

October 7, 2024

Dai Nippon Printing Co., Ltd.

Panasonic Connect Co., Ltd.

DNP and Panasonic Connect to Introduce Facial Authentication System for Entry of Staff at Expo 2025 Osaka, Kansai, Japan

Strict security system to process roughly 100,000^{*1} entrants

Dai Nippon Printing Co., Ltd. (Headquarters: Tokyo, Japan; President: Yoshinari Kitajima; hereinafter "DNP") and Panasonic Connect Co., Ltd. (Headquarters: Tokyo, Japan; Representative Director, President and CEO: Yasu Higuchi; hereinafter "Panasonic Connect") announced today that they will introduce an admission system that will be used to control the admission of Expo-related parties in the management of the Expo 2025 Osaka, Kansai, Japan, hereinafter "Expo 2025" that utilizes facial authentication. In conjunction with this, the AD Centre will be opened today, October 7, 2024, and will be primarily responsible for issuing and receiving AD Pass*.

*AD Passes are admission credential passes for Expo-related parties used for admission management at Expo 2025.

Image of facial authentication entrance

AD Pass image

Expo 2025 is based on the concept of "Future Society Showcase" and aims to be a venue that realizes Society 5.0, inducing innovation by a variety of related parties and implementing it in society. This system, which was selected as part of this effort, combines the strengths of DNP's card issuance system with high security standards and office centre management with high reliability, operational quality, and flexible response capabilities, along with Panasonic Connect's card issuance system with high security standards. It combines the strengths of the world's highest standard^{*2} of facial authentication technology, which has been installed in many sites where robust authentication methods are required, such as large-scale events. This system combines facial authentication and QR authentication^{*3} to achieve smooth and strict identity verification for around 100,000 people at 30 gates used by people at the venue. The two companies will support Expo 2025 by providing a safe, secure, and convenient entrance system.

Role of the two companies

DNP

- Production and issuance of AD Passes
- Operation of AD Centre (issuance and delivery of AD Passes, etc.)

Panasonic Connect

- Construction of facial authentication admission control system

About the facial authentication entrance system

A large number of related parties are expected to enter Expo 2025, including association staff responsible for operations, pavilion participants from each country/region/company, media representatives, and volunteer staff. During peak hours, more than 5,000 people per hour are expected to pass through the gates. Therefore, it is necessary to create an environment that allows the concerned parties to pass through smoothly and without delay, while at the same time ensuring strict identification as a security measure. This system uses a combination of facial authentication and QR authentication to ensure smooth entry and prevent unauthorized entry due to impersonation and falsification of AD Passes by borrowing, lending or theft. A total of 30 units*⁴ of this entry system and gate equipment will be delivered at the venue's official gates.

Purpose of the system

1. Smooth facial authentication system to prevent identity theft

- Facial authentication accuracy to detect impersonation and fraud, such as using someone else's photo for entrance
- Establish an environment that can smoothly authenticate more than 5,000 people per hour
- Facial authentication for outdoor use that is accurate even when backlighting, darkness, or other lighting issues occur

2. Safe and secure AD Pass production, AD Centre operation (AD Pass issuance and delivery)

- By embedding a hologram inside the AD Pass, the system prevents counterfeiting such as peeling off and repurposing
- The AD Centre has established a strict information management system to prevent leakage of personal information including facial image data

3. Consideration for the environment and contribution to a recycling-based society

- The plastic material used for the AD Pass is at least 80% recycled from polyvinyl chloride (PVC) waste and intermediate materials discharged by the packaging plant
- Entrance gates, authentication terminals, etc. will be used as leased materials after the exhibition (reuse and recycle).

Reference

■ DNP (<https://www.global.dnp/>)

- About DNP's security system and office centre operations

AD authentication operations for Expo 2025 will be operated in an environment that conforms to the Privacy Mark and Information Security Management System (ISMS) and meets the security standards required by the venue. Various security measures will be taken for facilities, equipment, and networks, as well as for organizational management and training systems.

DNP also provides one-stop back-office services that handle everything from application acceptance and screening to data processing, card issuance, and dispatch of notifications, as well as a contact centre that handles inquiries. In addition to the business design and operation know-how cultivated over many years, DNP provides speedy, high-quality, and high-security services by utilizing the latest technologies such as automated screening, chatbots (conversational artificial intelligence), and text mining (information extraction through natural language processing).

- About DNP's Environmentally Conscious Cards

DNP has the top share of the domestic IC card manufacturing market and is promoting the use of environmentally friendly raw materials to reduce the environmental burden. In April 2024, the company commercialized an IC card with 100% recycled plastic parts.

■ Panasonic Connect Co., Ltd. (<https://connect.panasonic.com/en/>)

- About Panasonic Connect's Facial Authentication Technology

Panasonic Connect's facial authentication technology has been developed through more than 40 years of experience in camera image processing and deep learning technology to learn facial features, and has received the world's highest rating in the National Institute of Standards and Technology (NIST) facial authentication benchmark test (NIST FRVT 1:1). The system is not easily affected by facial orientation, changes over time, glasses, masks, etc., and can be used comfortably. So far, Panasonic Connect has deployed systems that apply facial authentication technology in such applications as rigorous and smooth identification at airports, ticketless entry at amusement parks, cashless payment at stores, and IC cardless entry/exit at offices, and have performed unique facial authentications more than 300,000 times a day (according to our own research). The company will continue to contribute to the safe, secure, and efficient operation of various authentication sites by combining the world's most advanced facial authentication technology with user experience (UX) design, which it has achieved through a series of verification experiments with client companies and other organizations.

- About the Panasonic Group Pavilion

Panasonic Holdings will exhibit the Panasonic Group Pavilion The Land of NOMO at Expo 2025 under the concept of "Set your heart and mind free, and the world will open up." The name The Land of

NOMO is based on the idea that "how you perceive something changes considerably based on your mindset," and that "minds and objects are like mirrors." The Land of NOMO pavilion, whose tagline is "Unlock your nature," consists of the Unlock Experience Area (922 m²) and the supporting exhibition area, "Earth" (165 m²).

Panasonic Group Expo 2025 website

<https://holdings.panasonic/global/corporate/expo2025.html>

The Land of NOMO Portal WEB site

<https://the-land-of-nomo.panasonic/>

*1 The use of this system is subject to facial authentication as stipulated by the 2025 Japan International Exposition Association.

*2 In the NIST (FRVT 1:1) aging evaluation for Expo 2022 November 6, 2022, the company ranked first in the world for Mugshot (frontal face data including race and aging changes, stranger acceptance rate: 1:100,000). At the same time, the company was ranked 4th in the world for Border (data including face orientation and lighting variation, acceptance rate: 1:100,000) and 5th in the world for KIOSK (data including face down and out-of-sight data, acceptance rate: 1:100,000), achieving the highest level of evaluation in the world.

*3 QR authentication is an authentication method using QR codes.

*4 10 gates for related parties (6 east gates, 4 west gates), 20 gates for both related parties and general visitors

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