



National Security Systems
An NEC Company

Industry-leading, in-vehicle real-time facial recognition

NEC Express Vehicle Access (NEVA)



NEC Express Vehicle Access (NEVA) system employs state-of-the-art technology to capture face images and identify individuals inside vehicles as they pass through designated areas. Utilizing a combination of high-resolution cameras, sophisticated sensors, and advanced face recognition algorithms, the solution ensures accurate and efficient identification of vehicle occupants.

At a Glance

- Real-time image processing leveraging sophisticated face detection and recognition algorithms
- Deployable to most location area size and space
- Scalable from a single camera to multi-camera configurations
- Increases convenience and throughput, providing drive-thru like experience

System Description

Using multiple high-resolution images, the system detects faces of the vehicle occupants and performs face recognition as they pass through the designated area. The system is capable of capturing images of all the occupants including those seated in first, second and third rows. The system is versatile and supports a wide range of vehicle types including but not limited to cars, trucks and SUVs. To enhance its capabilities, the system is equipped with infrared illuminators that enable it to capture clear face images even through closed and tinted windows. This feature ensures that the system can operate effectively in all lighting conditions, including at night or in low-light environments.

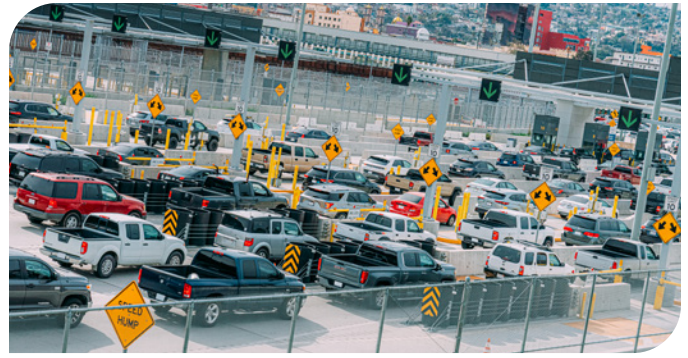
The solution offers flexibility, allowing deployment across a wide range of designated area shapes and sizes and with vehicles travelling at varying speeds, ensuring reliable performance in diverse settings.

The system uses NEC's advanced face recognition* algorithms to group the face images by occupant. Once grouped the system submits the highest quality face image for each occupant to an integrated external system such as NEC's Biometric Matching Software (BMS) or other third-party system.



Technical Specifications

Camera Resolution	12 Mega Pixels
Face Recognition Accuracy	> 99%
Processing Time	< 2 seconds per vehicle
Operating Conditions	All-weather, day and night capability



Key Features

High-Resolution Multi-Camera Setup: Equipped with four or more strategically positioned cameras, allowing for the capture of clear and detailed images of all passengers in a vehicle.

Vehicle Detection Sensors: Integrated sensors detect approaching vehicles, triggering the cameras to capture occupant images.

Face Detection and Clustering: Advanced face recognition technology identifies and de-duplicates occupant images, ensuring everyone is only captured once.

Image Quality Assessment: The system evaluates the quality of captured images, submitting only the best quality for further processing.

External System Integration: Seamlessly integrates with external systems for matching, data analysis, storage, and further action.

Use Cases

Border Crossings, Military Bases and government facilities benefit by accurately identifying all vehicle occupants increasing access. The solution supports a reliable and automated method of capturing occupant faces from moving vehicles and enabling the verification of identities, ensuring that only authorized individuals are allowed.

Key Benefits

Enhanced Security: Reliable identification of all vehicle occupants ensures that only authorized individuals gain access to secure areas.

Increased Efficiency: Automated identification increases access and streamlines vehicle access procedures.

High Accuracy: Advanced face recognition and clustering technology ensure accurate identification and de-duplication of individuals.

Scalability: Easily adaptable to various environments and scalable to handle different volumes of traffic and vehicle types.

Seamless Integration: Compatible with existing security and data management systems for streamlined operations and data handling.

To learn more about NEVA and other innovations in access management, automated recognition, and identity intelligence, visit NEC National Security Systems at necnss.com.

Sources:

[NEC Face Recognition Technology Ranks First in NIST Accuracy Testing](#) - Ranked #1 since 2009 through 2024 in face recognition benchmark tests conducted by the U.S. National Institute of Standards and Technology (NIST).

NEC Corporation of America
Irving, TX
necam.com

NEC National Security Solutions, Inc.
Arlington, VA
necnss.com

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