

VANCOUVER INTERNATIONAL AIRPORT (YVR)

Vancouver International Airport deploys Quanergy 3D LiDAR to improve the passenger journey

Q-TRACK delivers accurate footfall and queue analytics at domestic check-in and security screening, anonymous by design.

AIRPORT OPERATIONS

PASSENGER FLOW

QUEUE ANALYTICS

PRIVACY-FIRST 3D LIDAR

OPERATIONAL INTELLIGENCE

THE CUSTOMER

A global hub built around the passenger journey

Vancouver International Airport is a diverse global hub that connects people, cargo, data, and ideas. YVR serves its passengers, partners, workers, and community through digital modernization, climate leadership, reconciliation, and financial sustainability.

Supporting that journey requires accurate footfall data across the busiest passenger touchpoints, which legacy counting technologies could not deliver reliably. Quanergy was selected for a privacy-first 3D LiDAR sensing and perception layer that provides the operational insight YVR needs without capturing personally identifiable information.

AT A GLANCE

STATUS	Deployed and delivering insights
ENVIRONMENT	Domestic Check-in and Security Screening facilities
PRODUCTS	Quanergy 3D LiDAR sensors with Q-TRACK perception software
FOCUS	Footfall analysis and passenger journey efficiency
LOCATION	YVR passenger terminal, Vancouver, British Columbia

THE CHALLENGE

Move passengers faster, without guessing at the numbers

- Understand footfall across the passenger journey
- Reduce time spent at domestic check-in
- Reduce time spent passing through security
- Overcome the limits of legacy counting technologies
- Enhance terminal-wide operational efficiency
- Turn movement data into actionable intelligence

THE SOLUTION

3D LiDAR sensing with Q-TRACK perception

Quanergy 3D LiDAR sensors with the Q-TRACK perception platform accurately identify, classify, and track people and objects in real time across Domestic Check-in and Security Screening. Q-TRACK builds a precise 3D understanding of movement in space rather than capturing imagery of individuals: no facial recognition, no PII.

Q-TRACK

3D LIDAR PERCEPTION SOFTWARE

Real time

DETECT, CLASSIFY, AND TRACK

Areas

CHECK-IN AND SECURITY SCREENING

Zero PII

ANONYMOUS BY DESIGN

CHALLENGE → SOLUTION → OUTCOME

CHALLENGE

Improve the passenger journey at check-in and security without accurate, trustworthy footfall data.

SOLUTION

Quanergy 3D LiDAR with Q-TRACK identifies, classifies, and tracks people and objects in real time.

OUTCOME

Data-driven insights that reduce check-in and security time, and increase customer happiness.

DEPLOYMENT ENVIRONMENT

Spatial awareness where passengers queue

Sensors are positioned across Domestic Check-in and Security Screening, the two areas where dwell time compounds fastest. Q-TRACK translates the point cloud into anonymous movement data, so operations teams work from what is happening now rather than from sampled estimates.

- Where passengers move
- Where queues build
- How spaces are being used
- Where staffing is needed

Anonymous by design

3D POINT CLOUD, NOT IMAGERY | FROM LIGHT TO INSIGHT



SECURITY SCREENING AT YVR, MEASURED WITH PRIVACY-FIRST 3D LIDAR PERCEPTION

Through the implementation of Quanergy's solutions, we have harnessed the power of real-time insights, gaining a deep understanding of passenger volumes and the associated wait times at different stages of their journey through the terminal. With this high-precision data at our disposal, we can trigger real-time alerts whenever we approach or exceed predefined thresholds.

JASON WILLIAMS, MANAGER, INNOVATION & TECHNOLOGY GROUP, YVR

BUSINESS & OPERATIONAL OUTCOMES

Accurate data, better decisions, a smoother journey

- Accurate, data-driven insight into passenger movement
- Reduced time spent passing through security screening
- Enhanced operational efficiency in the terminal
- Real-time actionable intelligence for operations teams
- Reduced check-in time for domestic passengers
- Increased customer happiness across the journey
- Significant cost savings against legacy approaches
- Insight gathered without capturing passenger identity

KEY DEPLOYMENT HIGHLIGHTS

Domestic check-in

Footfall measured where the journey starts

Security screening

Throughput and queue visibility at the checkpoint

Real-time tracking

People and objects identified, classified, tracked

Privacy-first

No facial recognition, no PII captured

WHY QUANERGY

See beyond the limits of camera-based counting

Airports need precise operational data and passenger trust at the same time. Quanergy 3D LiDAR with Q-TRACK delivers real-time spatial intelligence that is anonymous by design, so YVR can optimize flow, plan staffing, and improve the experience without monitoring individuals.

PRIVACY-FIRST BY DESIGN

NO FACIAL RECOGNITION

NO PII CAPTURED

REAL-TIME 3D SPATIAL INTELLIGENCE

ANONYMOUS BY DESIGN

OPERATIONAL INTELLIGENCE

PASSENGER FLOW OPTIMIZATION

See how Quanergy turns movement into operational insight

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