

MY NETWORK Initiative

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From 2020 on, we can expect the 5G features of high speed and large capacity, low latency, and massive connectivity to bring added convenience and new sensory experiences to many aspects of people's lives. We can also expect smartphones and other advanced devices to give users an even greater sense of real-time, immersive operation. Nevertheless, achieving such sensory experiences that only 5G can offer within the screens and formats of current smartphones is difficult, so the need arises for cutting-edge devices such as head-mounted displays, wearable devices, and hearable devices that can support VR, AR, MR and other XR applications. Against the above background, NTT DOCOMO is promoting the MY NETWORK™*1 concept as a way of coordinating a variety of peripheral devices using a 5G smartphone as hub. The aim here is to develop and deploy advanced services and solutions together with business partners via the DOCOMO 5G Open Partner Program.

1. Introduction

Thanks to the spread of smartphones and tablets in modern society, accessing the Internet or viewing video outside the home is now an extremely common occurrence. In fact, the posting of high-quality photos on a professional level or real-time

video on Social Networking Services (SNSs) by ordinary users is no longer out of the ordinary. In addition, the soon-to-be-deployed 5G features of high speed and large capacity, low latency, and massive connectivity will enable services and solutions that have so far been difficult to achieve while bringing added convenience and new sensory experiences

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*1 MY NETWORK™: A trademark of NTT DOCOMO.

to people's lives.

Furthermore, as smartphones and other devices become 5G compliant, they should become more real-time and immersive in nature. On the other hand, new sensory experiences that leverage 5G strengths are difficult to achieve within the screens and formats of current smartphones, so to enable users to sufficiently experience Virtual Reality (VR), Augmented Reality (AR), Mixed Reality (MR), etc., the need has arrived for cutting-edge devices such as head-mounted displays, wearable devices, and hearable devices that can support XR^{*2}.

In response to this need, NTT DOCOMO proposes “MY NETWORK” as a way of coordinating a variety of peripheral devices with a 5G smartphone as hub with the aim of rolling out advanced services and solutions in collaboration with business partners.

NTT DOCOMO aims to apply the specialized technologies of its partners and to link devices in diverse ways to provide users with a variety of new 5G-unique sensory experiences that could not

be achieved in the past with smartphones alone.

In this article, we provide an overview of MY NETWORK and related services.

2. MY NETWORK

2.1 Overview

The idea behind MY NETWORK is to coordinate not just a single smartphone but also a diverse array of peripheral devices such as XR devices with services and solutions of the 5G era while making full use of the 5G features of high speed and large capacity, low latency, and massive connectivity. The goal here is to configure an advanced network for each and every user and provide new sensory experiences.

NTT DOCOMO aims to link peripheral devices and services/solutions to a smartphone as hub in collaboration with device vendors and service/application vendors through the DOCOMO 5G Open Partner Program. A conceptual diagram of MY NETWORK is shown in **Figure 1**.

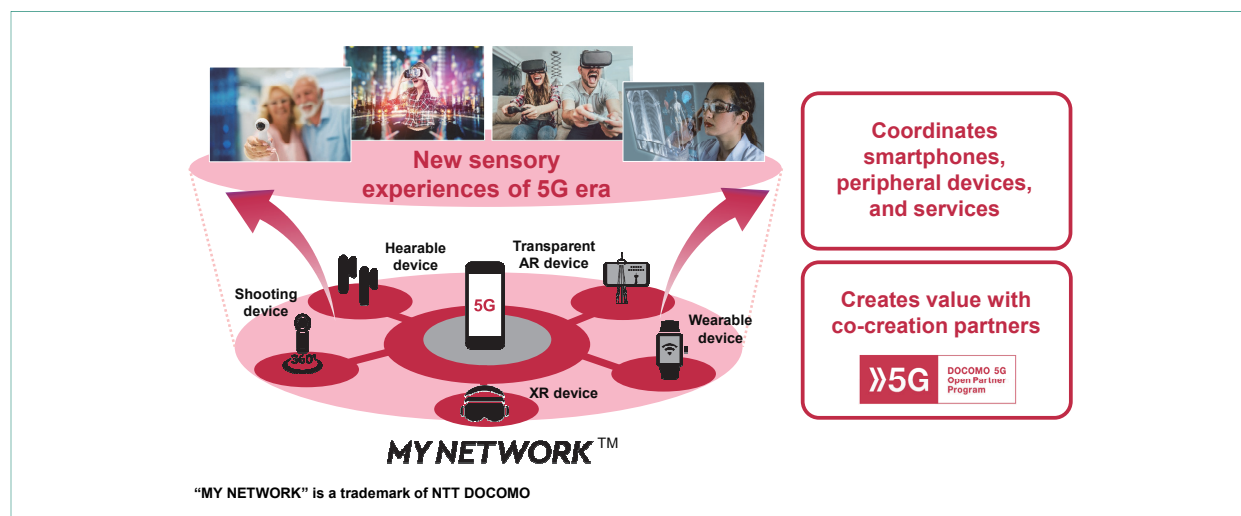


Figure 1 MY NETWORK vision

^{*2} XR: A generic term for AR, VR, MR, etc.

2.2 MY NETWORK Development Activity

As a specific example of MY NETWORK development activity, NTT DOCOMO entered into a partnership agreement with Magic Leap, Inc. for funding and business collaboration in April 2019 with the aim of strengthening its efforts in the area of MR using spatial computing^{*3}.

MR is a technology that can provide new added value heretofore nonexistent such as highly immersive digital sensory experiences and interactive services that merge the real and digital worlds. It is an area that is expected to grow significantly in the years to come. By collaborating with Magic Leap having advanced spatial computing technology, NTT DOCOMO plans to link MR technology with the 5G features of high speed, large capacity,

and low latency, and NTT DOCOMO assets such as d ACCOUNT with the aim of creating MR services using spatial computing and expanding its market within Japan [1] (Figures 2 and 3).

3. Conclusion

This article provided an overview and specific application examples of MY NETWORK, NTT DOCOMO's new initiative in the burgeoning 5G market. NTT DOCOMO has already been conducting 5G trials through its 5G pre-commercial service launched in September 2019, but it will accelerate the creation of new services and solutions for the 5G era toward the launch of 5G commercial services in spring 2020 using MY NETWORK as a part of this effort.

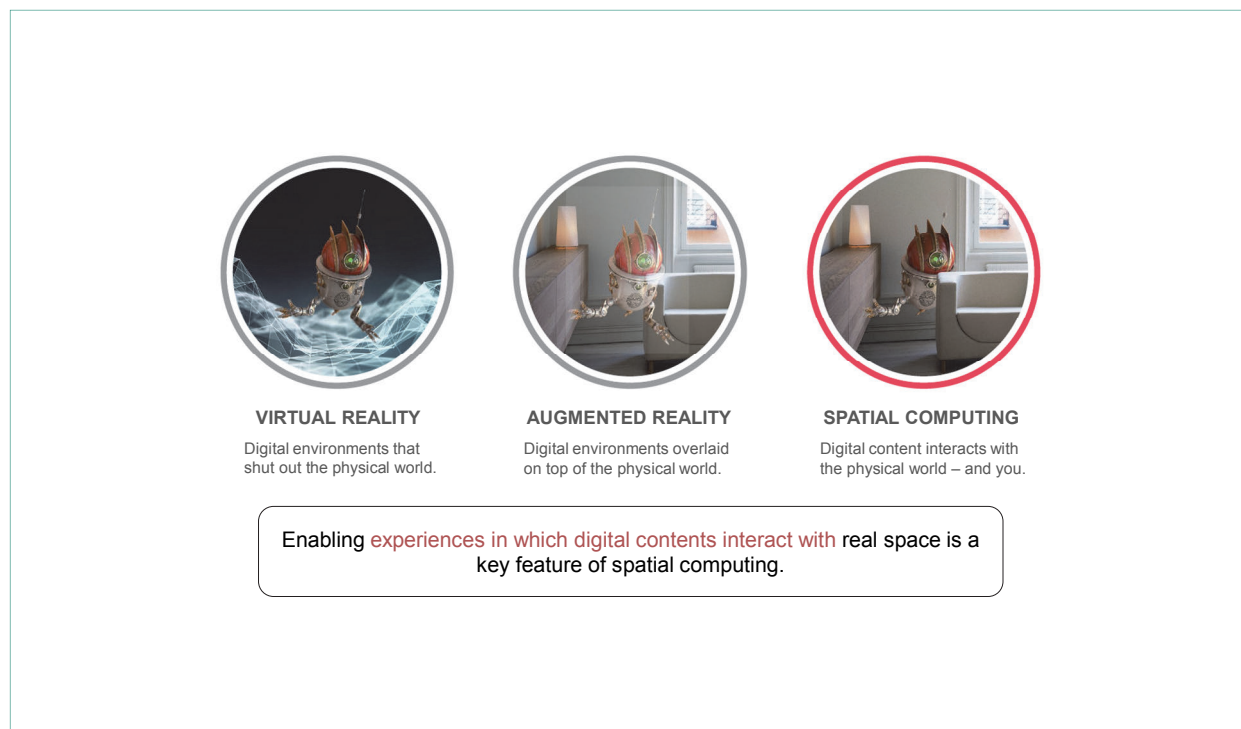


Figure 2 Feature comparison between MR and VR/AR

^{*3} MR using spatial computing: A world that seamlessly integrates the real world and digital world beyond the constraints of a two-dimensional world and that enables us to interact with the digital world in the same way as the real world.

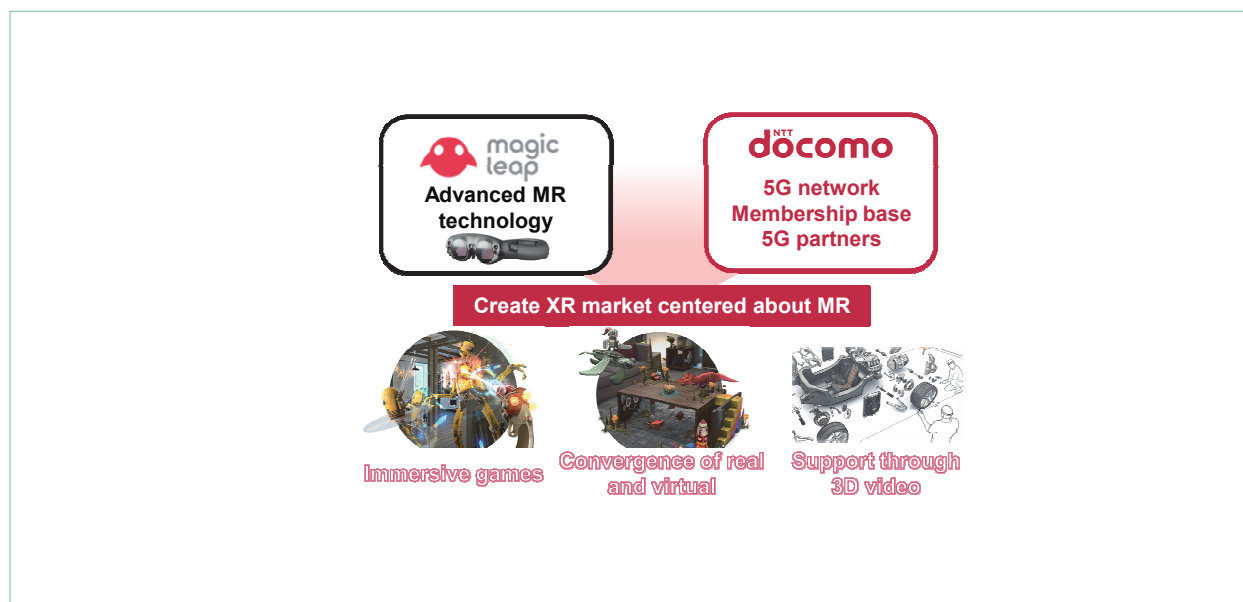


Figure 3 Funding and business collaboration with Magic Leap

REFERENCE

- [1] NTT DOCOMO Press Release: "NTT DOCOMO Enters a Partnership Agreement with Magic Leap, Inc.

for Funding and Business Collaboration," Apr. 2019 (In Japanese).