, security and compliance to the latest specifications.

The collaboration includes the development of RAN Intelligent Controller (RIC) technology, which improves radio resource management in the RAN and simplifies the use of network function virtualization (NFV), multi-access edge computing (MEC), artificial intelligence (AI) and machine learning (ML) technologies. Keysight's <u>RICtest</u> enables users to simulate thousands of O-RAN network elements for efficient validation of near and non-real time RIC behavior.

## About Keysight Technologies

Keysight delivers advanced design and validation solutions that help accelerate innovation to connect and secure the world. Keysight's dedication to speed and precision extends to software-driven insights and analytics that bring tomorrow's technology products to market faster across the development lifecycle, in design simulation, prototype validation, automated software testing, manufacturing analysis, and network performance optimization and visibility in enterprise, service provider and cloud environments. Our customers span the worldwide communications and industrial ecosystems, aerospace and defense, automotive, energy, semiconductor and general electronics markets. Keysight generated revenues of \$4.9B in fiscal year 2021. For more information about Keysight Technologies (NYSE: KEYS), visit us at <a href="https://www.keysight.com">www.keysight.com</a>.

#### ###

Additional information about Keysight Technologies is available in the newsroom at <a href="https://www.keysight.com/go/news">https://www.keysight.com/go/news</a> and on Facebook, LinkedIn, Twitter, and YouTube.

**Keysight Contact:** 

Geri Lynne LaCombe, Americas/Europe

+1 303 662-4748

geri lacombe@keysight.com

Fusako Dohi, Asia

+81 42 660-2162

fusako dohi@keysight.com

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"NTT DOCOMO is committed to delivering open and virtualized RAN to global operators through the 5G Open RAN Ecosystem," said Sadayuki Abeta, general manager of Radio Access Network Development Department at NTT DOCOMO. "Keysight is a leading contributor to test and integration for 5G development, and we expect their test equipment and capabilities will help to accelerate open RAN to the next stage of commercialization."

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The collaboration includes the development of RAN Intelligent Controller (RIC) technology, which improves radio resource management in the RAN and simplifies the use of network function virtualization (NFV), multi-access edge computing (MEC), artificial intelligence (AI) and machine learning (ML)

technologies. Keysight's RICtest enables users to simulate thousands of O-RAN network elements for efficient validation of near and non-real time RIC behavior.

About Keysight Technologies

Keysight delivers advanced design and validation solutions that help accelerate innovation to connect and secure the world. Keysight's dedication to speed and precision extends to software-driven insights and analytics that bring tomorrow's technology products to market faster across the development lifecycle, in design simulation, prototype validation, automated software testing, manufacturing analysis, and network performance optimization and visibility in enterprise, service provider and cloud environments. Our customers span the worldwide communications and industrial ecosystems, aerospace and defense, automotive, energy, semiconductor and general electronics markets. Keysight generated revenues of \$4.9B in fiscal year 2021. For more information about Keysight Technologies (NYSE: KEYS), visit us at <a href="https://www.keysight.com">www.keysight.com</a>.

Additional information about Keysight Technologies is available in the newsroom at <a href="https://www.keysight.com/go/news">https://www.keysight.com/go/news</a> and on Facebook, LinkedIn, Twitter and YouTube.

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CONTACT: Geri Lynne LaCombe, Americas/Europe

+1 303 662 4748

geri\_lacombe@keysight.com

Fusako Dohi, Asia

+81 42 660-2162

fusako\_dohi@keysight.com

28 Feb 2022 11:00 ET \*Keysight, NTT DOCOMO Collaborate to Accelerate Open RAN Ecosystem Maturity

28 Feb 2022 11:01 ET \*Keysight Technologies, Advance Deployment of Multi-Vendor 5G Networks Built on Open Standard Interfaces >KEYS

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February 28, 2022 11:01 ET (16:01 GMT)

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HD Keysight, NTT DOCOMO Collaborate to Accelerate Open RAN Ecosystem Maturity

WC 721 words

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**ET** 16:00

SN Business Wire

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LP

Companies advance deployment of multi-vendor 5G networks built on open standard interfaces

SANTA ROSA, Calif. -- (BUSINESS WIRE) -- February 28, 2022--

TD

Keysight Technologies, Inc. (NYSE: KEYS), a leading technology company that delivers advanced design and validation solutions to help accelerate innovation to connect and secure the world, has signed a memorandum of understanding (MoU) with NTT DOCOMO, INC., Japan's largest telecommunications company, to support the development and deployment of multi-vendor 5G networks built on open standard interfaces, driving the growing maturity of open radio access network (RAN) ecosystems.

Keysight's open radio access network architect (KORA) has enabled NTT DOCOMO, a provider of innovative, convenient and secure mobile services, to establish a 5G Open RAN Ecosystem testbed with a virtual RAN (vRAN) verification environment. The 5G Open RAN Ecosystem test lab offers companies the opportunity to address a diverse range of test, verification, interoperability and optimization needs. KORA brings together a comprehensive family of scalable and software-driven solutions, enabling users to effectively address the entire workflow, from early design and development to product validation and deployment.

"Keysight established a strong working relationship with NTT DOCOMO in 2015, when the industry was in the early stages of creating the initial foundational blocks of the next generation of mobile communications," said Kalyan Sundhar, vice president and general manager for Keysight's 5G edge to core industry group. "Establishing a thriving 5G Open RAN Ecosystem is critical to the success of the O-RAN standard, which makes it possible to deploy a multi-vendor infrastructure in support of operator roll-out plans across different use case requirements."

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"NTT DOCOMO is committed to delivering open and virtualized RAN to global operators through the 5G Open RAN Ecosystem," said Sadayuki Abeta, general manager of Radio Access Network Development Department at NTT DOCOMO. "Keysight is a leading contributor to test and integration for 5G development, and we expect their test equipment and capabilities will help to accelerate open RAN to the next stage of commercialization."

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The collaboration includes the development of RAN Intelligent Controller (RIC) technology, which improves radio resource management in the RAN and simplifies the use of network function virtualization (NFV), multi-access edge computing (MEC), artificial intelligence (AI) and machine learning (ML) technologies. Keysight's RICtest enables users to simulate thousands of O-RAN network elements for efficient validation of near and non-real time RIC behavior.

#### About Keysight Technologies

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Additional information about Keysight Technologies is available in the newsroom at <a href="https://www.keysight.com/go/news">https://www.keysight.com/go/news</a> and on Facebook, LinkedIn, Twitter and YouTube.

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CONTACT: Geri Lynne LaCombe, Americas/Europe +1 303 662 4748

geri lacombe@keysight.com
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Fusako Dohi, Asia

+81 42 660-2162

fusako\_dohi@keysight.com

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HD DOCOMO Opens vRAN Verification Facility to Global Mobile Operators

WC 478 words

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**ET** 18:01

SN JCN Newswire

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LA English

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LP

- Remotely accessible lab will help operators lower 5G base station deployment costs -

TOKYO, Feb 28, 2022 - (JCN Newswire) - NTT DOCOMO, INC. announced today that it has begun allowing overseas mobile operators to access its Shared Open Lab environment, located in DOCOMO's R&D Center in Yokosuka, Japan, to verify their virtualized radio access networks (vRAN), effective immediately. The lab is one of the initiatives of the New window5G Open RAN **Ecosystem** (OREC) project under which DOCOMO and 13 leading global vendors\* are working to develop truly flexible Open RAN capable of incorporating interoperable equipment of multiple vendors.

TD

Since its establishment last October, the Shared Open Lab has deployed virtualized base stations made with equipment from multiple OREC partners. The verification environment is now open to remote access by global operators, eliminating their need to prepare in-house verification environments.

DOCOMO believes the lab will help operators to greatly reduce overall costs, including constructing in-house labs and/or traveling to vendors' labs, for the verification of base station functions and performance prior to commercial deployment.

DOCOMO, which has been a leader in the development of Open RAN for many years, became the world's first mobile operator to launch a commercial 5G service via Open RAN in March 2020. The company's 5G Open RAN currently includes more than 10,000 base stations and more than 10 million subscribers. Furthermore, within fiscal year 2022, DOCOMO expects to commercialize highly flexible and scalable vRANs for international mobile operatorsa, including by leveraging the know-how and integrated strengths of its OREC partners.

DOCOMO looks forward to deepening its cooperation with an expanding range of stakeholders, including overseas mobile operators, via the Shared Open Lab. DOCOMO is committed to working with its OREC partners to develop further technologies and know-how for the increased adoption of Open RAN, vRAN and other open networks capable of responding flexibly and quickly to diversifying needs in the worldwide mobile communication market.

\*The 13 members are AMD, Inc., Dell Technologies Japan Inc., Fujitsu Limited, Hewlett Packard Japan, G.K., Intel K.K., Mavenir, NEC Corporation, NTT DATA Corporation, NVIDIA, Qualcomm Technologies, Inc., Red Hat, VMware K.K. and Wind River

#### About NTT DOCOMO

NTT DOCOMO, Japan's leading mobile operator with over 83 million subscriptions, is one of the world's foremost contributors to 3G, 4G and 5G mobile network technologies. Beyond core communications services, DOCOMO is challenging new frontiers in collaboration with a growing number of entities ("+d" partners), creating exciting and convenient value-added services that change the way people live and work. Under a medium-term plan toward 2020 and beyond, DOCOMO is pioneering a leading-edge 5G network to facilitate innovative services that will amaze and inspire customers beyond their expectations. <a href="https://www.nttdocomo.co.jp/english/">https://www.nttdocomo.co.jp/english/</a>.

Source: NTT DOCOMO

co nttmcn: NTT DOCOMO, INC. | ntt: Nippon Telegraph and Telephone Corporation

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HD Docomo unveils Open RAN initiatives at partners' stands at MWC

WC 420 words

PD 28 February 2022 SN Telecompaper World

SC TELWOR

LA English

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Japanese operator NTT Docomo has announced that, during MWC Barcelona 2022, the company will introduce its Open RAN initiatives via presentations and demonstrations at partners' on-site stands as well as via online exhibitions from 28 February to 3 March. Several senior spokespersons from Docomo will give live presentations regarding Open RAN. In addition, Docomo will jointly conduct O-RAN demonstrations with partners in the 5G Open RAN Ecosystem (OREC).

Seizo Onoe, chief standardization strategy officer of NTT and fellow of NTT Docomo, will make a presentation during OpenRAN: A Vision of 5G & the Future of 6G at MWC on 27 February. Topics will include interoperability standards for Open RAN and services that support 5G deployment and future 6G services.

TD

Docomo's Naoki Tani, executive vice-president and CTO, and Sadayuki Abeta vice-president and general manager of the Radio Access Network Development Department, will make a presentation on The Reality of Open RAN, which will be organized by Fujitsu on 2 March. Together with other industry leaders, they will discuss learnings, challenges and the true value of Open RAN deployment as well as related security, integration etc.

Docomo will additionally join OREC members Fujitsu, Wind River and Nvidia at the Fujitsu stand to demonstrate an Open vRAN with an O-RAN open fronthaul interface between O-RU and O-DU. Going forward, the partners plan to launch an Open vRAN network offering multi-vendor connectivity.

Docomo will also join OREC members NEC, Dell, Red Hat and Xilinx at the NEC stand to demonstrate a vRAN incorporating software compatible with O-RAN Reference Architecture. The vRAN will be implemented on the latest virtualization infrastructure and also a general-purpose server incorporating the latest microprocessors and hardware acceleration.

In addition to these on-site activities, Docomo will conduct a virtual exhibition during MWC Barcelona 2022, showcasing the company's evolving 5G and 6G technologies, global O-RAN business and services. Exhibits and presentations will be viewable on the Docomo website.

NTT Docomo launched a commercial 5G service with an Open RAN in March 2020. Also, the company partnered with globally recognized vendors to establish the 5G Open RAN Ecosystem (OREC) in February 2021. Currently, Docomo and its 13 partners are conducting verifications to develop flexible Open RAN capable of interconnecting equipment of multiple vendors. The 13 OREC members are Dell Technologies Japan, Fujitsu, Hewlett Packard Japan, Intel, Mavenir, NEC, NTT Data, Nvidia, Qualcomm Technologies, Red Hat, VMware, Wind River and Xilinx.

co nttmcn: NTT DOCOMO, INC. | ntt: Nippon Telegraph and Telephone Corporation

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PD 28 February 2022 SN Telecompaper Asia

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iN i7902 : Telecommunication Services | i79022 : Wireless Telecommunications Services | i7902202 : Mobile Telecommunications

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RE jap : Japan | apacz : Asia Pacific | asiaz : Asia | easiaz : Eastern Asia

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HD Docomo opens vRAN verification lab to global mobile operators

WC 225 words

PD 28 February 2022 SN Telecompaper Asia

SC TELASI LA English

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Japanese operator NTT Docomo has started allowing overseas mobile operators to access its Shared Open Lab environment, located in Docomo's R&D Center in Yokosuka, Japan, to verify their virtualized radio access networks (vRAN). The lab is one of the initiatives of the 5G Open RAN <a href="Ecosystem">Ecosystem</a> (OREC) project under which Docomo and 13 global vendors are working to develop Open RAN capable of incorporating interoperable equipment of multiple vendors.

These 13 members are AMD, Dell Technologies Japan, Fujitsu, Hewlett Packard Japan, Intel, Mavenir, NEC, NTT Data, Nvidia, Qualcomm Technologies, Red Hat, VMware and Wind River.

TD

Docomo also reports that, since its establishment in October 2021, the Shared Open Lab has deployed virtualized base stations made with equipment from multiple OREC partners. The verification environment is now open to remote access by global operators, eliminating their need to prepare in-house verification environments.

Docomo believes the lab will help operators reduce overall costs, including constructing in-house labs and/or traveling to vendors' labs, for the verification of base station functions and performance prior to commercial deployment.

Docomo's 5G Open RAN currently includes around 10,000 base stations and 10 million subscribers. Within fiscal year 2022, Docomo expects to commercialize scalable vRANs for international mobile operators, also with the help of its OREC partners.

mvsus: Mavenir PLC | nttdat: NTT Data Corp. | nttmcn: NTT DOCOMO, INC. | blgrou: Blackstone Inc. | ctdiss: Travelport Limited | ntt: Nippon Telegraph and Telephone Corporation | sircau: SIRIS Capital Group LLC

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AN Document TELASI0020220228ei2s0008e



HD Japan's Space RAN Venture - Combining Land, Air, and Space

WC 558 words

PD 16 February 2022 SN Voice and Data

SC CMVOID

LA English

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LP

NTT, along with its mobile unit NTT DOCOMO, has joined forces with Airbus and <u>satcom</u> operator SKY Perfect JSAT, to work on Space RAN.

Under the same, the consortium will look to explore the potential of high-altitude **platform** stations (HAPS), as a part of a "future space-based wireless **connectivity ecosystem**". The **ecosystem** will converge the **connectivity** capacities of geostationary satellites, LEO satellites, HAPS vehicles - drones, balloons - and terrestrial networks.

TD

Space RAN - The Latest in Radio Technology

In this current setup, NTT and DOCOMO will provide the terrestrial networks, satellites will come from SKY Perfect JSAT, and the HAPS element will come from Airbus. Incidentally, Airbus has developed a solar-powered UAS called Zephyr. Zephyr will fly in the stratosphere, 20 kilometers above the earth's surface, and form the HAPS element of the Space RAN.

For now, the companies are exploring their options. The parties involved will "test HAPS connectivity, identify practical applications, develop required technologies, and ultimately launch space-based wireless broadband services". This convergence, hopefully, will deliver connectivity across the planet, and even above it. Given it's called Space RAN, one would hope so, too.

The partners have said that they will test base station backhaul, how different spectrum bands perform, and the technology required for linking HAPS with satellites and ground base stations. Along with this, the partners will build a cooperative system that will tie NTN technology, satellites, and HAPS together.

Incidentally, the tests seem to be going smoothly; NTT DOCOMO and Airbus have successfully tested the Zephyr platform. The tests showed that HAPS-based services operate well enough on the 2 GHz spectrum.

Is HAPS Still Good Enough?

While the Space RAN alliance over here has discovered some use for HAPS vehicles, it has a rather blemished past. Earlier, Facebook and Google have tried and failed at using HAPS devices for connectivity purposes.

Facebook tried with its development project called Aquila. However, that one died a quiet death in 2018.

Google, though, struggled the longest with it. Google's parent company, Alphabet, sank a lot of money, time, and manpower in Loon, a fleet of helium balloons floating in the stratosphere. However, even Google stopped struggling with it in January 2021; by then, SoftBank had also sunk \$125 million in the project.

Their experience, though, might not go to waste after all.

5G, 6G, and Beyond, with Space RAN

Interestingly, SoftBank also took about 200 HAPS patents from Loon in September last year.

The Japanese company had noted, "with these patents, SoftBank and its subsidiary, HAPSMobile Inc., will collectively own approximately 500 HAPS-related patents, including patents pending, further

establishing their position as intellectual property (IP) leaders in the HAPS industry. The patents are related to network technologies, services, operations and aircraft for HAPS".

The Space RAN alliance have their eyes on the future, that much is clear. NTT has called these developments an important part of 5G, and a part of 6G as well. With SoftBank's HAPS stake, it looks like the alliance might do well with it on board as well. Also, another Japanese telco, KDDI, is a member of the HAPS alliance, along with Airbus, NTT DOCOMO, and SoftBank. Therefore, Japan's Space RAN venture seems like it might actually work.

## Click here to view image

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NS c133 : Patents | ccat : Corporate/Industrial News | cgymtr : Intellectual Property Rights | cinprp : Industrial Property Rights

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IPD 5G

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4D <Disclosure Summary> Cyberlin's net profit for the fiscal year ending December 2022: Up 3.9%

WC 321 words

**PD** 14 February 2022

**SN** Nikkei Financial Summary

SC NIKFIN LA English

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On February 14, Cyberlinks announced its consolidated financial results for the fiscal year ended December 2021. Net profit was 645 million yen (up 0.2% from the previous year). Net profit for the fiscal year ending December 2022 is expected to be 670 million yen (up 3.9% from a year earlier).

Cyberlinks develops an IT **cloud** business that provides **cloud** services for distribution and government agencies, as well as a mobile network business that operates a docomo Shop that handles NTT Docomo smartphones and mobile phones. Steady revenue, which is regarded as an important management indicator, increased by 257.019 million yen due to the expansion of service provision to 6.681331 billion yen, showing steady progress. Sales increased, operating profit increased, pretax profit increased, and net income attributable to parent company shareholders increased slightly, achieving record high profit for the second consecutive term.

TD

Sales, operating profit and pretax profit for the fiscal year ended December 2021 were 13.241 billion yen, 945 million yen and 958 million yen (up 3.6%, up 2.3% and up 0.7% from the previous year), respectively.

Sales, operating profit and pretax profit for the fiscal year ending December 2022 are expected to be 13.267 billion yen (up 0.2%, y/y), 1.043 billion yen (up 10.4%, y/y), and 1.046 billion yen (up 9.2%, y/y), respectively.

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PUB Nikkei Inc.

AN Document NIKFIN0020220214ei2e005sk



HD Docomo Ventures invests in boost, a cloud development company that visualizes CO2 emissions

WC 241 words

**PD** 10 February 2022

SN Nikkei Business Trends

SC NIKBST

LA English

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NTT Docomo Ventures (Minato, Tokyo) had invested in boost technologies (Chiyoda-ku, Tokyo), which develops and operates "ENERGY X GREEN", a **cloud** that visualizes CO2 emissions, through its fund (announced on February 2, 2022). "ENERGY X GREEN" is a company that visualizes CO2 emissions in corporate activities, formulates and manages a carbon-free roadmap, purchases non-fossil certificates and carbon offsets through the procurement of CO2-free power sources, and creates reports on international initiatives. In addition, it will comprehensively support the efforts of companies aiming for carbon neutrality, from planning to execution and management. By entering data such as the amount of electricity used for each office and store, companies will be able to automatically calculate CO2 emissions and formulate decarbonization plans for each group of offices, stores, and subsidiaries.

TD

NTT Group is also working to provide new services that contribute to carbon neutrality, and will accelerate the efforts in collaboration with boost.

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RE tokyo: Tokyo | kanag: Kanto | jap: Japan | apacz: Asia Pacific | asiaz: Asia | easiaz: Eastern Asia

PUB Nikkei Inc.

AN Document NIKBST0020220214ei2a0008e



**HD** NTT Docomo Ventures to invest in JumpCloud

WC 251 words

PD 7 February 2022

SN Nikkei Business Trends

SC NIKBST

LA English

CY Copyright 2022. Nikkei Inc.

LP

NTT Docomo Ventures (Minato, Tokyo) had invested in JumpCloud (announced on October 20, 2021). The **investment** amount is not disclosed. JumpCloud provides SaaS with the security functions required for remote work centered on a **cloud**-based directory **platform** that centrally manages ID authentication and **devices**. It is a **cloud** service that can be used from anywhere with an Internet environment, and various security settings can be realized with simple operations even without specialized IT knowledge. Since it is possible to combine multi-factor authentication functions such as biometric authentication and one-time password, it is possible to set according to the security level required by the company. As of September 2021, JumpCloud's services have been used by more than 3,000 companies in 140 countries around the world. In September 2021, NTT Group announced a policy that employees can choose their own working place based on remote work.

TD

Since the services and directions provided by JumpCloud are highly compatible with the initiatives of NTT Group, the investment this time has been decided.

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co nttdvi : NTT DOCOMO Ventures, Inc. | nttmcn : NTT DOCOMO, INC. | ntt : Nippon Telegraph and Telephone Corporation

iappsp: Cloud Computing | i8394: Computer Services | ibcs: Business/Consumer Services | idserv: Data Services | iint: Online Service Providers | itech: Technology | i7902: Telecommunication Services | i79022: Wireless Telecommunications Services | i7902202: Mobile Telecommunications | i81502: Trusts/Funds/Financial Vehicles | ifinal: Financial Services | iinv: Investing/Securities

PUB Nikkei Inc.

AN Document NIKBST0020220208ei270008y



HD Nippon TV, Forecast, and NTT Docomo to jointly develop an automatic summary service for news articles using Al

WC 253 words

PD 4 February 2022

SN Nikkei Business Trends

SC NIKBST

**LA** English

CY Copyright 2022. Nikkei Inc.

LP

Nippon Television Network (Minato, Tokyo) had signed a joint development agreement for "Automatic summary service for news articles" using Al with Forecast Communications and NTT Docomo (Chiyoda-ku, Tokyo) (announced on January 12, 2022). It will start offering "Automatic Summarization Al" (β version service) from Forecast on the same day. The beta version service is a site that can summarize news articles, and if you enter "Sentences to be summarized" on the left side of the screen, "Summary" will be displayed on the right side. In addition to "Character number specification function" and "Sentence number specification function" that summarize based on the number of characters and sentences specified in advance, "Hint function" that specifies the keyword to be reflected in the summary result, "Title function" and "Location identification function" that are the first in Japan Be prepared. The beta service will be provided free of charge until the end of June 2022.

TD

It aims to start providing commercial services in the Japanese fiscal year 2022.

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co nttmcn: NTT DOCOMO, INC. | ntt: Nippon Telegraph and Telephone Corporation

**IN** i3302022 : Artificial Intelligence Technologies | itech : Technology | i7902 : Telecommunication Services | i79022 : Wireless Telecommunications Services | i7902202 : Mobile Telecommunications

NS gaiml : Artificial Intelligence/Machine Learning | gcat : Political/General News | gcsci : Computer Science | gsci : Sciences/Humanities

RE jap : Japan | tokyo : Tokyo | kanag : Kanto | apacz : Asia Pacific | asiaz : Asia | easiaz : Eastern Asia

PUB Nikkei Inc.

AN Document NIKBST0020220207ei2400030



HD JTB to conduct a demonstration experiment of mobile experience using 5G, XR, and Al with Toyota Motor, NTT Docomo, etc

WC 208 words

PD 3 February 2022

SN Nikkei Business Trends

SC NIKBST

**LA** English

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LP

JTB (Shinagawa-ku, Tokyo) will collaborate with Toyota Motor, Toyota Boshoku, and NTT Docomo (Chiyoda-ku, Tokyo) from February 10 to February 16, 2022 to utilize 5G, **XR**, and **Al** to provide entertainment **content** and online services in the vehicle interior They will conduct a demonstration experiment of "New mobility experience", which can enjoy the tour. It is the Expo 2005 Aichi Commemorative Park (Nagakute, Aichi Prefecture), which connects the tourist guide of Tomonoura (Fukuyama, Hiroshima Prefecture) and the vehicle interior space concept "SQUAL" of Aichi Prefecture, and provides an online tour in real time. In the demonstration experiment, the ride attraction bus "MOOX on FC Bus" allows multiple people to move while experiencing the same interactive contents.

TD

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co nttmcn : NTT DOCOMO, INC. | toyta : Toyota Motor Corp. | ntt : Nippon Telegraph and Telephone Corporation

**IN** i351 : Motor Vehicles | i35101 : Passenger Cars | i7902 : Telecommunication Services | i79022 : Wireless Telecommunications Services | i7902202 : Mobile Telecommunications | iaut : Automotive

**NS** gaiml : Artificial Intelligence/Machine Learning | gcat : Political/General News | gcsci : Computer Science | gsci : Sciences/Humanities

RE jap : Japan | aichi : Chubu | apacz : Asia Pacific | asiaz : Asia | easiaz : Eastern Asia

PUB Nikkei Inc.

AN Document NIKBST0020220204ei2300011



HD NTT Docomo to conduct a demonstration experiment on content distribution using 5G, XR, and Al technology

WC 295 words

PD 3 February 2022

SN Nikkei Business Trends

SC NIKBST

**LA** English

CY Copyright 2022. Nikkei Inc.

LP

NTT Docomo (Chiyoda-ku, Tokyo) will conduct a demonstration experiment to enjoy entertainment contents and online tours using 5G, XR, and AI technologies with the aim of implementing a new mobile experience in the car. It will start from February 10, 2022 at the Aichi Expo Memorial Park (Nagakute, Aichi Prefecture) and from February 25, 2022 at the Waterfront Fukutoshin Area (Tokyo, Odaiba). At Aichi Expo '70 Commemorative Park, contents will be distributed in two cabin spaces "MOOX on FC Bus" and "SQUAL." "MOOX" will provide contents linked with images, 3D audio systems, lighting, and acoustic vibration sheets in accordance with vehicle location information, occupant gestures, and car window scenery. "SQUAL" will be connected to Tomonoura in Fukuyama, Hiroshima Prefecture, and an online tour will be conducted using a three-panel display installed in the car.

TD

In addition, in the waterfront subcenter area, the contents using XR technology will be superimposed on the background visible from the transparent display installed in the self-driving vehicle "e-Palette", and 3D sound and seat vibration will be combined and provided. The demonstration experiment will be conducted in collaboration with partner companies. Based on the evaluations of the experienced users, the effectiveness and feasibility of the content will be verified.

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i3302022 : Artificial Intelligence Technologies | itech : Technology | i7902 : Telecommunication Services | i79022 : Wireless Telecommunications Services | i7902202 : Mobile Telecommunications

NS gaiml : Artificial Intelligence/Machine Learning | gcat : Political/General News | gcsci : Computer Science | gsci : Sciences/Humanities

RE jap : Japan | aichi : Chubu | apacz : Asia Pacific | asiaz : Asia | easiaz : Eastern Asia

PUB Nikkei Inc.

AN Document NIKBST0020220204ei2300012



HD Japanese mobile carrier NTT Docomo's data network disrupted, cause unknown

CR 豈取律譁-閨樒、セ

WC 68 words

PD 1 February 2022

**ET** 01:53

SN The Mainichi

SC AIWMDM LA English

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LP

TOKYO -- Customers of Japanese mobile phone giant NTT Docomo Inc. are having trouble accessing the internet on their **devices**, the company announced on Feb. 1.

The disruption began at 8 a.m., and is ongoing. The firm stated that it is working on finding the cause and restoring full service.

TD

(Mainichi)

co nttmcn: NTT DOCOMO, INC. | ntt: Nippon Telegraph and Telephone Corporation

IN i34411: Mobile Communications Devices | i3441: Telecommunications Equipment | itech:

Technology | i7902 : Telecommunication Services | i79022 : Wireless Telecommunications Services

| i7902202 : Mobile Telecommunications

RE jap : Japan | apacz : Asia Pacific | asiaz : Asia | easiaz : Eastern Asia

PUB The Mainichi Newspaper

AN Document AIWMDM0020220201ei2100001

### HD NTT DOCOMO gets first-mover advantage on IPv6

BY Melanie Mingas

WC 305 words

**PD** 31 January 2022

SN Capacity Magazine

SC CAPMAG

**LA** English

CY © 2022 Euromoney Trading Limited

LP

DOCOMO is currently providing IPv4/IPv6 dual-stack support by assigning both IPv4 and IPv6 addresses to its **devices**. Its shift to IPv6 single-stack saw DOCOMO use address conversion methods to ensure interoperability with IPv4.

From 1 February - Tuesday - single-stack functionality will be applied to DOCOMO models operating on its mobile network in Japan. The company's existing communication network will not be impacted, and it said users will not be inconvenienced with settings updates.

TD

Support will be extended to 31 IPv6 models initially, and in principle, for all DOCOMO devices released in FY22, beginning this April.

DOCOMO said a "key factor" in its decision is that IPv4 addresses are now in short supply worldwide due to the take up in IoT and 5G.

DOCOMO might be the first in Japan, but over in China, the Central Cyberspace Affairs Commission and Cyberspace Administration set out its plan for massive IPv6 adoption in July. It called for China to have 700 million active IPv6 users by 2023 and 200 million IoT devices using the protocol as, by the end of that year, new networks won't be able to use IPv4.

By the end of 2025, China wants its IPv6 network "scale, user scale, and traffic scale" to "rank first in the world".

As these announcements were being made, over in Japan DOCOMO was starting its trials, which ran until December.

Its test environment was designed to allow global developers to confirm the interoperability of their applications and content on DOCOMO devices designated for conversion to single-stack support.

Going forward, DOCOMO said it is committed to playing a leading role in the expanding adoption of IPv6 addresses, as well as the further development of 5G and IoT, "by meeting increasing demands for innovative communications equipment".

co nttmcn: NTT DOCOMO, INC. | ntt: Nippon Telegraph and Telephone Corporation

IN i7902 : Telecommunication Services | i79022 : Wireless Telecommunications Services | i7902202 : Mobile Telecommunications

NS ccat: Corporate/Industrial News

RE jap : Japan | apacz : Asia Pacific | asiaz : Asia | easiaz : Eastern Asia

**PUB** Euromoney Trading Limited

AN Document CAPMAG0020220221ei1v00003



HD Docomo to roll out IPv6 single-stack support from 1 February

WC 151 words

PD 31 January 2022 SN Telecompaper Asia

SC TELASI

LA English

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LP

Japanese operator NTT Docomo has announced plans to start rolling out IPv6 single-stack support for selected Docomo devices from 1 February. Docomo is currently providing IPv4/IPv6 dual-stack support by assigning both IPv4 and IPv6 addresses to its devices. The shift to IPv6 single-stack support was realized by using address conversion methods, which ensures interoperability with IPv4.

Between July and December 2021, Docomo operated a test environment to allow global developers to confirm the interoperability of their applications and **content** on Docomo **devices** designated for conversion to single-stack support.

TD

Docomo says single-stack support will be provided for 31 IPv6 models initially and in principle for all Docomo devices/handsets to be released in fiscal 2022 beginning this April. Single-stack functionality will be applied to Docomo models operating on the Docomo mobile network in Japan.

nttmcn: NTT DOCOMO, INC. | ntt: Nippon Telegraph and Telephone Corporation

IN i7902: Telecommunication Services | i79022: Wireless Telecommunications Services | i7902202:

Mobile Telecommunications

NS ccat : Corporate/Industrial News

RE jap : Japan | apacz : Asia Pacific | asiaz : Asia | easiaz : Eastern Asia

PUB Telecompaper BV

AN Document TELASI0020220131ei1v0008f



HD DOCOMO to Roll Out IPv6 Single-stack Support Beginning Feb. 1

WC 386 words

**PD** 31 January 2022

**ET** 15:06

SN JCN Newswire

SC JAPCOR

LA English

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LP

TOKYO, Jan 31, 2022 - (JCN Newswire) - NTT DOCOMO, INC. announced today that it will begin rolling out IPv6 single-stack support for selected DOCOMO devices from February 1, thereby taking the lead in deploying IPv6 ahead of other telecom carriers in Japan, which are expected to continue operating with IPv4 addresses for the time being.

Due to the growing number of IoT **devices** as well as the widening adoption of 5G, IPv4 addresses are now in short supply worldwide, a key factor behind DOCOMO's decision to begin deploying virtually limitless IPv6 addresses.

TD

DOCOMO is currently providing IPv4/IPv6 dual-stack support by assigning both IPv4 and IPv6 addresses to its devices. The shift to IPv6 single-stack support was realized by using address conversion methods, which ensures interoperability with IPv4.

Between July and December 2021, DOCOMO operated a test environment to allow global developers to confirm the interoperability of their applications and content on DOCOMO devices designated for conversion to single-stack support.

Single-stack support will be provided for 31 IPv6 models initially and in principle for all DOCOMO devices/handsets to be released in fiscal 2022 beginning this April. Single-stack functionality will be applied to DOCOMO models operating on the DOCOMO mobile network in Japan. The company's existing communication network will not be impacted nor will users be required to change settings or submit applications.

Going forward, DOCOMO is committed to playing a leading role in the expanding adoption of IPv6 addresses in communications infrastructure as well as contributing to the further development of 5G and IoT by meeting increasing demands for innovative communications equipment.

### About NTT DOCOMO

NTT DOCOMO, Japan's leading mobile operator with over 83 million subscriptions, is one of the world's foremost contributors to 3G, 4G and 5G mobile network technologies. Beyond core communications services, DOCOMO is challenging new frontiers in collaboration with a growing number of entities ("+d" partners), creating exciting and convenient value-added services that change the way people live and work. Under a medium-term plan toward 2020 and beyond, DOCOMO is pioneering a leading-edge 5G network to facilitate innovative services that will amaze and inspire customers beyond their expectations. <a href="https://www.nttdocomo.co.jp/english/">https://www.nttdocomo.co.jp/english/</a>.

Source: NTT DOCOMO

co nttmcn: NTT DOCOMO, INC. | ntt: Nippon Telegraph and Telephone Corporation

IN i7902 : Telecommunication Services | i79022 : Wireless Telecommunications Services | i7902202 : Mobile Telecommunications

NS ccat : Corporate/Industrial News | c22 : New Products/Services | npress : Press Releases | cexpro : Products/Services | ncat : Content Types | nfact : Factiva Filters | nfcpin : C&E Industry News Filter

RE jap : Japan | apacz : Asia Pacific | asiaz : Asia | easiaz : Eastern Asia

IPD NEWR

**PUB** Japan Corporate News Network K.K.

AN Document JAPCOR0020220131ei1v0002t



# HD DOCOMO demos Drop-n-Prop Antenna for 6G

WC 336 words

**PD** 24 January 2022

SN Optical Networks Daily

SC OBSERV

LA English

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LP

NTT DOCOMO has developed an antenna system capable of creating a high-frequency mobile communication cell when a small (roughly one cubic centimeter) piece of plastic is placed on top of a dielectric waveguide.

The solid plastic cube serves as an antenna by creating a "leak" from the **cable** to propagate signals up to several tens of meters. DOCOMO successfully tested the system with an ultra-high-frequency 60 GHz radio signal, similar to those expected to be used in future 6G networks.

TD

DOCOMO envisions its "Drop-n-Prop Antenna" as simple, low-cost solution being used to create instant mobile environments in indoor areas not reachable with highly directional high-frequency signals propagated by outdoor base stations.

In the trial, DOCOMO constructed a communication area by running a rod-shaped dielectric waveguide made of polytetrafluoroethylene into an indoor area that was inaccessible to external mobile signals. The waveguide was embedded in a length of polystyrene-foam board with one side barely exposed to allow contact with antennas. Multiple communication cells were created simultaneously by placing antennas along various parts of the waveguide. Signal coverage and direction were controlled by changing the material, shape and positioning of the antennas.

Both millimeter waves (28 GHz) for 5G and higher frequencies (60 GHz, etc.) expected to be used for 6G travel in very straight (rectilinear) lines. It is difficult for such waves to reach devices not in a base station's direct line of sight, or if the signals are blocked by surrounding obstacles (walls, equipment, etc.). DOCOMO's simple, low-cost antenna system being announced today merely requires a rod-shaped dielectric waveguide to be run into an area and then embedded in the floors, walls, ceilings, furniture or work surfaces. Communication areas can be constructed easily and unobtrusively in offices, factories, etc. and reconfigured quickly and flexibly just by moving the antenna(s) as required.

https://www.nttdocomo.co.jp/english/info/media\_center/pr/2022/0117\_01.html

co nttmcn: NTT DOCOMO, INC. | ntt: Nippon Telegraph and Telephone Corporation

IN i7902 : Telecommunication Services | i79022 : Wireless Telecommunications Services | i7902202 : Mobile Telecommunications

IPD DOCOMO

**PUB** Electronics International

AN Document OBSERV0020220125ei1o00002

### HD SoftBank to raise over \$250m to fund high-altitude mobile

BY Alan Burkitt-Gray

WC 405 words

**PD** 21 January 2022

SN Capacity Magazine

SC CAPMAG

LA English

CY © 2022 Euromoney Trading Limited

LP

The company will use the money for business research and development into high-altitude platform stations (HAPS) and other HAPS-related costs.

Today's announcement comes just days after four other companies, three of them Japanese, said they were studying the feasibility of collaborating on HAPS-based connectivity services as part of a future space-based wireless connectivity ecosystem.

TD

The four, which signed a memorandum of understanding (MoU) earlier this week, are sister companies NTT and NTT DoCoMo, plus Japanese satellite company Sky Perfect JSat, as well as French aerospace company Airbus.

The fund-raising marks a significant increase in HAPS work by SoftBank, which has been working on the technology for a number of years with experiments in New Mexico. The company also last year acquired more than 200 HAPS patents from a sister company of Google, after parent company Alphabet decided to close its Loon project (pictured).

SoftBank said earlier today that it will raise the \$263 million in two funds, each of 15 billion yen. One is an unsecured sustainability bond with a seven-year term; the other has a 10-year term.

The company said the purpose was "realizing a society where everyone is connected" and said proceeds will be used for SoftBank's "business that aims to provide wide-area and stable telecommunication networks from the stratosphere".

It added that the HAPS bond was recognised as a sustainable development goals (SDG) bond in Japan. "Proceeds from SDG Bonds are used for businesses that solve environmental and social issues," the company said.

The MoU from NTT, DoCoMo, Sky Perfect JSat and Airbus said the four "will attempt to identify the early deployment requirements of a HAPS-based network". The collaboration will investigate the use of the Airbus Zephyr, a solar-powered, stratospheric unmanned aerial system, working with the wireless communication networks of the other three companies.

The four said that "HAPS networks are deemed to be a relatively easy solution for air and sea connectivity and an effective platform for deploying disaster countermeasures and many industrial applications".

But they also suggested this would be a route space-based wireless broadband services, for 5G and eventually 6G.

They said non-terrestrial network (NTN) technologies would use geostationary-orbit (GEO) satellites and low Earth-orbit (LEO) satellites, and introduced the term "space RAN" for a space-based radio access network.

CO nttmcn : NTT DOCOMO, INC. | sftbnk : SoftBank Group Corp. | ntt : Nippon Telegraph and Telephone Corporation

IN i7902 : Telecommunication Services | i79022 : Wireless Telecommunications Services | i7902202 : Mobile Telecommunications

RE jap : Japan | apacz : Asia Pacific | asiaz : Asia | easiaz : Eastern Asia

**PUB** Euromoney Trading Limited



HD Olympus, NTT Docomo and others to conduct a demonstration experiment on high-definition video transmission using secure cloud

WC 246 words

**PD** 20 January 2022

SN Nikkei Business Trends

SC NIKBST

LA English

CY Copyright 2022. Nikkei Inc.

LP

Kobe University, Kagawa University, Kochi Red Cross Hospital, Olympus, and NTT Docomo (Chiyoda-ku, Tokyo) will conduct a demonstration experiment on high-definition video transmission using secure **cloud** on February 23, 2022. The demonstration will continuously consider the demonstration of real-time transmission of gastrointestinal endoscopy images in March 2021. In addition to the previous endoscopic image, This time, in addition to allowing multiple people to simultaneously view the combined video of the doctor's hands performing the procedure via "NTT Docomo Open Innovation **Cloud**", annotation (drawing lines and figures on the image) to the endoscopic video will be performed in real time.

TD

The demonstration is based on medical support using annotations to confirm the disease status in real time from a remote location, advancement of the conference by sharing the disease status among multiple facilities in real time, and medical education through accurate video sharing using annotations The purpose is to enable the sophistication of

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co nttmcn: NTT DOCOMO, INC. | ntt: Nippon Telegraph and Telephone Corporation

IN i7902 : Telecommunication Services | i79022 : Wireless Telecommunications Services | i7902202 : Mobile Telecommunications

NS gtrea: Medical Treatments/Procedures | gcat: Political/General News | ghea: Health

RE jap : Japan | greece : Greece | apacz : Asia Pacific | asiaz : Asia | balkz : Balkan States | devgcoz : Emerging Market Countries | easiaz : Eastern Asia | eecz : European Union Countries | eurz : Europe | medz : Mediterranean

PUB Nikkei Inc.

AN Document NIKBST0020220121ei1k00034



HD NTT Docomo and H2L to develop a platform to realize 'human expansion' in the 6G era

WC 298 words

**PD** 20 January 2022

SN Nikkei Business Trends

SC NIKBST

LA English

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LP

NTT Docomo (Chiyoda-ku, Tokyo) realized the "human expansion" to expand human senses in the 6G era network with the technical cooperation of H2L (Minato, Tokyo), FCNT (Yamato, Kanagawa Prefecture), and Fujitsu It has developed a **platform** for this (announced on January 17, 2022). In 6G, since the communication speed of the network exceeds the reaction speed of nerves, it is thought that the human sense can be expanded by the network. NTT Docomo has developed a **platform** that enables sharing of other people's actions in order to realize "Making the body ubiquitous" and "Skill Sharing" among the five functions of "Human Expansion." When transmitting motion data acquired by a device that grasps motion to humans and robots in real time through a drive device that reproduces motion, it is possible to share natural motions without difficulty between people and robots with different sizes and skeletons It will be possible to reproduce detailed movements based on the movements.

TD

Since the devices can be connected via a network, they can expand the human body in various places. It is also possible to reproduce past human behavior using the accumulated data. NTT Docomo will work to improve the added value of the platform and commercialize it by providing a development kit.

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IN i7902 : Telecommunication Services | i79022 : Wireless Telecommunications Services | i7902202 : Mobile Telecommunications

RE kanag : Kanto | jap : Japan | tokyo : Tokyo | apacz : Asia Pacific | asiaz : Asia | easiaz : Eastern Asia

PUB Nikkei Inc.

AN Document NIKBST0020220121ei1k00006



HD Airbus, NTT, NTT Docomo, and SKY Perfect JSAT consider promoting research and development for early commercialization of HAPS

WC 341 words

**PD** 20 January 2022

SN Nikkei Business Trends

SC NIKBST

LA English

CY Copyright 2022. Nikkei Inc.

LP

On January 14, 2022, Europe's Airbus, NTT, NTT Docomo, and SKY Perfect JSAT will consider establishing a cooperative system for research and development for the early commercialization of high-altitude platforms flying in the stratosphere and implementation of demonstration experiments Has signed a memorandum of understanding to promote Through the collaboration between Airbus' HAPS "Zephyr" and NTT, NTT Docomo, and SKY Perfect JSAT's communication network, The two companies will promote collaboration between the four companies to discover HAPS connectivity and utility in communication systems using HAPS, and develop technologies and use cases. It also aims to promote the access service "Space RAN" business using non-terrestrial network (NTN) technologies such as geosynchronous satellites, low-orbit satellites, and HAPS.

TD

In the future, The four companies will conduct research and development on technology focusing on communication from the stratosphere by HAPS, To promote standardization and institutionalization for HAPS aircraft development and HAPS operation. It will also examine the business model for the commercialization of Network Service by HAPS. As the main targets of research and development, Study on the possibility of applying HAPS to connections with terrestrial mobile stations and base station backhaul, evaluation of communication performance in various frequency bands in communication systems using HAPS, communication between HAPS and satellites, and ground base stations Technical examination for collaboration. The company will promote space RAN business. In addition, the two companies plan to build a cooperation system with a view to demonstration experiments on network construction using NTN technologies such as satellite and HAPS.

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co nttmcn : NTT DOCOMO, INC. | spjsat : SKY Perfect JSAT Holdings Inc. | ntt : Nippon Telegraph and Telephone Corporation | nia : Airbus SE

IN i364 : Aerospace Products/Parts | i7902 : Telecommunication Services | i79022 : Wireless Telecommunications Services | i7902202 : Mobile Telecommunications | i79026 : Integrated Communications Providers | i97411 : Broadcasting | iaer : Aerospace/Defense | iindstrls : Industrial Goods | imed : Media/Entertainment

NS cpartn : Partnerships/Collaborations | c23 : Research/Development | ccat : Corporate/Industrial News

PUB Nikkei Inc.

AN Document NIKBST0020220121ei1k00005

# HD Japan and Airbus to build HAPS for broadband

WC 271 words

**PD** 20 January 2022

SN Inside Satellite TV

SC INSATV

LA English

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LP

A couple of Japanese giant businesses are linking with Airbus to collaborate on future 'High Altitude Platform Stations' (HAPS) as part of a future space-based wireless broadband and connectivity system.

Nippon Telegraph (NTT) and its NTT Docomo division as well as satellite operator Sky Perfect JSAT Corp., have signed a Memorandum of Understanding with Airbus for further development of the Airbus Zephyr concept.

TD

The Airbus Zephyr system is a fixed wing, solar-powered, stratospheric unmanned aerial system (UAS), and the wireless communication networks of NTT, DOCOMO and SKY Perfect JSAT in order to test HAPS connectivity, identify practical applications, develop required technologies and ultimately launch space-based wireless broadband services.

Their statement says: "In the global push to further advance 5G and eventually introduce 6G, initiatives are under way to expand coverage worldwide, including in the oceans and in the air, as well as remote and hard to reach areas. Such initiatives will include HAPS, which fly in the stratosphere about 20 km. above the Earth, and non-terrestrial network (NTN) technologies using GEO and LEO satellites."

With the signing of the MOU, the four companies will discuss and identify possible future developments necessary to unlock future HAPS-based connectivity services, lobby for standardization and institutionalization of HAPS operations, and explore business models for commercializing HAPS services.

As separately announced on November 15, 2021, DOCOMO and Airbus successfully conducted a propagation test between the ground and a "Zephyr S" HAPS aircraft in the stratosphere, demonstrating the possibility of providing stable communication with such a configuration.

((Distributed via M2 Communications - <a href="http://www.m2.com">http://www.m2.com</a>))

nttmcn: NTT DOCOMO, INC. | spjsat: SKY Perfect JSAT Holdings Inc. | nia: Airbus SE | ntt: Nippon Telegraph and Telephone Corporation

iwrlss! : Wireless Area Network Technology | i3302 : Computers/Consumer Electronics | i3303 : Networking | itech : Technology | i364 : Aerospace Products/Parts | i7902 : Telecommunication Services | i79022 : Wireless Telecommunications Services | i7902202 : Mobile Telecommunications | i97411 : Broadcasting | iaer : Aerospace/Defense | iindstrls : Industrial Goods | imed : Media/Entertainment

RE jap : Japan | apacz : Asia Pacific | asiaz : Asia | easiaz : Eastern Asia

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AN Document INSATV0020220120ei1k00003



HD Airbus, NTT, DOCOMO and SKY Perfect JSAT Jointly Studying Connectivity Services from High-Altitude Platform Stations (HAPS)

WC 986 words

**PD** 19 January 2022

SN ENP Newswire

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**LA** English

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LP

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Airbus, NTT, DOCOMO and SKY Perfect JSAT Jointly Studying Connectivity Services from High-Altitude Platform Stations (HAPS).

TD

Targeting future global wireless-connectivity services combining satellites and HAPS

Airbus Flag

Airbus, Nippon Telegraph and Telephone Corporation (NTT), NTT DOCOMO, INC. (DOCOMO) and SKY Perfect JSAT Corporation (SKY Perfect JSAT) jointly announced that they have begun studying the feasibility of collaborating on future high-altitude platform stations (HAPS)-based connectivity services as part of a future space-based wireless connectivity ecosystem.

Launched with a memorandum of understanding (MOU), the study aims to identify the early deployment requirements of a HAPS-based network. The collaboration will investigate the use of the Airbus Zephyr, the leading fixed wing, solar-powered, stratospheric unmanned aerial system (UAS), and the wireless communication networks of NTT, DOCOMO and SKY Perfect JSAT in order to test HAPS connectivity, identify practical applications, develop required technologies and ultimately launch space-based wireless broadband services.

In the global push to further advance 5G and eventually introduce 6G, initiatives are under way to expand coverage worldwide, including in the oceans and in the air, as well as remote and hard to reach areas. Such initiatives will include HAPS, which fly in the stratosphere about 20 km above the earth, and non-terrestrial network (NTN) technologies using geostationary-orbit (GEO) satellites and low Earth-orbit (LEO) satellites. HAPS networks are deemed to be a relatively easy solution for air and sea connectivity and an effective platform for deploying disaster countermeasures plus have many industrial applications. The provision of space-based radio access network services using NTN technologies, collectively called Space RAN (radio access network), is expected to support worldwide mobile communications with ultra-wide coverage and improved disaster resistance as well enhanced 5G and 6G. In addition, HAPS platforms can also interconnect to the nearest terrestrial network gateway and extend the reach of existing mobile services directly to end-user devices, providing service options including rural, emergency and maritime connectivity.

With the signing of the MOU, the four companies will discuss and identify possible future developments necessary to unlock future HAPS-based connectivity services, lobby for standardization and institutionalization of HAPS operations, and explore business models for commercializing HAPS services.

Specific themes will include the applicability of HAPS for mobile connectivity on the ground and base station backhaul,1 the performance of various frequency bands in HAPS systems, the technological considerations for linking HAPS with satellites and ground base stations, and the establishment of a cooperative system to test a network combining NTN technology, satellites and HAPS.

As separately announced on November 15, 2021, DOCOMO and Airbus successfully conducted a propagation test between the ground and a 'Zephyr S' HAPS aircraft in the stratosphere, demonstrating the possibility of providing stable communication with such a configuration.

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#### About Airbus

Airbus pioneers sustainable aerospace for a safe and united world. The Company constantly innovates to provide efficient and technologically-advanced solutions in aerospace, defence, and connected services. In commercial aircraft, Airbus offers modern and fuel-efficient airliners and associated services. Airbus is also a European leader in defence and security and one of the world's leading space businesses. In helicopters, Airbus provides the most efficient civil and military rotorcraft solutions and services worldwide.

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NTT believes in resolving social issues through our business operations by applying technology for good. We help clients accelerate growth and innovate for current and new business models. Our services include digital business consulting, technology and managed services for cybersecurity, applications, workplace, cloud, data center and networks all supported by our deep industry expertise and innovation. As a top 5 global technology and business solutions provider, our diverse teams operate in 80+ countries and regions and deliver services to over 190 of them. We serve over 80% of Fortune Global 100 companies and thousands of other clients and communities around the world. For more information on NTT, visit www.global.ntt/

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### https://www.nttdocomo.co.jp/english/

About SKY Perfect JSAT

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@AirbusSpace @Docomo @NTTPR #HAPS #Zephyr #connectivity

Your contact

Pablo Correa

External Communications - Airbus Defence

Phone: +34 6 89 66 96 02 pablo.correa@airbus.com

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SE Cyber + Space

HD Airbus and partners to study HAPS-based connectivity services

WC 370 words

**PD** 18 January 2022

SN Australian Defence Magazine

SC NBAXDM

LA English

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LP

Airbus, Nippon Telegraph and Telephone Corporation (NTT), DOCOMO, and SKY Perfect JSAT have jointly announced that they have begun studying the feasibility of collaborating on future high-altitude platform stations (HAPS)-based connectivity services as part of a future space-based wireless connectivity ecosystem.

Launched with a memorandum of understanding (MOU), the study aims to identify the early deployment requirements of a HAPS-based network.

TD

"The collaboration will investigate the use of the Airbus Zephyr, the leading fixed wing, solar-powered, stratospheric unmanned aerial system (UAS), and the wireless communication networks of NTT, DOCOMO and SKY Perfect JSAT in order to test HAPS connectivity, identify practical applications, develop required technologies and ultimately launch space-based wireless broadband services," Airbus said in a statement.

In the global push to further advance 5G and eventually introduce 6G, initiatives are under way to expand coverage worldwide, including in the oceans and in the air, as well as remote and hard to reach areas. Such initiatives will include HAPS, which fly in the stratosphere about 20 kilometres above the earth, and non-terrestrial network (NTN) technologies using geostationary-orbit (GEO) satellites and low Earth-orbit (LEO) satellites. According to Airbus, HAPS networks are deemed to be a relatively easy solution for air and sea connectivity and an effective platform for deploying disaster countermeasures plus have many industrial applications.

With the signing of the MOU, the four companies will discuss and identify possible future developments necessary to unlock future HAPS-based connectivity services, lobby for standardisation and institutionalisation of HAPS operations, and explore business models for commercialising HAPS services.

Specific themes will include the applicability of HAPS for mobile connectivity on the ground and base station backhaul, the performance of various frequency bands in HAPS systems, the technological considerations for linking HAPS with satellites and ground base stations, and the establishment of a cooperative system to test a network combining NTN technology, satellites and HAPS.

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IPD Cyber + Space

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HD Airbus, NTT, DOCOMO and SKY Perfect JSAT Jointly Studying Connectivity Services from High-Altitude Platform Stations (HAPS); Targeting future global wireless-connectivity services combining satellites and HAPS

WC 1,009 words

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SC ENPNEW

**LA** English

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Release date - 17012022

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In the global push to further advance 5G and eventually introduce 6G, initiatives are under way to expand coverage worldwide, including in the oceans and in the air, as well as remote and hard to reach areas. Such initiatives will include HAPS, which fly in the stratosphere about 20 km above the earth, and non-terrestrial network (NTN) technologies using geostationary-orbit (GEO) satellites and low Earth-orbit (LEO) satellites. HAPS networks are deemed to be a relatively easy solution for air and sea connectivity and an effective platform for deploying disaster countermeasures plus have many industrial applications. The provision of space-based radio access network services using NTN technologies, collectively called Space RAN (radio access network), is expected to support worldwide mobile communications with ultra-wide coverage and improved disaster resistance as well enhanced 5G and 6G. In addition, HAPS platforms can also interconnect to the nearest terrestrial network gateway and extend the reach of existing mobile services directly to end-user devices, providing service options including rural, emergency and maritime connectivity.

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@AirbusSpace @Docomo @NTTPR #HAPS #Zephyr #connectivity

Your contact

Pablo Correa

External Communications - Airbus Defence

Phone: +34 6 89 66 96 02

pablo.correa@airbus.com

NTT DOCOMO

Mr. Takuya Ori or Mr. Akira Takayama

Phone: +81 (0) 3 5156 1366

NTT PR Office

PR Office

SKY Perfect JSAT

Corporate Communications and Investor Relations Division

Phone: +81-3-5571-7600

pr@sptvjsat.com

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# HD NTT DOCOMO unveils Drop-n-Prop Antenna for 6G

BY Melanie Mingas

WC 344 words

**PD** 17 January 2022

SN Capacity Magazine

SC CAPMAG

LA English

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LP

Tested using roughly one cubic centimetre of plastic, solid cube serves as an antenna by creating a "leak" from the **cable** to propagate signals up to several tens of metres, according to DOCOMO.

It said it successfully tested the system with an ultra-high-frequency 60 GHz radio signal, similar to those expected to be used in future 6G networks.

TD

DOCOMO explained that its Drop-n-Prop Antenna, takes advantage of the physical phenomenon of radio waves propagating from the contact point created by "dropping" a small piece of plastic on top of a dielectric waveguide carrying the signal.

The result is that instant mobile environments can now be created in indoor areas not reachable with highly directional high-frequency signals propagated by outdoor base stations. Furthermore, the solution is low cost and, because signals are only propagated to required areas, wasteful usage of power is eliminated.

The company explained: "In the trial, DOCOMO constructed a communication area by running a rod-shaped dielectric waveguide made of polytetrafluoroethylene into an indoor area that was inaccessible to external mobile signals. The waveguide was embedded in a length of polystyrene-foam board with one side barely exposed to allow contact with antennas. Multiple communication cells were created simultaneously by placing antennas along various parts of the waveguide. Signal coverage and direction were controlled by changing the material, shape and positioning of the antennas."

It is difficult for millimetre waves to reach devices not in a base station's direct line of sight, or if the signals are blocked by surrounding obstacles, including walls. DOCOMO's low-cost antenna system overcomes such hurdles as it only requires a rod-shaped dielectric waveguide to be run into an area and then embedded in the floors, walls, ceilings, furniture or work surfaces. Communication areas can be constructed easily and unobtrusively in offices, factories, etc. and reconfigured quickly and flexibly just by moving the antenna(s) as required.

System verification - using 28 GHz 5G radio signals - will take place from April.

co nttmcn: NTT DOCOMO, INC. | ntt: Nippon Telegraph and Telephone Corporation

IN i7902 : Telecommunication Services | i79022 : Wireless Telecommunications Services | i7902202 : Mobile Telecommunications

**PUB** Euromoney Trading Limited

AN Document CAPMAG0020220207ei1h00001



HD DOCOMO develops solution to create high-frequency mobile cells

BY CT Bureau

CR Distributed by Contify.com

WC 470 words

**PD** 17 January 2022

**SN** Communications Today

SC ATCOMT

LA English

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LP

NTT DOCOMO, INC. announced today that it has developed an antenna system capable of creating a high-frequency mobile communication cell when a small (roughly one cubic centimeter) piece of plastic is placed on top of a dielectric waveguide. The solid plastic cube serves as an antenna by creating a "leak" from the **cable** to propagate signals up to several tens of meters. DOCOMO successfully tested the system with an ultra-high-frequency 60 GHz radio signal, similar to those expected to be used in future 6G networks.

DOCOMO envisions its simple, low-cost solution being used to create instant mobile environments in indoor areas not reachable with highly directional high-frequency signals propagated by outdoor base stations.

TD

This system, named "Drop-n-Prop Antenna," takes advantage of the physical phenomenon of radio waves leaking (propagating) from the contact point created by placing ("dropping") a small piece of plastic on top of a dielectric waveguide carrying the signal.

In the trial, DOCOMO constructed a communication area by running a rod-shaped dielectric waveguide made of polytetrafluoroethylene into an indoor area that was inaccessible to external mobile signals. The waveguide was embedded in a length of polystyrene-foam board with one side barely exposed to allow contact with antennas. Multiple communication cells were created simultaneously by placing antennas along various parts of the waveguide. Signal coverage and direction were controlled by changing the material, shape and positioning of the antennas.

Both millimeter waves (28 GHz) for 5G and higher frequencies (60 GHz, etc.) expected to be used for 6G travel in very straight (rectilinear) lines. It is difficult for such waves to reach devices not in a base station's direct line of sight, or if the signals are blocked by surrounding obstacles (walls, equipment, etc.). DOCOMO's simple, low-cost antenna system being announced today merely requires a rod-shaped dielectric waveguide to be run into an area and then embedded in the floors, walls, ceilings, furniture or work surfaces. Communication areas can be constructed easily and unobtrusively in offices, factories, etc. and reconfigured quickly and flexibly just by moving the antenna(s) as required.

The new antenna system also will help to lower energy use by efficiently propagating signals to desired areas only, thereby eliminating wasteful usage of power to propagate signals in areas where communication is not required.

DOCOMO will begin verifying a system using 28 GHz 5G radio signals in the first half of fiscal 2022 starting this April, aiming to introduce a commercial version of its new antenna system as soon as possible.

DOCOMO will demonstrate the new Drop-n-Prop Antenna system during DOCOMO Open House 2022, which is being held online from today for three days (January 17-19).

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NS ccat : Corporate/Industrial News

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Airbus moves forward with new agreement to test Zephyr as a space-based high-bandwidth connectivity platform

BY Aeroln

WC 476 words

**PD** 17 January 2022

SN Aviacionline

SC AVONLEN

LA English

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Airbus and Nippon Telegraph and Telephone Corporation, NTT DOCOMO, INC. and SKY Perfect JSAT Corporation announced today, January 17, that they initiated a study of the feasibility of collaborating on future high-altitude **platform** station (HAPS)-based **connectivity** services as part of a future space-based wireless **connectivity ecosystem**.

The study, launched with a memorandum of understanding, seeks to determine the initial deployment requirements for a HAPS-based network. The collaboration will investigate the use of the Airbus Zephyr, the leading solar-powered fixed-wing unmanned aerial system (UAS), and the wireless communication networks of NTT, DOCOMO, and SKY Perfect JSAT to test HAPS **connectivity**, identify practical applications, develop the necessary technologies and ultimately launch space-based wireless broadband services.

TD

In the overall effort to further advance 5G and eventually introduce 6G, initiatives are underway to expand coverage around the world, including over oceans and air, as well as in remote and hard-to-reach areas. Such initiatives will include HAPS, which flies in the stratosphere about 20 km above the Earth, and non-terrestrial network (NTN) technologies using geostationary orbit (GEO) and low-Earth orbit (LEO) satellites.

HAPS networks are considered a relatively easy solution for air and maritime connectivity and an effective platform for deploying disaster countermeasures and have many industrial applications. The delivery of space-based radio access network services using NTN technologies, collectively referred to as Space RAN (radio access network), is expected to support global mobile communications with ultra-wide coverage and enhanced disaster resilience, as well as the enhancement of 5G and 6G.

Furthermore, HAPS platforms can also interconnect with the nearest terrestrial network gateway and extend the reach of existing mobile services directly to end-user devices, offering service options including rural, emergency, and maritime connectivity.

With the signing of the MOU, the four companies will discuss and identify potential future developments needed to unlock HAPS-based connectivity services, push for standardization and institutionalization of HAPS operations, and explore business models for commercializing HAPS services.

Specific topics will include:

- the applicability of HAPS for mobile ground connectivity and base station backhaul;
- the performance of various frequency bands in HAPS systems;
- technological considerations for connecting HAPS to satellites and ground base stations; and
- the establishment of a cooperative system to test a network combining NTN technology, satellites, and HAPS.

Click to access link.

As announced previously separately on November 15, 2021, DOCOMO and Airbus successfully conducted a propagation test between ground and a «Zephyr S» HAPS aircraft in the stratosphere, demonstrating the possibility of providing stable communication with such a configuration.

The Zephyr has a wingspan of 25 meters and weighs less than 75 kg. According to Airbus, a single aircraft provides coverage equivalent to that of about 250 cell phone antennas.

ntt : Nippon Telegraph and Telephone Corporation | nttmcn : NTT DOCOMO, INC. | spjsat : SKY Perfect JSAT Holdings Inc. | nia : Airbus SE

i7902 : Telecommunication Services | i7902202 : Mobile Telecommunications | i79022 : Wireless Telecommunications Services | i364 : Aerospace Products/Parts | i79026 : Integrated Communications Providers | i97411 : Broadcasting | iaer : Aerospace/Defense | iindstrls : Industrial Goods | imed : Media/Entertainment

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IPD Europe

PUB Edgardo Daniel Gimenez Mazo

AN Document AVONLEN020220117ei1h0002t



HD BRIEF-Airbus, NTT, DOCOMO And SKY Perfect JSAT Jointly Studying Connectivity Services

From HAPS

WC 68 words

**PD** 17 January 2022

**ET** 08:50

SN Reuters News

SC LBA

**LA** English

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Jan 17 (Reuters) - Airbus SE:

\* AIRBUS, NTT, DOCOMO AND SKY PERFECT JSAT JOINTLY STUDYING CONNECTIVITY SERVICES FROM HIGH-ALTITUDE PLATFORM STATIONS (HAPS)

TD

\* LAUNCHED WITH A MEMORANDUM OF UNDERSTANDING (MOU), STUDY AIMS TO IDENTIFY EARLY DEPLOYMENT REQUIREMENTS OF A HAPS-BASED NETWORK Source text for Eikon: Further company coverage: (Gdansk Newsroom)

RF Released: 2022-1-17T09:50:27.000Z

spjsat : SKY Perfect JSAT Holdings Inc. | nia : Airbus SE | nttmcn : NTT DOCOMO, INC. | ntt : Nippon

Telegraph and Telephone Corporation

IN i364 : Aerospace Products/Parts | i7902 : Telecommunication Services | i79022 : Wireless

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NS ccat: Corporate/Industrial News

IPD Business

IPC SERVICE:J

PUB Reuters News & Media Inc.

AN Document LBA0000020220117ei1h012t9



HD Docomo creates mobile cells by placing small plastic antenna on dielectric waveguide cable

WC 407 words

PD 17 January 2022SN Telecompaper Asia

SC TELASI LA English

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LP

Japanese operator NTT Docomo has announced it has developed an antenna system capable of creating a high-frequency mobile communication cell when a small (roughly one cubic centimeter) piece of plastic is placed on top of a dielectric waveguide. The solid plastic cube serves as an antenna by creating a "leak" from the **cable** to propagate signals up to several tens of meters. Docomo says it has tested the system with a 60 GHz radio signal, similar to those expected to be used in future 6G networks.

Docomo expects this solution to be used to create instant mobile environments in indoor areas not reachable with highly directional high-frequency signals propagated by outdoor base stations. This system, dubbed 'Drop-n-Prop Antenna', leverages the physical phenomenon of radio waves leaking (propagating) from the contact point created by placing ("dropping") a small piece of plastic on top of a dielectric waveguide carrying the signal.

TD

### Trial details

In the trial, Docomo built a communication area by running a rod-shaped dielectric waveguide made of polytetrafluoroethylene into an indoor area that was inaccessible to external mobile signals. The waveguide was embedded in a length of polystyrene-foam board with one side barely exposed to allow contact with antennas. Multiple communication cells were created simultaneously by placing antennas along various parts of the waveguide. Signal coverage and direction were controlled by changing the material, shape and positioning of the antennas.

Both millimeter waves (28 GHz) for 5G and higher frequencies (60 GHz, etc.) expected to be used for 6G travel in very straight (rectilinear) lines. Docomo's antenna system requires a rod-shaped dielectric waveguide to be run into an area and then embedded in the floors, walls, ceilings, furniture or work surfaces. Communication areas can be constructed unobtrusively in offices, factories etc. and reconfigured by moving the antenna(s) as required.

The new antenna system is also expected to help decrease energy use by propagating signals to desired areas only, thereby eliminating wasteful usage of power to propagate signals in areas where communication is not required.

Docomo to test system using 28 GHz 5G radio signals in H1

Docomo has announced plans to start verifying a system using 28 GHz 5G radio signals in the first half of fiscal 2022 starting this April, to introduce a commercial version of its new antenna system as soon as possible.

co nttmcn: NTT DOCOMO, INC. | ntt: Nippon Telegraph and Telephone Corporation

IN i7902202 : Mobile Telecommunications | i7902 : Telecommunication Services | i79022 : Wireless

**Telecommunications Services** 

NS ccat: Corporate/Industrial News

RE jap : Japan | apacz : Asia Pacific | asiaz : Asia | easiaz : Eastern Asia

PUB Telecompaper BV

AN Document TELASI0020220117ei1h0008f

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Airbus, NTT, Docomo, Sky Perfect JSAT partner on HAPS-based connectivity services HD

WC 245 words

PD 17 January 2022 SN Telecompaper World

**TELWOR** SC **Enalish** ΙΔ

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Airbus, Nippon Telegraph and Telephone Corporation (NTT), NTT Docomo, and Sky Perfect JSAT plan to cooperate on future high-altitude platform stations (HAPS)-based connectivity services as part of a future space-based wireless connectivity ecosystem. Launched with a memorandum of understanding, the study seeks to identify the early deployment requirements of a HAPS-based network.

The collaboration will investigate the use of the Airbus Zephyr solar-powered, stratospheric unmanned aerial system (UAS), and the wireless communication networks of NTT, Docomo and Sky Perfect JSAT to test HAPS connectivity, identify practical applications, develop required technologies and launch space-based wireless broadband services.

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### Partnership details

With the signing of the MOU, the four companies plan to discuss and identify possible future developments necessary to unlock future HAPS-based connectivity services, lobby for standardization and institutionalization of HAPS operations, and explore business models for commercializing HAPS services.

Specific themes will include the applicability of HAPS for mobile connectivity on the ground and base station backhaul, the performance of various frequency bands in HAPS systems, the technological considerations for linking HAPS with satellites and ground base stations, and the establishment of a cooperative system to test a network combining NTN technology, satellites and HAPS.

As separately announced in November 2021, Docomo and Airbus conducted a propagation test between the ground and a "Zephyr S" HAPS aircraft in the stratosphere, demonstrating the possibility of providing stable communication with such a configuration.

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- HD NTT Airbus, NTT, DOCOMO and SKY Perfect JSAT Jointly Studying Connectivity Services from High-Altitude Platform Stations (HAPS) Targeting future global wireless-connectivity services combining satellites and HAPS -
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Airbus, NTT, DOCOMO and SKY Perfect JSAT Jointly Studying Connectivity Services from High-Altitude Platform Stations (HAPS) - Targeting future global wireless-connectivity services combining satellites and HAPS -

TD

January 17, 2022

TOKYO, JAPAN, January 17, 2022 --- Airbus, Nippon Telegraph and Telephone Corporation (NTT), NTT DOCOMO, INC. (DOCOMO) and SKY Perfect JSAT Corporation (SKY Perfect JSAT) jointly announced that they have begun studying the feasibility of collaborating on future high-altitude platform stations (HAPS)-based connectivity services as part of a future space-based wireless connectivity ecosystem.

Launched with a memorandum of understanding (MOU), the study will attempt to identify the early deployment requirements of a HAPS-based network. The collaboration will investigate the use of the Airbus Zephyr, the leading solar-powered, stratospheric unmanned aerial system (UAS), and the wireless communication networks of NTT, DOCOMO and SKY Perfect JSAT in order to test HAPS connectivity, identify practical applications, develop required technologies and ultimately launch space-based wireless broadband services.

In the global push to further advance 5G and eventually introduce 6G, initiatives are under way to expand coverage worldwide, including in the oceans and in the air. Such initiatives will include HAPS, which fly in the stratosphere about 20 km above the earth, and non-terrestrial network (NTN) technologies using geostationary-orbit (GEO) satellites and low Earth-orbit (LEO) satellites. HAPS networks are deemed to be a relatively easy solution for air and sea connectivity and an effective platform for deploying disaster countermeasures and many industrial applications. The provision of space-based radio access network services using NTN technologies, collectively called Space RAN (radio access network), is expected to support worldwide mobile communications with ultra-wide coverage and improved disaster resistance as well enhanced 5G and 6G. In addition, HAPS platforms can also interconnect to the nearest terrestrial network gateway and extend the reach of existing mobile services directly to end-user devices, providing service options including as rural, emergency and maritime connectivity.

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\* Base station backhaul refers to a fixed line that supports high-speed, high-capacity information transmission between a large number of wireless base stations in a mobile communications network and the core network.

### About Airbus

Airbus pioneers sustainable aerospace for a safe and united world. The Company constantly innovates to provide efficient and technologically-advanced solutions in aerospace, defence, and connected services. In commercial aircraft, Airbus offers modern and fuel-efficient airliners and associated services. Airbus is also a European leader in defence and security and one of the world's leading space businesses. In helicopters, Airbus provides the most efficient civil and military rotorcraft solutions and services worldwide.

### About NTT

### About NTT DOCOMO

NTT DOCOMO, Japan's leading mobile operator with over 83 million subscriptions, is one of the world's foremost contributors to 3G, 4G and 5G mobile network technologies. Beyond core communications services, DOCOMO is challenging new frontiers in collaboration with a growing number of entities ("+d" partners), creating exciting and convenient value-added services that change the way people live and work. Under a medium-term plan toward 2020 and beyond, DOCOMO is pioneering a leading-edge 5G network to facilitate innovative services that will amaze and inspire customers beyond their expectations. https://www.nttdocomo.co.jp/english/.

### About SKY Perfect JSAT

SKY Perfect JSAT Corporation is a leader in the converging fields of broadcasting and communications. It is Asia's largest satellite operator with a fleet of 16 satellites, and Japan's only provider of both multi-channel pay-TV broadcasting and satellite communications services. SKY Perfect JSAT delivers wide range of entertainment through "SKY PerfectV!", the most extensive broadcasting platform in Japan with a total of 3 million subscribers. In addition, SKY Perfect JSAT's satellite communications services, which cover Asia, Russia, Middle East, Oceania, North America and Indian Ocean to Pacific Ocean regions, play a vital role in supporting communications infrastructures for mobile backhaul, government, aviation, maritime, oil & gas and disaster recovery. For more information, visit our corporate website (https://www.skyperfectjsat.space/en/) and Space Business website (https://www.skyperfectjsat.space/jsat/en/).

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- NS ccat : Corporate/Industrial News | npress : Press Releases | ncat : Content Types
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HD Airbus, NTT, DOCOMO and SKY Perfect JSAT Jointly Studying Connectivity Services from High-Altitude Platform Stations (HAPS)

WC 919 words

**PD** 17 January 2022

**ET** 10:30

**SN** JCN Newswire

SC JAPCOR

LA English

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- Targeting future global wireless-connectivity services combining satellites and HAPS -

TOKYO, Jan 17, 2022 - (JCN Newswire) - Airbus, Nippon Telegraph and Telephone Corporation (NTT), NTT DOCOMO, INC. (DOCOMO) and SKY Perfect JSAT Corporation (SKY Perfect JSAT) jointly announced that they have begun studying the feasibility of collaborating on future high-altitude platform stations (HAPS)-based connectivity services as part of a future space-based wireless connectivity ecosystem.

TD

Launched with a memorandum of understanding (MOU), the study will attempt to identify the early deployment requirements of a HAPS-based network. The collaboration will investigate the use of the Airbus Zephyr, the leading solar-powered, stratospheric unmanned aerial system (UAS), and the wireless communication networks of NTT, DOCOMO and SKY Perfect JSAT in order to test HAPS connectivity, identify practical applications, develop required technologies and ultimately launch space-based wireless broadband services.

In the global push to further advance 5G and eventually introduce 6G, initiatives are under way to expand coverage worldwide, including in the oceans and in the air. Such initiatives will include HAPS, which fly in the stratosphere about 20 km above the earth, and non-terrestrial network (NTN) technologies using geostationary-orbit (GEO) satellites and low Earth-orbit (LEO) satellites. HAPS networks are deemed to be a relatively easy solution for air and sea connectivity and an effective platform for deploying disaster countermeasures and many industrial applications. The provision of space-based radio access network services using NTN technologies, collectively called Space RAN (radio access network), is expected to support worldwide mobile communications with ultra-wide coverage and improved disaster resistance as well enhanced 5G and 6G. In addition, HAPS platforms can also interconnect to the nearest terrestrial network gateway and extend the reach of existing mobile services directly to end-user devices, providing service options including as rural, emergency and maritime connectivity.

With the signing of the MOU, the four companies will discuss and identify possible future developments necessary to unlock future HAPS-based connectivity services, lobby for standardization and institutionalization of HAPS operations, and explore business models for commercializing HAPS services.

Specific themes will include the applicability of HAPS for mobile connectivity on the ground and base station backhaul,1 the performance of various frequency bands in HAPS systems, the technological considerations for linking HAPS with satellites and ground base stations, and the establishment of a cooperative system to test a network combining NTN technology, satellites and HAPS.

As separately announced on November 15, 2021, DOCOMO and Airbus have successfully conducted a propagation test between the ground and a "Zephyr S" HAPS aircraft in the stratosphere, demonstrating the possibility of providing stable communication with such a configuration.

Base station backhaul refers to a fixed line that supports high-speed, high-capacity information transmission between a large number of wireless base stations in a mobile communications network and the core network.

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### About NTT

NTT believes in resolving social issues through our business operations by applying technology for good. We help clients accelerate growth and innovate for current and new business models. Our services include digital business consulting, technology and managed services for cybersecurity, applications, workplace, cloud, data center and networks all supported by our deep industry expertise and innovation. As a top 5 global technology and business solutions provider, our diverse teams operate in 80+ countries and regions and deliver services to over 190 of them. We serve over 80% of Fortune Global 100 companies and thousands of other clients and communities around the world. For more information on NTT, visit www.global.ntt/.

### About NTT DOCOMO

NTT DOCOMO, Japan's leading mobile operator with over 83 million subscriptions, is one of the world's foremost contributors to 3G, 4G and 5G mobile network technologies. Beyond core communications services, DOCOMO is challenging new frontiers in collaboration with a growing number of entities ("+d" partners), creating exciting and convenient value-added services that change the way people live and work. Under a medium-term plan toward 2020 and beyond, DOCOMO is pioneering a leading-edge 5G network to facilitate innovative services that will amaze and inspire customers beyond their expectations. <a href="https://www.nttdocomo.co.jp/english/">https://www.nttdocomo.co.jp/english/</a>.

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HD DOCOMO Develops Solution to Create High-frequency Mobile Cells By Placing Small Plastic Antenna on Dielectric Waveguide Cable

WC 596 words

**PD** 17 January 2022

**ET** 10:16

SN JCN Newswire

SC JAPCOR

LA English

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- Instant, flexible, low-cost mobile communication in hard-to-reach indoor locations -

TOKYO, Jan 17, 2022 - (JCN Newswire) - NTT DOCOMO, INC. announced today that it has developed an antenna system capable of creating a high-frequency mobile communication cell when a small (roughly one cubic centimeter) piece of plastic is placed on top of a dielectric waveguide. The solid plastic cube serves as an antenna by creating a "leak" from the **cable** to propagate signals up to several tens of meters. DOCOMO successfully tested the system with an ultra-high-frequency 60 GHz radio signal, similar to those expected to be used in future 6G networks.

TD

DOCOMO envisions its simple, low-cost solution being used to create instant mobile environments in indoor areas not reachable with highly directional high-frequency signals propagated by outdoor base stations.

This system, named "Drop-n-Prop Antenna," takes advantage of the physical phenomenon of radio waves leaking (propagating) from the contact point created by placing ("dropping") a small piece of plastic on top of a dielectric waveguide carrying the signal.

In the trial, DOCOMO constructed a communication area by running a rod-shaped dielectric waveguide made of polytetrafluoroethylene into an indoor area that was inaccessible to external mobile signals. The waveguide was embedded in a length of polystyrene-foam board with one side barely exposed to allow contact with antennas. Multiple communication cells were created simultaneously by placing antennas along various parts of the waveguide. Signal coverage and direction were controlled by changing the material, shape and positioning of the antennas.

Both millimeter waves (28 GHz) for 5G and higher frequencies (60 GHz, etc.) expected to be used for 6G travel in very straight (rectilinear) lines. It is difficult for such waves to reach devices not in a base station's direct line of sight, or if the signals are blocked by surrounding obstacles (walls, equipment, etc.). DOCOMO's simple, low-cost antenna system being announced today merely requires a rod-shaped dielectric waveguide to be run into an area and then embedded in the floors, walls, ceilings, furniture or work surfaces. Communication areas can be constructed easily and unobtrusively in offices, factories, etc. and reconfigured quickly and flexibly just by moving the antenna(s) as required.

The new antenna system also will help to lower energy use by efficiently propagating signals to desired areas only, thereby eliminating wasteful usage of power to propagate signals in areas where communication is not required.

DOCOMO will begin verifying a system using 28 GHz 5G radio signals in the first half of fiscal 2022 starting this April, aiming to introduce a commercial version of its new antenna system as soon as possible.

DOCOMO will demonstrate the new Drop-n-Prop Antenna system during New windowDOCOMO Open House 2022, which is being held online from today for three days (January 17-19).

About NTT DOCOMO

NTT DOCOMO, Japan's leading mobile operator with over 83 million subscriptions, is one of the world's foremost contributors to 3G, 4G and 5G mobile network technologies. Beyond core communications services, DOCOMO is challenging new frontiers in collaboration with a growing number of entities ("+d" partners), creating exciting and convenient value-added services that change the way people live and work. Under a medium-term plan toward 2020 and beyond, DOCOMO is pioneering a leading-edge 5G network to facilitate innovative services that will amaze and inspire customers beyond their expectations. <a href="https://www.nttdocomo.co.jp/english/">https://www.nttdocomo.co.jp/english/</a>.

Source: NTT DOCOMO

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HD NTT DoCoMo Inc. - Airbus, NTT, DOCOMO and SKY Perfect JSAT Jointly Studying Connectivity Services from High-Altitude Platform Stations (HAPS)

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Airbus, NTT, DOCOMO and SKY Perfect JSAT Jointly Studying Connectivity Services from High-Altitude Platform Stations (HAPS)

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January 17, 2022

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- HD NTT Airbus, NTT, DOCOMO and SKY Perfect JSAT Jointly Studying Connectivity Services from High-Altitude Platform Stations (HAPS)- Targeting future global wireless-connectivity services combining satellites and HAPS -
- CR NTT Nippon Telegraph & Telephone Corporation published this content on 17 Jan 2022 and is solely responsible for the information contained herein. Distributed by PUBT, unedited and unaltered, on 17 Jan 2022 01:03:42 UTC.
- **WC** 1,056 words
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Airbus, NTT, DOCOMO and SKY Perfect JSAT Jointly Studying Connectivity Services from High-Altitude Platform Stations (HAPS)- Targeting future global wireless-connectivity services combining satellites and HAPS -

TD

TOKYO, JAPAN, January 17, 2022-Airbus, Nippon Telegraph and Telephone Corporation (NTT), NTT DOCOMO, INC. (DOCOMO) and SKY Perfect JSAT Corporation (SKY Perfect JSAT) jointly announced that they have begun studying the feasibility of collaborating on future high-altitude platform stations (HAPS)-based connectivity services as part of a future space-based wireless connectivity ecosystem.

Launched with a memorandum of understanding (MOU), the study will attempt to identify the early deployment requirements of a HAPS-based network. The collaboration will investigate the use of the Airbus Zephyr, the leading solar-powered, stratospheric unmanned aerial system (UAS), and the wireless communication networks of NTT, DOCOMO and SKY Perfect JSAT in order to test HAPS connectivity, identify practical applications, develop required technologies and ultimately launch space-based wireless broadband services.

# Fig. 1 Airbus "Zephyr" HAPS aircraft

In the global push to further advance 5G and eventually introduce 6G, initiatives are under way to expand coverage worldwide, including in the oceans and in the air. Such initiatives will include HAPS, which fly in the stratosphere about 20 km above the earth, and non-terrestrial network (NTN) technologies using geostationary-orbit (GEO) satellites and low Earth-orbit (LEO) satellites. HAPS networks are deemed to be a relatively easy solution for air and sea connectivity and an effective platform for deploying disaster countermeasures and many industrial applications. The provision of space-based radio access network services using NTN technologies, collectively called Space RAN (radio access network), is expected to support worldwide mobile communications with ultra-wide coverage and improved disaster resistance as well enhanced 5G and 6G. In addition, HAPS platforms can also interconnect to the nearest terrestrial network gateway and extend the reach of existing mobile services directly to end-user devices, providing service options including as rural, emergency and maritime connectivity.

- Fig. 2 Communication via satellites and HAPS
- Fig. 3 Configuration of space integrated computing network
- Fig. 4 Space RAN system structure

With the signing of the MOU, the four companies will discuss and identify possible future developments necessary to unlock future HAPS-based connectivity services, lobby for standardization and institutionalization of HAPS operations, and explore business models for commercializing HAPS services.

Specific themes will include the applicability of HAPS for mobile connectivity on the ground and base station backhaul,1 the performance of various frequency bands in HAPS systems, the technological

considerations for linking HAPS with satellites and ground base stations, and the establishment of a cooperative system to test a network combining NTN technology, satellites and HAPS.

As separately announced on November 15, 2021, DOCOMO and Airbus have successfully conducted a propagation test between the ground and a "Zephyr S" HAPS aircraft in the stratosphere, demonstrating the possibility of providing stable communication with such a configuration.

1 Base station backhaul refers to a fixed line that supports high-speed, high-capacity information transmission between a large number of wireless base stations in a mobile communications network and the core network.

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#### About Airbus

Airbus pioneers sustainable aerospace for a safe and united world. The Company constantly innovates to provide efficient and technologically-advanced solutions in aerospace, defence, and connected services. In commercial aircraft, Airbus offers modern and fuel-efficient airliners and associated services. Airbus is also a European leader in defence and security and one of the world's leading space businesses. In helicopters, Airbus provides the most efficient civil and military rotorcraft solutions and services worldwide.

### **About NTT**

NTT believes in resolving social issues through our business operations by applying technology for good. We help clients accelerate growth and innovate for current and new business models. Our services include digital business consulting, technology and managed services for cybersecurity, applications, workplace, cloud, data center and networks all supported by our deep industry expertise and innovation. As a top 5 global technology and business solutions provider, our diverse teams operate in 80+ countries and regions and deliver services to over 190 of them. We serve over 80% of Fortune Global 100 companies and thousands of other clients and communities around the world. For more information on NTT, visit <a href="https://www.global.ntt/">www.global.ntt/</a>.

## About NTT DOCOMO

NTT DOCOMO, Japan's leading mobile operator with over 83 million subscriptions, is one of the world's foremost contributors to 3G, 4G and 5G mobile network technologies. Beyond core communications services, DOCOMO is challenging new frontiers in collaboration with a growing number of entities ("+d" partners), creating exciting and convenient value-added services that change the way people live and work. Under a medium-term plan toward 2020 and beyond, DOCOMO is pioneering a leading-edge 5G network to facilitate innovative services that will amaze and inspire customers beyond their expectations.

# https://www.nttdocomo.co.jp/english/.

# About SKY Perfect JSAT

SKY Perfect JSAT Corporation is a leader in the converging fields of broadcasting and communications. It is Asia's largest satellite operator with a fleet of 16 satellites, and Japan's only provider of both multi-channel pay-TV broadcasting and satellite communications services. SKY Perfect JSAT delivers wide range of entertainment through "SKY PerfecTV!", the most extensive broadcasting platform in Japan with a total of 3 million subscribers. In addition, SKY Perfect JSAT's satellite communications services, which cover Asia, Russia, Middle East, Oceania, North America and Indian Ocean to Pacific Ocean regions, play a vital role in supporting communications infrastructures for mobile backhaul, government, aviation, maritime, oil & gas and disaster recovery. For more information, visit our corporate website (<a href="https://www.skyperfectjsat.space/en/">https://www.skyperfectjsat.space/en/</a>) and Space Business website (<a href="https://www.skyperfectjsat.space/jsat/en/">https://www.skyperfectjsat.space/jsat/en/</a>).

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HD NTT DoCoMo Inc. - DOCOMO Develops Solution to Create High-frequency Mobile Cells By Placing Small Plastic Antenna on Dielectric Waveguide Cable

CR NTT DoCoMo Inc. published this content on 17 Jan 2022 and is solely responsible for the information contained herein. Distributed by PUBT, unedited and unaltered, on 17 Jan 2022 01:06:02 UTC.

WC 577 words

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DOCOMO Develops Solution to Create High-frequency Mobile Cells By Placing Small Plastic Antenna on Dielectric Waveguide Cable

TD

January 17, 2022

TOKYO, JAPAN, January 17, 2022 --- NTT DOCOMO, INC. announced today that it has developed an antenna system capable of creating a high-frequency mobile communication cell when a small (roughly one cubic centimeter) piece of plastic is placed on top of a dielectric waveguide. The solid plastic cube serves as an antenna by creating a "leak" from the cable to propagate signals up to several tens of meters. DOCOMO successfully tested the system with an ultra-high-frequency 60 GHz radio signal, similar to those expected to be used in future 6G networks.

DOCOMO envisions its simple, low-cost solution being used to create instant mobile environments in indoor areas not reachable with highly directional high-frequency signals propagated by outdoor base stations.

This system, named "Drop-n-Prop Antenna," takes advantage of the physical phenomenon of radio waves leaking (propagating) from the contact point created by placing ("dropping") a small piece of plastic on top of a dielectric waveguide carrying the signal.

In the trial, DOCOMO constructed a communication area by running a rod-shaped dielectric waveguide made of polytetrafluoroethylene into an indoor area that was inaccessible to external mobile signals. The waveguide was embedded in a length of polystyrene-foam board with one side barely exposed to allow contact with antennas. Multiple communication cells were created simultaneously by placing antennas along various parts of the waveguide. Signal coverage and direction were controlled by changing the material, shape and positioning of the antennas.

Both millimeter waves (28 GHz) for 5G and higher frequencies (60 GHz, etc.) expected to be used for 6G travel in very straight (rectilinear) lines. It is difficult for such waves to reach devices not in a base station's direct line of sight, or if the signals are blocked by surrounding obstacles (walls, equipment, etc.). DOCOMO's simple, low-cost antenna system being announced today merely requires a rod-shaped dielectric waveguide to be run into an area and then embedded in the floors, walls, ceilings, furniture or work surfaces. Communication areas can be constructed easily and unobtrusively in offices, factories, etc. and reconfigured quickly and flexibly just by moving the antenna(s) as required.

The new antenna system also will help to lower energy use by efficiently propagating signals to desired areas only, thereby eliminating wasteful usage of power to propagate signals in areas where communication is not required.

DOCOMO will begin verifying a system using 28 GHz 5G radio signals in the first half of fiscal 2022 starting this April, aiming to introduce a commercial version of its new antenna system as soon as possible.

DOCOMO will demonstrate the new Drop-n-Prop Antenna system during <u>DOCOMO Open House 2022</u>, which is being held online from today for three days (January 17-19).

# \* Original Link

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IN i7902 : Telecommunication Services | i79022 : Wireless Telecommunications Services | i7902202 : Mobile Telecommunications

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PUB PUBT Inc

AN Document PCNVB00020220117ei1h000dx



HD BTB to sell Docomo Pacific wireless services in Guam

WC 136 words

PD 11 January 2022 SN Telecompaper Asia

SC TELASI

LA English

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Docomo Pacific has signed a partnership agreement with Beyond the Box Guam (BTB), a store for Premium Apple products and for customers looking to buy Apple iPhone handsets and accessories without an annual contract. BTB will now serve as exclusive authorized dealer for Docomo Pacific wireless services.

New and existing BTB customers can now purchase Appledevices with mobile services through a Docomo Pacific Prepaid or Postpaid Mobile Plan, all in one place.

TD

Beyond the Box has launched an iPhone 13 giveaway contest in celebration of the partnership. Customers can sign up for a Docomo Pacific Access USD 60 or USD 80 plan in the Beyond the Box Guam Micronesia Mall location until 30 January for an official entry. The winner will be selected on 31 January.

applc : Apple Inc. | nttmcn : NTT DOCOMO, INC. | ntt : Nippon Telegraph and Telephone Corporation

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# HD KT, NTT DOCOMO and Fujitsu test O-RAN in Korea

WC 179 words

**PD** 10 January 2022

SN Optical Networks Daily

SC OBSERV

LA English

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The KT Research and Development Center in Seoul, South Korea, has tested Fujitsu's Open RAN based 5G base station equipment in trials for open fronthaul. NTT DOCOMO provided Fujitsu with technical support throughout the project. With the construction of this new test facility, KT will accelerate the introduction of Open RAN technology to Korea's **5G** network.

The three companies have concluded a Memorandum of Understanding centered on the introduction of software-defined virtualized RAN and RAN Intelligent Controllers (RICs).

TD

The three companies agreed to cooperate towards further activities including the construction of an O-RAN test facility and multi-vendor interoperability testing in Korea.

KT is considering the introduction of multi-vendor Open RAN to reduce equipment procurement and construction costs and to achieve flexible network construction capabilities. To this end, KT and Fujitsu constructed an Open RAN verification facility and conducted testing for multi-vendor interoperability with O-RAN open fronthaul in October 2021.

https://www.fujitsu.com/global/about/resources/news/press-releases/2022/0106-01.html

co nttmcn: NTT DOCOMO, INC. | kortel: KT Corp | ntt: Nippon Telegraph and Telephone Corporation

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IPD Fujitsu

**PUB** Electronics International

AN Document OBSERV0020220111ei1a00004



HD KT Corporation, NTT DOCOMO and Fujitsu Cooperate towards Test Facility Construction and Successful Interoperability Testing for Open RAN in Korea

WC 697 words

**PD** 6 January 2022

**SN** M2 Presswire

sc MTPW

LA English

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LP

Three companies to collaborate towards "5G Open RAN **Ecosystem**" to promote introduction of Open RAN

Tokyo, Global — KT Corporation (hereinafter KT) and Fujitsu Limited (hereinafter Fujitsu) have completed a verification facility at the KT Research and Development Center in Seoul, South Korea, at which the two companies leveraged Fujitsu's Open RAN based 5G base station equipment to successfully test call connection during interoperability trials for open fronthaul (1). NTT DOCOMO, INC. (hereinafter NTT DOCOMO) has provided Fujitsu with technical support throughout the project. With the construction of this new test facility, KT will accelerate the introduction of Open RAN technology to Korea's **5G** network.

TD

As a result of their successful collaboration, the three companies have concluded a Memorandum of Understanding (effective date January 6, 2022), centering on the introduction of software-defined virtualized RAN (hereinafter vRAN) and RAN Intelligent Controller (RIC) (2) in alignment with the "5G Open RAN Ecosystem" (3), an initiative whose participants include NTT DOCOMO and Fujitsu. In this Memorandum of Understanding, the three companies agree to cooperate towards further activities including the construction of an O-RAN test facility and multi-vendor interoperability testing in Korea.

In addition to these activities, the three companies will continue to create market-leading innovations and target the global expansion of Open RAN.

The multi-vendor RAN architecture enables optimum solutions for a variety of deployment scenarios, including small, space-saving base stations that can cover areas in city centers where communication is concentrated, or base stations that can cover wide areas and can thus contribute to efficient and flexible equipment procurement and cost reductions. Open specifications also make it possible to create safe and transparent RAN architecture.

5G mobile networks are becoming increasingly popular in Korea, and the demand for 5G is expected to grow even further in the future. KT is considering the introduction of multi-vendor Open RAN to reduce equipment procurement and construction costs and to achieve flexible network construction capabilities. To this end, KT and Fujitsu constructed an Open RAN verification facility and conducted testing for multi-vendor interoperability with O-RAN open fronthaul in October 2021. For the testing facility, KT has adopted Fujitsu's 5G base stations, which were the world's first O-RAN compliant (4) base stations adopted for commercial service by NTT DOCOMO. The tests involved verification of the interoperability between the base station controllers (CU: Central Unit/DU: Distributed Unit) of Fujitsu's 5G base station equipment and a Korean medium-sized vendor's radio unit, as well as end-to-end communication tests. The companies successfully verified O-RAN compliant operation during the tests.

Fujitsu supplied KT with 5G base station equipment and provided support during the verification tests, while Fujitsu in turn received NTT DOCOMO's technical support for multi-vendor interoperability testing.

Moving forward, KT aims to further expand its verification facilities with an eye toward the future introduction of Open RAN based vRAN and RIC systems.

The three companies plan to further strengthen their collaboration as part of the "5G Open RAN Ecosystem" initiative.

1. Open fronthaul:

O-RAN standardized interface that connects CU/DU and RU.

2. RAN Intelligent Controller (RIC):

RAN Controller able to optimize the management of radio resources and automize operations.

3. 5G Open RAN Ecosystem:

Activity by NTT DOCOMO, Fujitsu and partner companies with the objective to globally accelerate open radio access networks (open RAN), and help enable flexible network deployment to serve diverse company and operator needs in the 5G era, including vRAN commercialization.

### 4. O-RAN compliant:

Compliance with common specification developed by the O-RAN ALLIANCE (Open Radio Access Network ALLIANCE), an industry group that promotes standardization with the aim of realizing a next-generation radio access network that is open and extensible. KT, Fujitsu and NTT DOCOMO are members of the O-RAN ALLIANCE.

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HD KT, NTT Docomo, Fujitsu partner on 5G Open RAN ecosystem testing in South Korea

WC 317 words

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LA English

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LP

South Korean operator KT and Fujitsu have completed a verification facility at the KT Research and Development Center in Seoul. The two companies used Fujitsu's Open RAN based 5G base station equipment to test call connection during interoperability trials for open fronthaul. <u>Japanese operator NTT Docomo</u> has provided Fujitsu with technical support throughout the project. With the construction of this new test facility, KT plans to accelerate the introduction of Open RAN technology to Korea's **5G network**.

TD

As a result of their collaboration, the three companies have concluded a Memorandum of Understanding, to introduce software-defined virtualized RAN and RAN Intelligent Controller in line with the '5G Open RAN Ecosystem', an initiative whose participants include NTT Docomo and Fujitsu. The three partners plan to jointly develop an O-RAN test facility and multi-vendor interoperability testing in Korea. In addition to these activities, the three companies target the global expansion of Open RAN.

KT, Fujitsu started testing for multi-vendor interoperability with O-RAN open fronthaul at end-2021

KT and Fujitsu carried oput an Open RAN verification facility and conducted testing for multi-vendor interoperability with O-RAN open fronthaul in October 2021. For the testing facility, KT used Fujitsu's 5G base stations. The tests involved verification of the interoperability between the base station controllers of Fujitsu's 5G base station equipment and a Korean medium-sized vendor's radio unit, as well as communication tests. The companies verified O-RAN compliant operation during the tests. Fujitsu supplied KT with 5G base station equipment and provided support during the verification tests, while Fujitsu in turn received NTT Docomo's technical support for multi-vendor interoperability testing.

Moving forward, KT aims to further expand its verification facilities with an eye toward the future introduction of Open RAN based vRAN and RIC systems.

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HD KT Corporation, NTT DOCOMO and Fujitsu Cooperate towards Test Facility Construction and Successful Interoperability Testing for Open RAN in Korea

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TOKYO, Jan 6, 2022 - (JCN Newswire) - KT Corporation (hereinafter KT) and Fujitsu Limited (hereinafter Fujitsu) have completed a verification facility at the KT Research and Development Center in Seoul, South Korea, at which the two companies leveraged Fujitsu's Open RAN based 5G base station equipment to successfully test call connection during interoperability trials for open fronthaul (1). NTT DOCOMO, INC. (hereinafter NTT DOCOMO) has provided Fujitsu with technical support throughout the project. With the construction of this new test facility, KT will accelerate the introduction of Open RAN technology to Korea's **5G network**.

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In addition to these activities, the three companies will continue to create market-leading innovations and target the global expansion of Open RAN.

The multi-vendor RAN architecture enables optimum solutions for a variety of deployment scenarios, including small, space-saving base stations that can cover areas in city centers where communication is concentrated, or base stations that can cover wide areas and can thus contribute to efficient and flexible equipment procurement and cost reductions. Open specifications also make it possible to create safe and transparent RAN architecture.

5G mobile networks are becoming increasingly popular in Korea, and the demand for 5G is expected to grow even further in the future. KT is considering the introduction of multi-vendor Open RAN to reduce equipment procurement and construction costs and to achieve flexible network construction capabilities. To this end, KT and Fujitsu constructed an Open RAN verification facility and conducted testing for multi-vendor interoperability with O-RAN open fronthaul in October 2021. For the testing facility, KT has adopted Fujitsu's 5G base stations, which were the world's first O-RAN compliant (4) base stations adopted for commercial service by NTT DOCOMO. The tests involved verification of the interoperability between the base station controllers (CU: Central Unit/DU: Distributed Unit) of Fujitsu's 5G base station equipment and a Korean medium-sized vendor's radio unit, as well as end-to-end communication tests. The companies successfully verified O-RAN compliant operation during the tests.

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### About KT Corporation

KT Corporation, as a digital platform business (DIGICO) that is operated based on AI, Big Data, and Cloud (ABC), we provide advanced information and communications technology (ICT) services based on convergence between cutting-edge IoT technology and business sectors. KT Corporation is committed to leading the way as a business specializing in digital technology that will revolutionize our future way of life by creating social and economic public value and achieving balanced growth in the communications and platform business. https://corp.kt.com/eng/

### About Fujitsu

Fujitsu is the leading Japanese information and communication technology (ICT) company offering a full range of technology products, solutions and services. Approximately 126,000 Fujitsu people support customers in more than 100 countries. We use our experience and the power of ICT to shape the future of society with our customers. Fujitsu Limited (TSE:6702) reported consolidated revenues of 3.6 trillion yen (US\$34 billion) for the fiscal year ended March 31, 2021. For more information, please see <a href="https://www.fujitsu.com">www.fujitsu.com</a>.

## About NTT DOCOMO

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Source: Fujitsu Ltd

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In addition to these activities, the three companies will continue to create market-leading innovations and target the global expansion of Open RAN.

The multi-vendor RAN architecture enables optimum solutions for a variety of deployment scenarios, including small, space-saving base stations that can cover areas in city centers where communication is concentrated, or base stations that can cover wide areas and can thus contribute to efficient and flexible equipment procurement and cost reductions. Open specifications also make it possible to create safe and transparent RAN architecture.

5G mobile networks are becoming increasingly popular in Korea, and the demand for 5G is expected to grow even further in the future. KT is considering the introduction of multi-vendor Open RAN to reduce equipment procurement and construction costs and to achieve flexible network construction capabilities. To this end, KT and Fujitsu constructed an Open RAN verification facility and conducted testing for multi-vendor interoperability with O-RAN open fronthaul in October 2021. For the testing facility, KT has adopted Fujitsu's 5G base stations, which were the world's first O-RAN compliant (4) base stations adopted for commercial service by NTT DOCOMO. The tests involved verification of the interoperability between the base station controllers (CU: Central Unit/DU: Distributed Unit) of Fujitsu's 5G base station equipment and a Korean medium-sized vendor's radio unit, as well as end-to-end communication tests. The companies successfully verified O-RAN compliant operation during the tests.

Fujitsu supplied KT with 5G base station equipment and provided support during the verification tests, while Fujitsu in turn received NTT DOCOMO's technical support for multi-vendor interoperability testing.

Moving forward, KT aims to further expand its verification facilities with an eye toward the future introduction of Open RAN based vRAN and RIC systems.

The three companies plan to further strengthen their collaboration as part of the "5G Open RAN Ecosystem" initiative.

### (1) Open fronthaul:

O-RAN standardized interface that connects CU/DU and RU.

### (2) RAN Intelligent Controller (RIC):

RAN Controller able to optimize the management of radio resources and automize operations.

### (3) 5G Open RAN Ecosystem:

Activity by NTT DOCOMO, Fujitsu and partner companies with the objective to globally accelerate open radio access networks (open RAN), and help enable flexible network deployment to serve diverse company and operator needs in the 5G era, including vRAN commercialization.

### (4) O-RAN compliant:

Compliance with common specification developed by the O-RAN ALLIANCE (Open Radio Access Network ALLIANCE), an industry group that promotes standardization with the aim of realizing a next-generation radio access network that is open and extensible. KT, Fujitsu and NTT DOCOMO are members of the O-RAN ALLIANCE.

## About KT Corporation

KT Corporation, as a digital platform business (DIGICO) that is operated based on AI, Big Data, and Cloud (ABC), we provide advanced information and communications technology (ICT) services based on convergence between cutting-edge IoT technology and business sectors. KT Corporation is committed to leading the way as a business specializing in digital technology that will revolutionize our future way of life by creating social and economic public value and achieving balanced growth in the communications and platform business. https://corp.kt.com/eng/

### About Fujitsu

Fujitsu is the leading Japanese information and communication technology (ICT) company offering a full range of technology products, solutions and services. Approximately 126,000 Fujitsu people support customers in more than 100 countries. We use our experience and the power of ICT to shape the future of society with our customers. Fujitsu Limited (TSE:6702) reported consolidated revenues of 3.6 trillion yen (US\$34 billion) for the fiscal year ended March 31, 2021. For more information, please see www.fujitsu.com.

# About NTT DOCOMO

NTT DOCOMO, Japan's leading mobile operator with over 83 million subscriptions, is one of the world's foremost contributors to 3G, 4G and 5G mobile network technologies. Beyond core communications services, DOCOMO is challenging new frontiers in collaboration with a growing number of entities ("+d" partners), creating exciting and convenient value-added services that change the way people live and work. Under a medium-term plan toward 2020 and beyond, DOCOMO is pioneering a leading-edge 5G network to facilitate innovative services that will amaze and inspire customers beyond their expectations. www.nttdocomo.co.jp/english.

Source: Fujitsu Ltd

- **CO** fuju: Fujitsu Limited | nttmcn: NTT DOCOMO, INC. | kortel: KT Corp | ntt: Nippon Telegraph and Telephone Corporation
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