

# AIRPORT SECURITY

Air travel has become the standard not only for international and intercontinental travel but also in travels between cities. Decreasing travel costs and time efficiency make air travel attractive. This makes airports more crowded than ever. Airports are frequented not only by citizens who travel within their countries, but also by diplomatic visitors, state officials, foreign and domestic tourists, and immigrants. This density makes airports vulnerable to acts of provocation, terror, and organized crime.

As terrorism becomes an increasingly global threat, the proportions of the problem makes such vulnerabilities intolerable. Unfortunately, it is not possible to fortify airports against crime by increasing the number of security personnel or the resources allocated to security. The anthill crowdedness of airports obliges security personnel to mince their attention to attend to more than one problem or check more than one subject, and in such an environment gaps and blindspots are inevitable. Therefore, airport security must be entrusted to flexible and expandable technological systems.

Papilon airport security solutions offer all that is required for high security airports. The Biometric Integrated E-Gate system verifies the identities of citizens, tourists and immigrants using biometric data and detects any potentially dangerous person right at the door. Thanks to the E-Gate, people who have affiliations to previous crimes can be effectively filtered. The Papilon Biometric Integrated E-Gate system, which can work both with the central biometric data management system APFIS and local databases, prevents the entry of these people by creating watch lists containing the records of suspects and criminals. The central dataset ensures that all citizens go through security control within seconds, preventing long queues and stampedes. Biometric modules integrated to the E-Gate verifies the identities of citizens separately. This means that every conclusion or match is double-checked with the help of at least another module. This double check mechanism minimizes the margin of error and ensures high accuracy.

Our system prevents possible misidentification and mishandling and protects both the citizens' rights and the security organization's integrity. Prints taken with the E-Gate system are run within the central dataset for matches. If the said print returns multiple matches at the same match-rate, it means that the person in question likely committed document forgery and identity fraud. The prints taken with our modules are run within the both demographic and criminal datasets. Any matches from the criminal dataset hints that the person had been previously involved in a crime. If the system returns a print match linked to an unsolved case, this means that the subject was involved in an unsolved crime. Such breadth and depth is not possible with manual ID checks. The central biometric data system APFIS stores individuals' biometric data alongside their demographic and personal information. In this way, the document reader and chip reader integrated into the E-Gate can read the MRZ in the electronic IDs and passports and the information retrieved can be compared to the records stored in APFIS. Thus, any discrepancies between the information provided by APFIS and the MRZ hint at the use of inauthentic IDs, passports, or visas. This feature is very useful in detecting people who try to evade justice with the help of forged documents while they are pending a trial or a verdict. Local datasets used with the E-Gate system are effective not only in identifying suspects but also in identifying and protecting diplomatic visitors, foreign entrepreneurs and investors, and athletes who do not use the VIP entrances and exits, but could be targeted due to tensions in the socio-political atmosphere.





But Papilon's airport security solutions comprise not only of the E-Gate. Papilon Security Monitoring System assists the security personnel with its great capacity to collect and store footage. The system can display real-time footage collected from ten different cameras on the same monitor. Its flexibility and scalability saves the administrators the trouble to integrate and mingle different systems together to decrease the pressure on the main system or establish new systems for every annex building or new office.

The system's ability to monitor vast areas allow the personnel to "visually patrol" the area all the time. Our real-time facial recognition system Papilon SnapFace is integrated into the Security Monitoring System and NuiTrack, Papilon's skeleton analysis and motion tracking system extends the capabilities of Papilon Security Monitoring System far beyond an ordinary security camera system. SnapFace provides real-time, uninterrupted security control not only at the checkpoints and entrances and exits, but also at the entire airport, by querying the live image faces in the central face dataset. Thanks to SnapFace, not only the passengers but also non-travelers such as the relatives, officers, and store employees at the airport are checked to ensure safety.

Our skeleton and gesture analysis software **NuiTrack**, scans the footage for signs of violent behavior. NuiTrack can recognize more than one hundred actions such as pushing, hitting, yelling, and many others that could be signs of rush and rage. Thus, any violent or damaging behavior can be caught and prevented right at the onset. The system momentarily identifies the person who shows signs of violence via **SnapFace**, and relays the ID and location information to the security personnel for immediate action.

Thanks to its integrated, multi-modal systems, papilon redefines security and shows that safety is not about systems, it is first and foremost, is about a holistic approach.

