

volan



CVG

CVG AIRPORT

CASE STUDY

Executive Summary

Cincinnati/Northern Kentucky International Airport (CVG) has embarked on a groundbreaking initiative to enhance airport safety and efficiency. By implementing the Volan Positioning System (VPS), a cutting-edge, solar-powered, AI-driven location monitoring network, CVG is aligning with the latest FAA safety regulations improving its span of control and saving money. This white paper explores the challenges CVG has faced, the innovative solution provided by VPS, the results of its implementation, and the broader implications for airport operations and safety.

The Opportunity

CVG Airport is the 6th largest cargo airport in North America and 12th largest globally. Every year, about 9 million passengers safely transit through CVG's terminal and concourses. Like countless other airports, CVG frequently relies on contract construction workers to modernize and repair infrastructure across its 7,700-acre campus.

To comply with FAA Safety Management System regulations for a manageable span of control, trained CVG employees escort construction workers while the construction personnel perform work on airport property. This ensures that construction personnel and equipment don't accidentally find their way onto restricted areas, such as active taxiways or runways, thus jeopardizing the safety and security of passengers and aircraft.

This collaboration has set a new standard for airport operations with an 80% reduction in escort labor costs while delivering increased safety and security.

However, sourcing, training, deploying, and managing an adequate number of airport personnel to provide a proper span of control over construction workers is an expensive problem. For example, if a project required twenty escorts to monitor a hundred workers for a year, it could easily cost the airport approximately \$1,000,000. With variations in labor pool availability, such constraints to finding qualified people to fill these roles remain a challenge. CVG's innovative team decided to take a different approach and asked Volan Technology to help.



CVG Airport Case Study



The Solution

Working closely with CVG's operations team, in April 2023, just two Volan employees installed the VPS at a 500,000 square foot airline hangar construction site in under four hours. The VPS is a solar-powered, wireless network that uses secure locators and beacons to precisely monitor airport construction workers and vehicles; it alerts workers, escorts, and other airport officials if someone wanders too close to a restricted area.

Construction workers are required to wear a badge-size VPS locator on a lanyard whenever they enter the predetermined work area. Locators can also be easily installed on construction vehicles and equipment, like bulldozers and forklifts. Unlike civil GPS systems, VPS provides pinpoint accuracy in seconds. And, because VPS creates its own secure, independent network, there aren't issues associated with latency, updates, and loss of network typically associated with using GPS for tasks like driving.

The Result

During the six-month deployment, VPS continually monitored the location of each locator, alerting workers, safety monitors, and operations agents if someone got too close to a restricted area or if someone stepped out of their predetermined work zone. During the test, VPS alerted the CVG operations team to incidents when construction workers were getting too close to a restricted area.

CVG Airport safely transports 9 million passengers annually and is the 6th largest cargo airport in North America. Its campus is 7,700 acres.

Conclusion

CVG's integration of the Volan Positioning System is a prime example of how innovative technology can transform airport operations. The case study illustrates the system's effectiveness in expanding control, ensuring regulatory compliance, and reducing operational costs, offering a valuable model for other airports to emulate. By adopting VPS, CVG has set a new benchmark in airport safety and efficiency management.

Benefits and ROI

The benefits of implementing VPS at CVG include:

- Increased span of control.
- Increased safety and security through continuous monitoring.
- An 80% reduction in escort labor costs, minimizing the number of personnel required.
- Increased asset utilization: airport operations can now instantly locate any asset anywhere on site, reducing idle time, maximizing asset utilization, and preventing loss of valuable equipment.
- Risk mitigation: significant estimated cost savings from preventing runway incursions and other safety incidents.
- Preservation of valuable historical data available for dispute resolution.
- Increased fiscal control: VPS data are an immutable record of labor hours expended by project, shift, day, etc. These data give airports the ability to identify operational inefficiencies, highlight new ways to reduce costs, and increase fiscal reporting.
- Energy savings: solar-powered network has zero energy cost.
- Tracking capabilities: airport operations can better manage ramp operations and ground handling assets while providing various contractor performance metrics.
- Penalty avoidance: ensuring adherence to FAA's safety management rules helps to prevent costly fines.

Key Features of VPS

- Quick deployment: as an independent wireless mesh network with zero dependency on IT infrastructure, VPS can be easily deployed in hours with zero impact on IT.
- Solar-powered, AI-driven, micro-location geofencing network.
- Precise location positioning of valuable assets - workers, vehicles, equipment - in secure areas.
- Geofencing technology to create and accurately monitor movement in restricted zones.
- Instant location alerts to airport security and operations of incursions, people and equipment in unsafe areas.
- Live Map to visualize real-time operations and analytics to identify patterns over time.
- Solar-powered, low power, on-premise wireless network with zero dependency on airport IT.
- Cloud-based, enterprise-level Software as a Service to make it easy and economical for airports to get started and scale up/down as needed.
- NSA-level encrypted data from start to finish; capture, transit, cloud storage.
- Rapid deployment and easy reconfiguration on large dynamic sites.

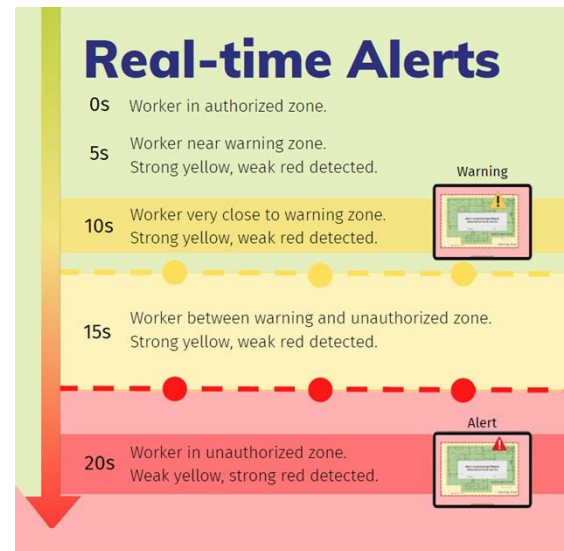


About Volan Technology

Volan Technology offers Advanced Microlocation Technology to deliver unprecedented productivity, security and safety for your organization.

Our solutions for airports, construction, warehousing and manufacturing can provide tremendous productivity and cost savings while improving the safety of your people.

- **We can set up a network in minutes, not months and deliver 10x better location accuracy at less than 20% of the cost of legacy systems.**



Airport Solutions

Our technology provides geofenced barriers for airport construction sites to keep workers and vehicles out of restricted areas and reduces the costs for worker escorts.

- Airport construction projects are never-ending, have many workers, and regulations require full-time monitoring of worker location.
- Volan's technology can provide alerts within 2-3 seconds if a worker moves into a restricted space, along with the precise location of the worker and a live map view.
- Conventional construction projects can't use traditional portable tracking technology because it is fundamentally flawed. GPS positioning has too much latency and inaccuracy, while consumer wearables are too expensive.

Construction Solutions

Our Construction Solution provides construction companies with virtual geofenced barriers for their construction sites. Our construction barrier system solves these technology issues while enabling powerful safety and efficiency benefits.

- Construction projects have many workers, coming and going, and it is essential to keep track of them.
- Construction projects can't use traditional tracking portable technology because it is fundamentally flawed.
- Zone sensors detect wearers (construction workers) that are approaching and exiting the authorized zone, pinpointing their location along the barrier.
- Supervisors are warned when the wearer approaches the barrier and are alerted of a breach when the wearer passes the barrier.
- Organizations can save overhead costs by reducing the number of security guards needed while improving safety.

