

Vehicle Occupant Face Capture for High-Confidence Biometric Identity Operations

NEC Express Vehicle Access (NEVA)

Overview

NEC Express Vehicle Access (NEVA) is a modular vehicle occupant face capture suite designed to acquire high-quality facial images of vehicle occupants for biometric matching in real-world operational environments. The suite combines **NEVA OTM**, **NEVA Checkpoint**, and **NEVA Mobile** to support layered capture across moving vehicles, stationary vehicles, open-window scenarios, and closed- or tinted-window conditions. NEVA is designed to support fast, accurate, and scalable biometric identity operations in border security, transportation, secure access, and other mission-critical environments.

Product Suite Components

- **NEVA On-the-Move (OTM)** is an automated, sensor-triggered vehicle occupant face capture solution for vehicles in motion. Using one or more cameras, high-energy NIR flash illumination, and sensor-based event triggering, NEVA OTM captures facial images through windshields and tinted windows, day or night. The system processes one or more point-in-time captures, detects faces, clusters images by occupant, and submits the highest-quality image for each occupant within seconds.
- **NEVA Checkpoint** is a fixed, booth-based face capture solution for stationary vehicles. Using one or more cameras and either infrared or white illumination, it captures occupant face images primarily through open windows. The system is user-activated, then automatically processes video streams to detect faces, cluster images by occupant, and submit the best-quality image for each occupant. It is especially well suited for occupants in the first and second rows of a stationary vehicle.
- **NEVA Mobile** is an officer-operated mobile capture solution that acquires facial images from a smartphone video stream. It provides the greatest operational flexibility for capturing occupant face images across the widest range of vehicle types and conditions. NEVA Mobile is primarily used for open-window capture but can also capture through tinted or closed windows and can support day/night operation with optional illumination. The process is manually started and stopped by the user, while face detection and best-image selection remain automated.



Core Capabilities

- Layered vehicle occupant face capture across approach, checkpoint, and mobile exception-handling scenarios
- Capture in motion or at rest, supporting both moving and stationary vehicles
- Through-glass and open-window capture, including windshields, tinted windows, and open side windows
- Day/night operation using NIR or white illumination, depending on mission need
- Automatic face detection, clustering, and best-image selection for each occupant
- Rapid image submission within seconds of capture
- Support for a wide range of vehicle types, including cars, SUVs, and trucks
- Flexible deployment architectures adaptable to varied site conditions and operational requirements
- Durable, all-weather design for demanding outdoor environments
- High-resolution image acquisition suitable for biometric matching workflows

Biometric Matching Foundation

NEVA supports identification and verification of individuals through biometric matching against enrolled galleries using NEC NeoFace face recognition algorithms. NEC's algorithms support both 1:1 verification and 1:N identification and are designed for high-confidence identity operations where speed, scalability, and accuracy are critical. They are engineered to perform in real-world environments with variable lighting, off-angle poses, partial occlusions, and unconstrained image capture, and can be deployed at the edge, on-premises, in the cloud, or in hybrid architectures through standards-based interfaces. NEC's technology has repeatedly demonstrated leading results in NIST face recognition evaluations, reinforcing its suitability for operational-scale deployments.

Mission Applications

NEVA is well suited for:

- Border and port-of-entry vehicle processing
- Secure facility and checkpoint access control
- Transportation and critical infrastructure protection
- Public safety and law enforcement identity operations
- Government and enterprise vehicle screening environments



Summary

NEC Express Vehicle Access (NEVA) delivers a modular, mission-ready vehicle occupant face capture capability that combines automated on-the-move capture, fixed checkpoint capture, and officer-directed mobile capture to maximize facial image acquisition across real-world vehicle scenarios. Paired with NEC's industry-leading biometric matching technology, NEVA enables fast, accurate, and scalable identity verification and identification for high-throughput, security-sensitive operations.



[Click here](#) to speak with an expert to learn more about
NEVA

Sources:

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

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