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ELP Co., Ltd.

MIRAIT Corporation

NTT DOCOMO, INC. Shikoku Regional Office

## **Success in trial of Japan's first multi-angle video transmission using 8K ROI camera system and 5G communication**

### **Making new styles of sports viewing more accessible**

ELP Co., Ltd. (ELP), MIRAIT Corporation (MIRAIT) and NTT DOCOMO, INC. Shikoku Regional Office (DOCOMO) succeeded in a trial of multi-angle video transmission (the System) of horse races using an 8K ROI camera system\*<sup>1</sup> (provided by Panasonic System Solutions Japan Co., Ltd.) and 5G communication on Saturday, December 11, 2021 with the cooperation of Kochi Horse Racing Association for the purpose of promoting new styles of sports viewing. This is the first case in Japan of multi-angle video transmission using an 8K ROI camera system and 5G communication.

In this trial, races held at Kochi Racecourse were shot with an 8K ROI camera, and the HD video cut from this was transmitted using 5G communication and DOCOMO Open Innovation Cloud\*<sup>2</sup>.

Spectators were loaned tablets prepared by DOCOMO and viewed the races in real time from multiple angles. In addition, Tig technology\*<sup>3</sup> (provided by Paronym Inc.) was utilized to let participants to experience functions enabling them to check reference information on race predictions such as video of previous races of a horse by tapping the horse in the video.

The effectiveness of the System was confirmed, with a spectator who experienced the technology commenting, "I think it is an interesting initiative," and a person from the Kochi Horse Racing Association commenting, "Seeing the spectators enjoy the delivery of multi-angle video, I felt that it will lead to people finding new appeal of Kochi Horse Racing."



With the spread of smartphones and broadband mobile communication, multi-angle video delivery is gaining much attention as a new style of sports viewing. Meanwhile, multi-angle video delivery faces the

issue of requiring a large amount of expenses such as equipment and personnel expenses for shooting multiple angles of video, and the cost of laying lines for transmitting the video shot.

The success of the trial made it possible to confirm that equipment for shooting multiple angles and laying lines for transmitting the video shot are not required, and that multi-angle video delivery can be provided at a lower cost than in the past. Furthermore, High-quality video can be viewed in real time by using DOCOMO Open Innovation Cloud.

Going forward, ELP, MIRAIT and DOCOMO will provide the System inside and outside Kochi Prefecture to enable delivery of multi-angle video in a variety of areas and locations such as regional sporting fixtures and other events.

\*1 A camera system enabling four HD videos to be cut from the 8K video, acquiring video equivalent to that from five conventional cameras with a single camera

\*2 "Ultra" low-latency, "ultra" high-security" cloud service utilizing MEC

\*3 Interactive video technology enabling information to be accessed with a touch.

\* "DOCOMO Open Innovation Cloud" is a registered trademark of NTT DOCOMO INC.

## Trial of multi-angle video transmission of horse races utilizing 8K ROI camera system and 5G at Kochi Racecourse

### 1. Overview

A trial was conducted for an initiative in which races held at Kochi Racecourse were shot with an 8K ROI camera, and the video cut from this was transmitted using 5G communication and DOCOMO Open Innovation Cloud.

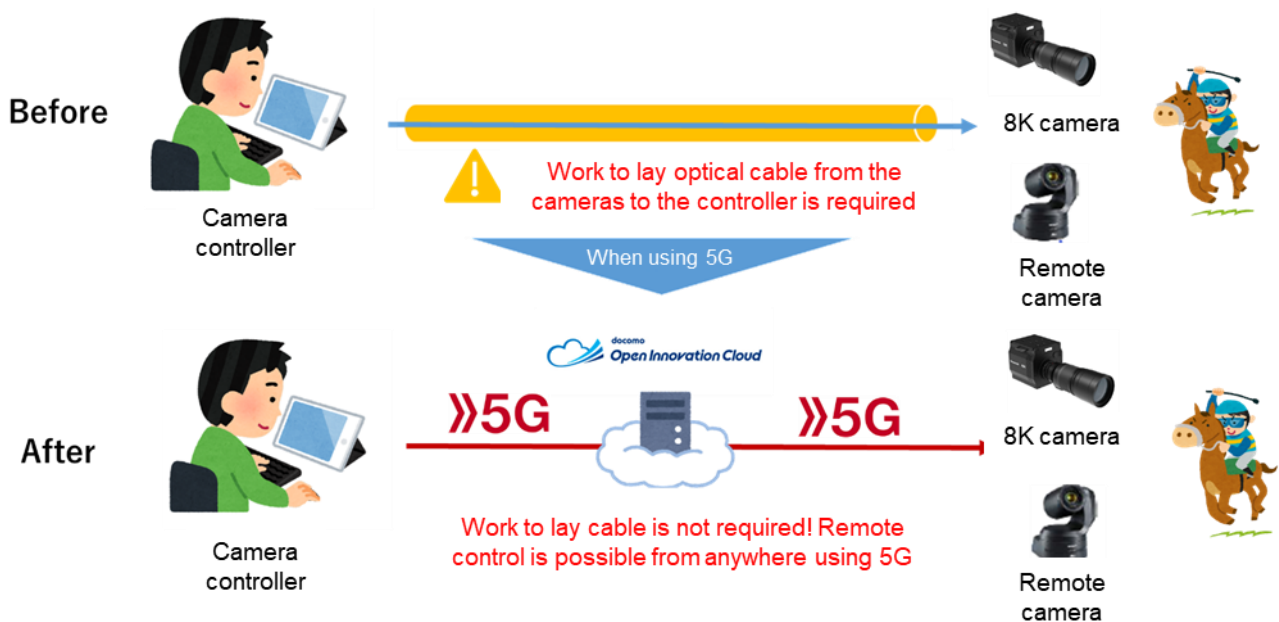
The effectiveness of the 5G multi-angle video system at Kochi Racecourse was verified by loaning out tablets prepared by DOCOMO to spectators to let them view the races in real time from multiple angles.

In addition, Tig technology (provided by Paronym Inc.) was utilized to provide a spectator experience of functions enabling them to check reference information on race predictions such as video of previous races of a horse by tapping the horse in the video.

### 2. Details of the trial

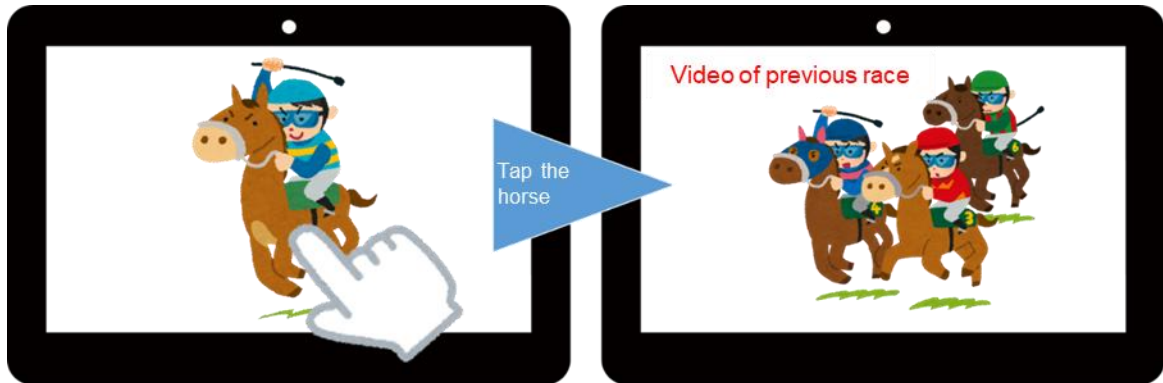
#### (1) Multi-angle video delivery utilizing an 8K ROI camera system and 5G

An 8K ROI camera system enabling the acquisition of video equivalent to that of five conventional cameras with a single camera is employed to reduce the equipment and personnel expenses required for shooting multiple videos. In this project, the use of 5G for connecting the system instead of conventional optical cables reduced the cost of laying lines for transmitting the video shot, creating an environment enabling remote control from anywhere. In addition, creating the video delivery server on DOCOMO Open Innovation Cloud directly connected to the 5G network made it possible to deliver video in real time.



(2) Function for checking reference information on horses utilizing Tig

By using image recognition technology to analyze the video being delivered in real time, it is possible to acquire information used as a reference when horse racing fans make predictions, such as video of previous races by tapping a horse on screen.



3. Roles of the companies

ELP	Operational support
MIRAIT	Creation of a low-latency multi-angle video delivery system
DOCOMO	Provision of DOCOMO Open Innovation Cloud and 5G lines, in addition to overall management of the project