Wrong way detection for airport security

Preventing unauthorized passenger movement between secured/unsecured areas is a fundamental part of airport security. Unlike entry points, most exit points do not require the explicit checking of passenger credentials and are often meant as points of no return. At times, passengers may go in the wrong direction by mistake, hindering foot traffic flow and impeding general operations. But there is also the threat of wrongdoers using these access points to enter certain areas with malicious intent.

To prevent passback or "wrong way" travel, most critical points of no return are monitored by security personnel or protected by uni-directional auto-gates. Auto-gates can be cost-prohibitive (especially for smaller airports) while the cost to staff a single controlled access point 24/7 with a dedicated security guard is a minimum of $175,000 USD per year. These costs are justifiable for high security areas like immigration or main exit lanes but are unfeasible for the multitude of walkways and doors traversed upon arrival. In addition, security guards, being susceptible to human error, may inadvertently let people pass in the wrong direction undetected or unchallenged.

In 2010, a serious "wrong way" incident at Newark caused flights to be grounded and the terminal shutdown for several hours when officials could not identify the individual. If a wrong way detection security procedure had been implemented, airport security could have been automatically notified when the event occurred, and would have been able to respond appropriately.

Using video analytics to detect wrong way movement

Using video analytics for wrong way detection is an inexpensive way to leverage existing camera surveillance infrastructure while reducing security personnel requirements and providing a second level of defence at manned checkpoints.

Available with the Senstar Symphony video management system (VMS), Senstar's Indoor People Tracking (IPT) video analytic can track the direction of people moving across virtual fences or tripwires. If a person enters into an area from the wrong direction, an alarm is generated in the control room. Nearby security personnel can receive the alarm on a mobile device via an SMS text message (or other communication method), view a captured image of the event, and take immediate action.

Wrong-way monitoring works independently of the presence of checkpoint personnel and can be used in any area monitored by an airport security camera.

Senstar's Indoor People Tracking video analytic can detect passengers entering areas from the wrong direction

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Example: Detecting entry via an exit point

In this example, the Indoor People Tracking video analytic is configured to detect people entering an area via an exit-only point (i.e., moving from top to bottom).

A virtual fence tripwire event is used to detect the direction of movement across the threshold and generate an alarm.
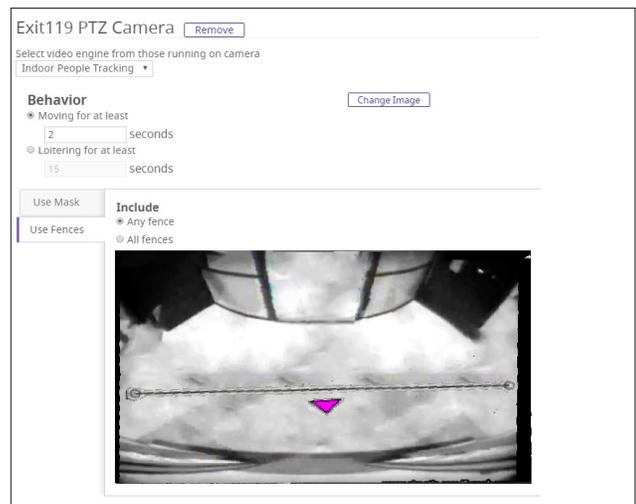
Generating wrong way alarms

The Indoor People Tracking video analytic can be used to trigger alarms in the Symphony VMS. In addition to displaying the associated camera and an on-screen message, Symphony can:

- Flag the event in the timeline for later retrieval

- Display on-screen instructional text

- Send an email or SMS message to security personnel with links to a captured image

- Trigger other security devices or systems

Symphony VMS configuration for wrong-way tracking

Optimizing security personnel resources

Automating the detection of wrong way travel frees up limited personnel resources to focus on other security responsibilities. In a time when many US airports are under increasing pressure to reduce operational costs, implementing wrong-way detection via Senstar video analytics makes perfect sense – it costs only a fraction of that of a single security guard.

By leveraging the existing surveillance network investments and being natively supported by the Senstar Symphony VMS, wong way detection is easy to deploy and provides an immediate return on investment.

Symphony VMS showing wrong way tracking

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