

***NEC successfully provides Olympic and Paralympic Games Tokyo 2020 with wireless systems, congestion visualization systems, face recognition systems and more***

**Tokyo, September 6, 2021** - [NEC Corporation](#) (NEC; TSE: 6701) today announced the successful provision of ICT systems, including next-generation commercial radio systems, congestion visualization systems, and face recognition systems, for the Olympic and Paralympic Games Tokyo 2020 (Tokyo 2020), contributing to the safe, secure, and efficient operation of the Games.

This was the first time that next-generation commercial wireless systems, congestion visualization systems, and face recognition systems for verifying the identities of individuals entering venues were utilized at the Olympic and Paralympic Games.

NEC delivered the following systems for Tokyo 2020.

1. Next-generation commercial radio system (first in the history of the competition)  
NEC delivered a next-generation commercial radio system that combined internationally standardized LTE technology and conventional commercial wireless systems as a communication infrastructure among the parties involved in the event.

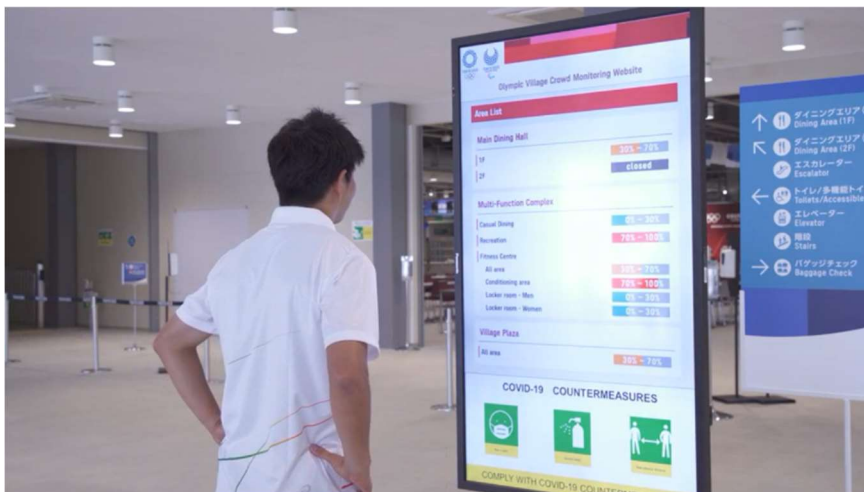
This wireless system was used as an important means of instruction and communication across a wide range of operations for parties involved in the management of the competition, such as the operation of activities at 23 venues of the Tokyo 2020 Games during the competition. NEC's technology combined a professional wireless system, which NEC has cultivated over many years and boasts a high market share in Japan, with an LTE network system compliant with 3GPP (Third Generation Partnership Project), to achieve a highly reliable, durable, secure, and stable wireless environment as part of its private dedicated network.



Application of next-generation commercial radio systems

### 2. Congestion visualization system (first in the history of the Games)

NEC delivered a congestion visualization system utilizing video analysis technology to five facilities in the Olympic and Paralympic Village as a countermeasure against the new coronavirus. Specifically, congestion conditions were analyzed from data collected by congestion detection sensors installed in target facilities (\*1). Smartphone apps were then provided with congestion conditions, enabling facility users to avoid congestion (\*2).



Congestion Visualization System at the Olympic and Paralympic Village

### 3. Face recognition system for verifying the identity of individuals entering competition venues (first in the history of the Games)

NEC delivered a face identification system for verifying the identity of athletes, staff, volunteers, and other members related to the competition as they entered venues that

included the Olympic and Paralympic Village, the IBC (International Broadcasting Center) and the MPC (Main Press Center).

Specifically, face images that were shot and registered in advance, as well as accreditation cards (\*3) equipped with IC chips were linked to the system. This enabled face recognition devices installed at entrance gates to event venues and facilities to perform strict identity verification. In addition, face recognition devices enabled smooth authentication because recognition was performed immediately when an accreditation card was received by a reader. This prevented illegal entry due to lending or theft of ID cards, as well as unauthorized entry due to ID card falsification.

This system is the core technology for NEC's portfolio of biometric authentication technologies, "Bio-IDiom" (\*4), and utilizes face recognition technology with the world's No.1 certification accuracy (\*5).



NEC Face Recognition System

#### 4. Network devices

NEC and Cisco Systems Corporation delivered approximately 16,000 units to support the operation of the Games, including routers, switches, wireless network devices, security network devices, such as firewalls and authentication devices, and network management devices that manage device failures. This system was used in almost all networks, connecting approximately 70 locations operated by the organizing committee, including event sites, the Olympic and Paralympic Village and data centers, in order to ensure stable operations during the event.

NEC also created a network environment with software-defined networking (SDN) for approximately 20,000 PCs used by tournament officials during the event. This was used to set up the initial settings at the time of PC installation, which allowed for flexible settings to be made in accordance with the application.

#### 5. Detection and analytics equipment

In support of the safe operations of the Games, NEC utilized a system for accurately collecting and analyzing information on threats to tournament management that may affect the security of competition venues, aiming to quickly detect and prevent security issues. This system automatically collected various types of information, including SNS information, emergency information such as warnings and accidents, and weather and disaster prevention information in order to contribute to the services provided by the Games Security Coordination Center.

As a Tokyo 2020 Gold Partner in three categories (Specialist Public Safety Equipment & Software, Network Equipment, and Private Network Radio Systems), NEC will continue to contribute to the creation of a safe and secure society by utilizing a variety of advanced ICT in order to create a legacy for the technologies and systems utilized at the Tokyo 2020 Games and to help solve social issues in the future.

#### **Notes:**

\*1) Handling of video data

The data measured by congestion detection sensors does not include any information that identifies individuals. The collected and acquired video data is not used to identify any individual. NEC analyzes data in full consideration of privacy and in compliance with the Personal Information Protection Law and related laws and regulations.

\*2) The congestion status visualization system will be used until September 8 when the Olympic and Paralympic Village is closed.

\*3) "Olympic ID and Accreditation Card" proving that an individual is qualified to participate in the Tokyo 2020 Games

\*4)  **Bio-IDiom**

<https://www.nec.com/en/global/ad/bio-idiom/>

\*5) Since 2009, NEC has repeatedly been ranked first in the face recognition accuracy evaluation by the National Institute of Standards and Technology (NIST).

<https://www.nec.com/en/global/solutions/biometrics/face/index.html>

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### **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 <http://www.nec.com>.

 **Orchestrating a brighter world**

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