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## Panasonic Begins Offering API for Facial Recognition Utilizing Deep Learning Technology

No initial fee, cloud-based service incorporates into smartphone apps, websites, and access management systems

**Osaka, Japan** — Panasonic Corporation announced that starting today the company will begin offering an application programming interface (API) for its facial recognition technology to the market in Japan.

Panasonic first began R&D into facial recognition in the early 1990s, and has continued to perfect these capabilities in various ways by incorporating the technology into consumer products and by applying it to camera-based security solutions. The company has gone on to provide reliable, safe and efficient facial recognition solutions such as for passport control at airports and ticketless entry at amusement parks. Now, Panasonic aims to help customers solve a variety of challenges by offering an API for this same technology.

The API enables deep-learning powered facial recognition technology via a cloud-based service.

### Strengths of Panasonic's facial recognition technology:

1. Feature quantity generation method of recognizing the whole face and certain parts of the face through the integration of multiple deep learning technologies.
2. Proprietary Panasonic algorithm that performs a degree of similarity calculation method for matching faces and controlling errors caused by photographic conditions.

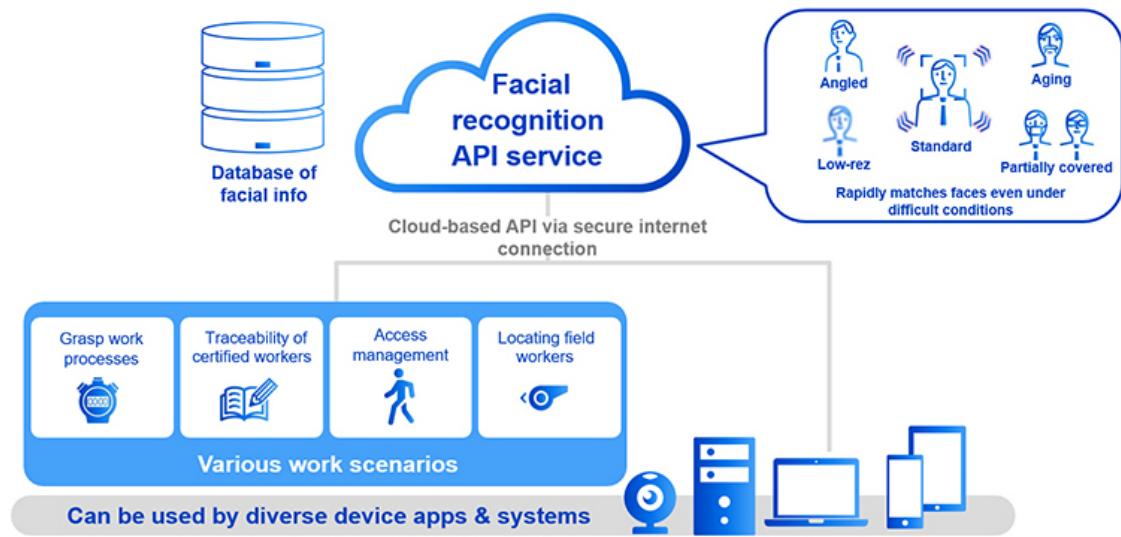
Due to these, Panasonic's facial recognition technology is able to accurately identify faces even under difficult conditions which previously presented challenges to facial recognition, such as when the face is seen from an angle, in difficult lighting conditions, or when the face is partially covered by sunglasses or a surgical mask.

Advancements in ICT and other technologies mean that identity verification and entry/exit management are becoming more efficient. Meanwhile, there are a range of issues related to these that require solutions such as individuals working in logistics fields needing to be able to pass security points even with both hands full, and that employees often work from varying offices all requiring unified access and timecard management. There are also other more serious problems, such as online identity theft.

Panasonic's deep learning-based facial recognition technology can now be used simply by opening this API, making it possible to incorporate the technology into customers' smartphone applications, websites, and building access management systems. This will enable entry/exit management at multiple business sites, streamline movement within offices or work sites, and prevent identity theft. The facial recognition API is a micro service within Panasonic's  $\mu$ Sockets B2B IoT service which is currently available in Japan (see details below).

By adding an API to its facial recognition service lineup, Panasonic has the advantage of being able to offer both on-premises and cloud-based solutions to match its customers' business requirements. Making Panasonic's proven facial recognition technology available to customers and partners through an API will enable it to be used in a wider range of

industries, including for marketing analysis, accounting, and entry/exit management. This will enable further quality improvements and the creation of new collaborative business models with its customers and partners through open innovation. Through this, Panasonic will strive to further accelerate growth and expand its customer base.



Facial recognition API usage scenario

## Main Features of the Facial Recognition API

### 1. Provides world-class advanced facial recognition technology as a cloud service

Panasonic's world-class facial recognition technology is capable of recognizing faces even when seen from an angle, faces that have aged from the registered photo, and faces that are partially covered. The technology also makes use of the backlight correction and noise reduction technology the company has developed as a camera manufacturer.

### 2. Usage-based pricing model, with no initial costs

Monthly costs are based on the number of faces registered and the number of facial recognitions performed. Customers pay the total of the two.

Monthly service charge (excl. tax) = number of faces registered + number of facial recognitions

Face registration charge: 5 yen/person

Facial recognition charge: 1 yen/time

Example of monthly charge:

200 faces are registered, and facial recognition is performed a total of 16,000 times per month (4 times/person/day, 200 people, 20 business days)

$(5 \text{ yen/person} \times 200 \text{ people}) + (1 \text{ yen/time} \times 4 \text{ times/person/day} \times 200 \text{ people} \times 20 \text{ business days}) = 17,000 \text{ yen/month}$

## How to start using the facial recognition API

### 1. Contact / application

Contact a Panasonic salesperson in Japan or inquire through the website to request a subscription or apply to use the facial recognition API.

Launch of an e-commerce site that allows users to complete the necessary application process on their own is scheduled for FY2019.

## 2. Provision of API key, tenant ID, and documents

After creating a subscription, Panasonic will issue an API key and tenant ID for using the facial recognition API, and contact customer regarding API service specifications.

## 3. Service use commencement

Facial recognition service can be used as soon as the API key and tenant ID have been issued.

## About $\mu$ Sockets

$\mu$ Sockets is an IoT service currently available in Japan that utilizes the advanced core technologies and B2B systems provision expertise that Panasonic has accumulated over the years. In addition to the facial recognition API,  $\mu$ Sockets can provide links to various other API services such as out-of-stock detection, demographic (age and sex) estimation, dwell time detection, package sorting assistance, certification issuance, and cyberattack detection. This makes it possible to create new value for customers through various solutions.

## Panasonic Facial Recognition Service Lineup

### 1. System solutions

Panasonic can provide the optimal solution to meet customers' needs by combining options #2-4 below.

### 2. Module packages

Easy to use, general purpose integrated software/hardware packages for facial recognition

-FacePRO: server-based software; available since August 2018

-KPAS: Building access security system; available since April 2019

### 3. Software

Provision of options such as software development kits for partners

### 4. Cloud-based service

API which allows for easy implementation of facial recognition. Management functions to be further expanded.

$\mu$ Sockets, FacePRO, and KPAS are trademarks or registered trademarks of Panasonic Corporation in Japan and other countries.

## About Panasonic

Panasonic Corporation is a worldwide leader in the development of diverse electronics technologies and solutions for customers in the consumer electronics, housing, automotive, and B2B businesses. The company, which celebrated its 100th anniversary in 2018, has expanded globally and now operates 582 subsidiaries and 87 associated companies worldwide, recording consolidated net sales of 8.003 trillion yen for the year ended March 31, 2019. Committed to pursuing new value through innovation across divisional lines, the company uses its technologies to create a better life and a better world for its customers. To learn more about Panasonic:

<https://www.panasonic.com/global>.

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