Evolv Express® System

Privacy & Data Security

Your visitors' privacy drives our system security

Evolv Express is a physical security screening system that keeps high-volume entrances flowing at a seamless pace by reliably detecting weapons as visitors walk through without slowing down or stopping. Protecting the data we collect and minimizing the amount of data stored by the system drives the Evolv approach to privacy and security.

Data Generation and Storage

Evolv Express screens for metallic-based threats using extremely low frequency radio waves (ELF), similar in range to those widely deployed in thousands of stores for electronic theft prevention. During the screening process, Evolv Express generates three types of data that can be visible to and used by the operator:

- Sensor data used to determine if a visitor might be carrying a potential threat
- Camera data used to match sensor result with, and highlight the general area of concern on, a visitor
- Statistical data used to provide analytics and insights for visitor flow and alarm rates and threat type visibility

Additionally, self-diagnostics and system health data are collected during start-up and operation to complete system calibration.

Sensor Data: The system uses sensors to drive performance and operation. Sensor data is automatically analyzed by artificial intelligence (AI) algorithms that can distinguish readings generated by everyday items from those generated by potential threats. When a potential threat is detected, results are presented to guards via a visual alert.

Camera Data: The system combines sensor data with camera data to quickly provide an on-screen alert to guards, indicating which individual caused the alarm and where on their person or baggage the threat was detected.

Statistical Data: The system collects visitor counts and alarm rates at each entrance, including time and date. This data is available on the tablet, where it can be viewed and manually reset. Even if the data is reset, it is stored by the system and made available through cloud connectivity to a browser-based portal for venue security and operations staff to use in future analysis and planning activities. The system administrator (customer) can disable this functionality if they wish.



Evolv Express operates in a single- or dual-lane configuration, screening visitors entering a venue at normal walking pace and without slowing down or breaking stride.

Generation and Storage of Screening Results

Sensor data used to determine if a potential threat is present, along with the camera data that display the results, are together referred to as a screening result.

Screening results can be stored locally on the system within a screening result file, provided the system is configured to do so. Screening result files are often 30MB in size or larger and the system can contain thousands of screening result files and tens of thousands of screening results.

Screening result files are deleted on a first-in-first-out basis based on configuration or storage capacity, whichever is more limiting. The system administrator (customer) controls whether the system actively stores screening results.

Screening results are also displayed on a tablet for the system operator to use for resolution purposes. Operators can then clear (dismiss) the screening result during the alarm resolution process.

- The tablet can store up to 100 screening results in local memory (cache).
- Once 100 screening results are stored in the local cache, the tablet automatically deletes them on a first-in-first-out basis determined by configuration or storage capacity, whichever is more limiting.
- All images can be removed from the cache by power cycling the tablet.

Connectivity and Communications

Each Evolv Express system networks a number of hardware devices together, including an LTE router/modem, control computer, cameras, and operator tablets.

Evolv Express makes system health and statistical information available to the AWS S3 cloud through the built-in LTE modem. However, the Evolv Express is entirely functional without an Internet connection and is kept off customer IT and network infrastructure. Keeping Evolv Express off customer networks by default removes an entire pathway of access that attackers could potentially breach.

Our built-in LTE modem provides the ability to remotely monitor the status of your Express systems. This data is sent through an encrypted connection and protected by AWS S3 cybersecurity protocols. The data collected and exported via this service is limited to statistics concerning uptime, scans processed, visitor counts, and alarm statistics. Data uploaded automatically is the same as the information reflected on the operator tablet GUI Statistics page. Cloud connectivity also makes it possible for Evolv technicians to receive diagnostic data for remote service and management to assist in resolving operational issues.

Hardware & Software Security

Evolv Express:

Restricts access to data both physically as well as through cyber security protocols.

Physically restricts access to the system computer and related ports, as well as to the LTE modem. The system computer and LTE modem are located within the main cabinet of the system. To access the main cabinet, a locked panel as well as a secure access door must be removed. The locked panel requires a key for removal, while the secure access door requires a special tool for removal.

Provides cyber security protection through a series of best practices including monitoring and restricting access, as well as locking down and hardening the operating system (e.g., disabling ports and access points, eliminating unnecessary operating system components, etc).

Offers password-protected integrations with security ecosystem software, sharing alert metadata (time, date, location, type of threat) and alert images with other software systems via the cloud, to accelerate response time and facilitiate forensic analysis. In order to share alert images, the customer administrator must consent upon setup to share the data, and alert images are only stored for 7 days by default. In order to share front / rear camera data with an integrated VMS (video management system) software platform, a hard-wired connection must be established. Then, the Express front and rear cameras can act like any other camera system connected to the VMS.

Software security best practices of the Evolv Express system include:

Identity Management / Access control for the tablet user interface limits what is seen to only the amount necessary for User and Administrator roles. A separate Service role surfaces diagnostics information for authorized technicians.

Penetration Testing is performed by an independent third party for every software release.

Multi-factor Authentication for web-based portal ensures only authorized users can access statistical and analytics information. Users are limited to Customer-Basic (no access to analytics information), Customer, and Administrator.

Data Encryption for all communication between control computer and operator tablets (TLS-protected). All communication with AWS cloud-based services is TLS-protected; remote access is TLS-protected; and all communication through the LTE modem is additionally VPN-protected.

Firewalls When remote or physical access connectivity is enabled, Evolv Express relies on two levels of Firewall protection. Inbound and outbound connections are limited only to authorized devices and systems.

About Evolv Technology

Founded in 2013, Evolv Technology is the leader in human security, solving the security screening problems of today with the most innovative technology and thinking. Evolv makes it possible for venues of all kinds to keep visitors and employees safe from concealed weapons, pandemic health threats and intruders. The company's Evolv Express has earned industry accolades that include the 2021 Artificial Intelligence Product Excellence Award, 2020 Edison Awards™, 2020 Campus Safety BEST Award and two Secure Campus 2020 Awards.

Seeing is believing. Watch our latest video or join one of our Experience Evolv Events. Learn more at evolvtechnology.com.

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