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NEW TECHNOLOGY IMPERATIVES FOR PERIMETER SECURITY

KEVIN HANDERSON, *VP OF WEB DEVELOPMENT & SPECIAL PROJECTS*, LRG MARKETING (Moderator)

GERALD BECKER, *VP OF MARKET DEVELOPMENT & ALLIANCES*, QUANERGY

BRAD DONALDSON, *VP OF COMPUTER VISION & GM*, SAFR FROM REALNETWORKS

CHRIS HOBBS, DIRECTOR, NATIONAL ACCOUNTS, ASSA ABLOY OPENING SOLUTIONS

KURT MEASOM, *VP OF GLOBAL ENTERPRISE ACCOUNTS*, BOON EDAM

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QUANERGY®
See beyond.

GERALD BECKER
VP OF MARKET DEVELOPMENT AND ALLIANCES
QUANERGY

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Critical Limitations of Traditional 2D Security Cameras

Incorrect object classification

Even with AI, video analytics sees object in 2D.

This leads to misclassification of objects, poor people tracking, and very high amounts of false and nuisance alarms.

Limited Range and Field of View

Cameras have significantly lower range and narrower field of view generating dangerous blind spots. Cameras' range is further reduced in low-lighting conditions.

Cameras get distracted by objects in motion, wind, large approaching vehicles, etc.

Lack of Continuous Tracking

Need multiple monitors to track people as they move from the range of one camera to the other.

Existing legacy security systems are unable to continuously track object as they move from one camera to the other.

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3D LiDAR solutions critical for the next generation of automation

3D LiDAR Sensor

LiDAR

Time of Flight sensor measures distance of reflected pulses

Point Cloud

Real-time 3D imaging

3D Perception Software

Object classification

People, Vehicle, other
Real-time position, direction and speed

Automation Process

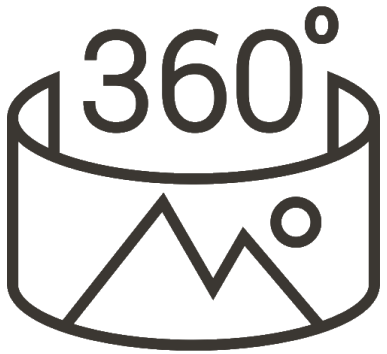
AI/ML applications

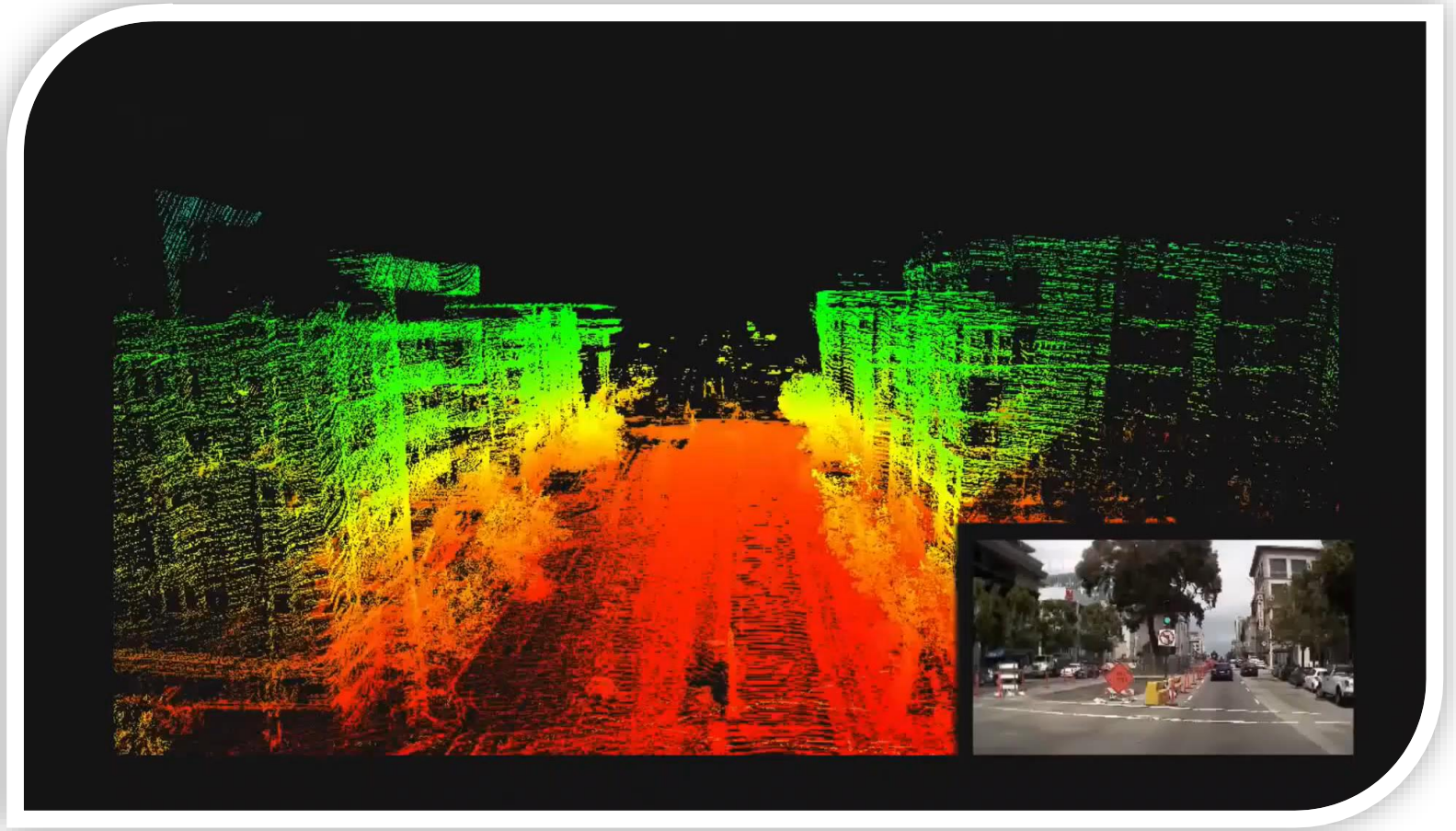
Intruder tracking, traffic and queue management, people counting, etc.

Operates in pitch-dark conditions — 3 football fields coverage with a single sensor — Zero PII risk

3D LiDAR solutions can replace 5-10 cameras with a single sensor

LiDAR in Action





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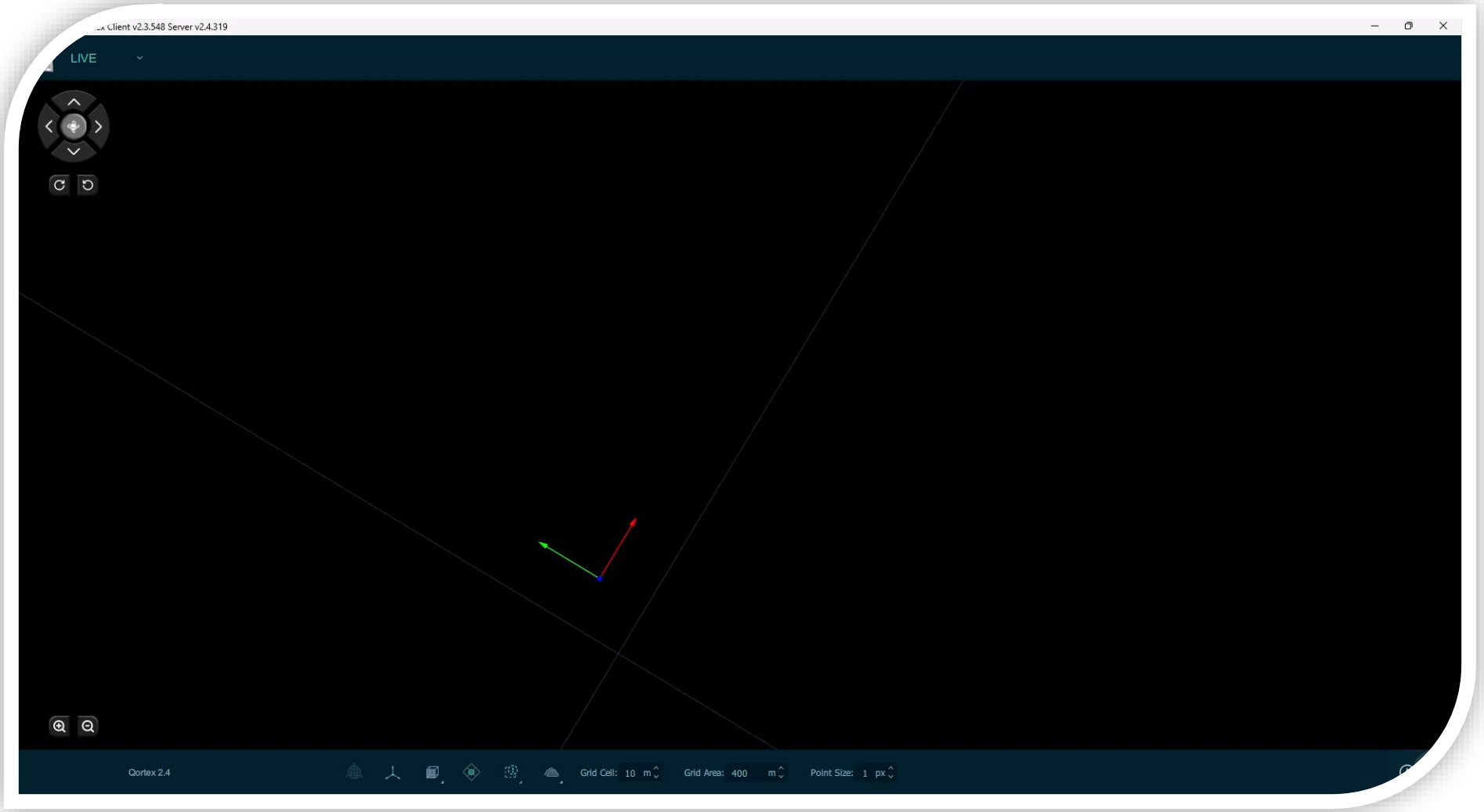
3D LiDAR Software in Action



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Q-Track LR
Security

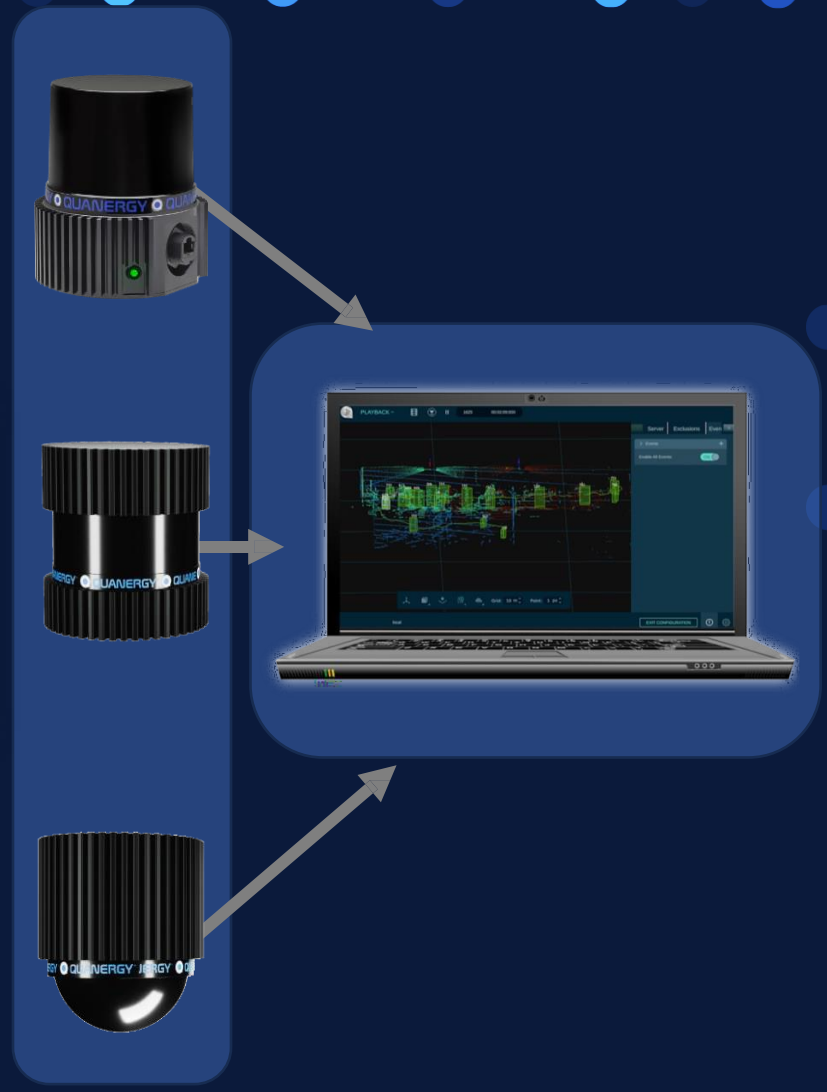
- Ideal for large spaces, perimeters and fence lines
- 140m diameter

Q-Track HD
Security & Flow

- Ideal for perimeters and fence lines, long corridors, tracking large crowds, occupancy, measurements
- 80m diameter, 70° Vertical FOV

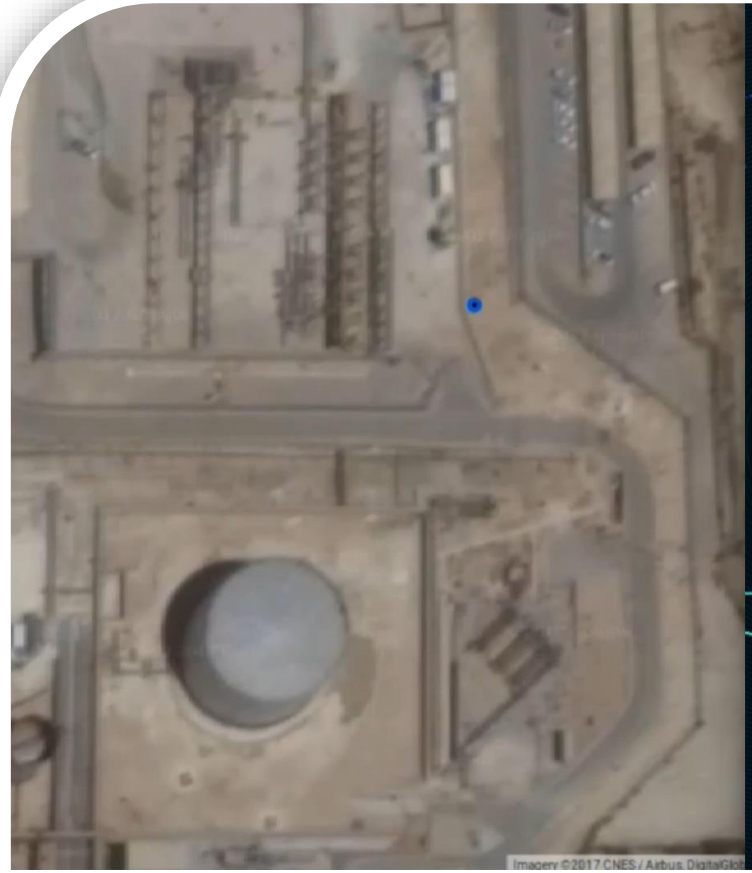
Q-Track Dome
Security & Flow

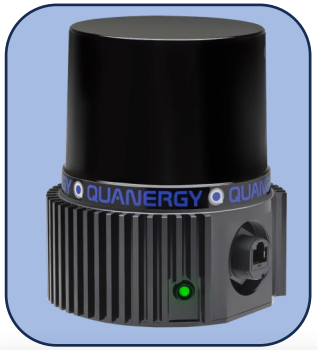
- Ideal for perimeters and fence lines, smaller spaces, lower ceilings, man traps
- 40m diameter, 90° Vertical FOV



99% accurate continuous tracking, and classification – 95% false alarm reduction

PIDs, Long Range Applications





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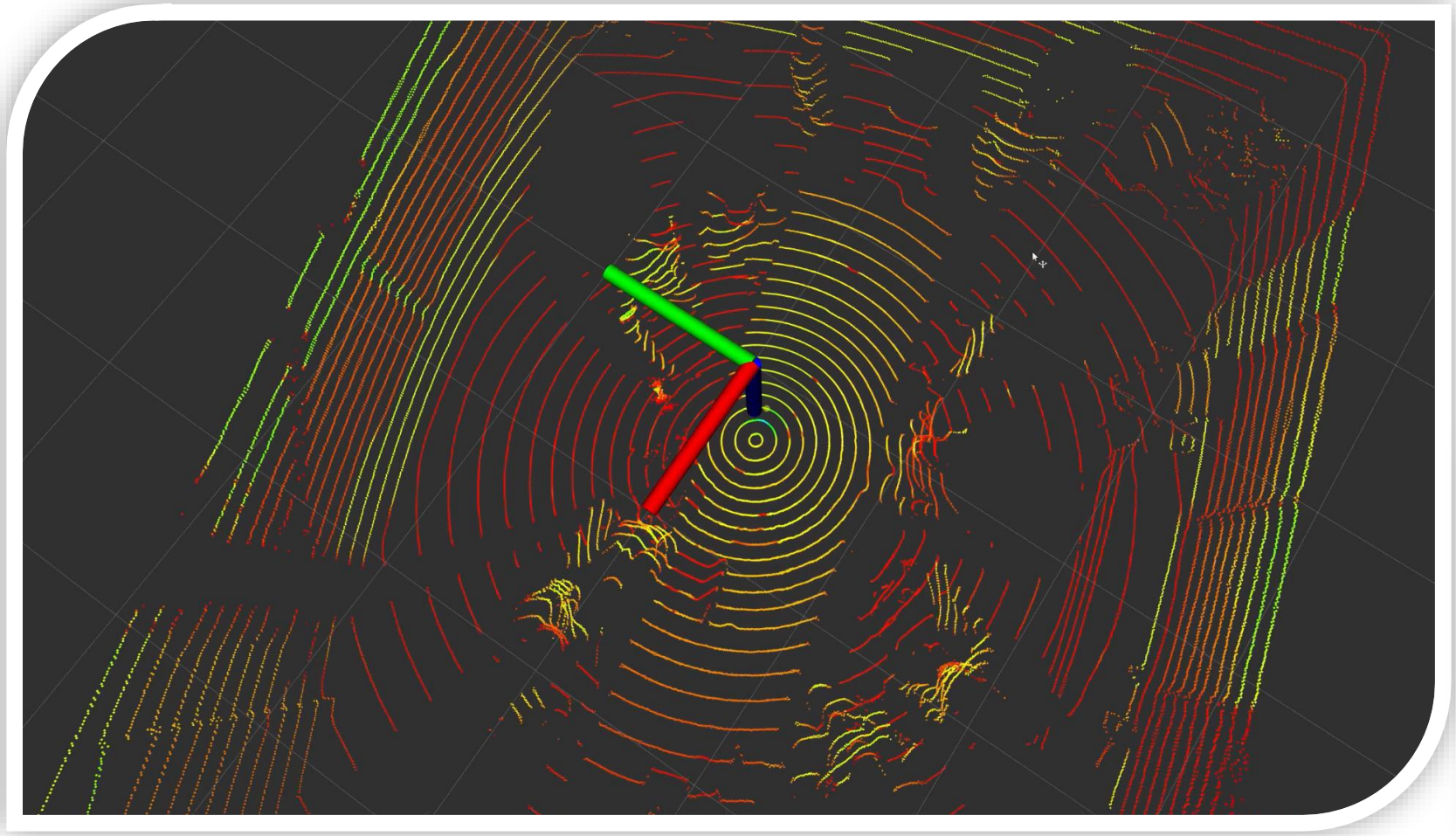
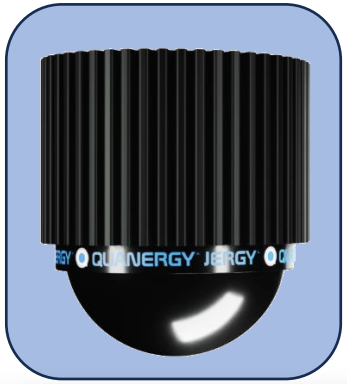
Man traps, Office Evac, Corridors, People Counting





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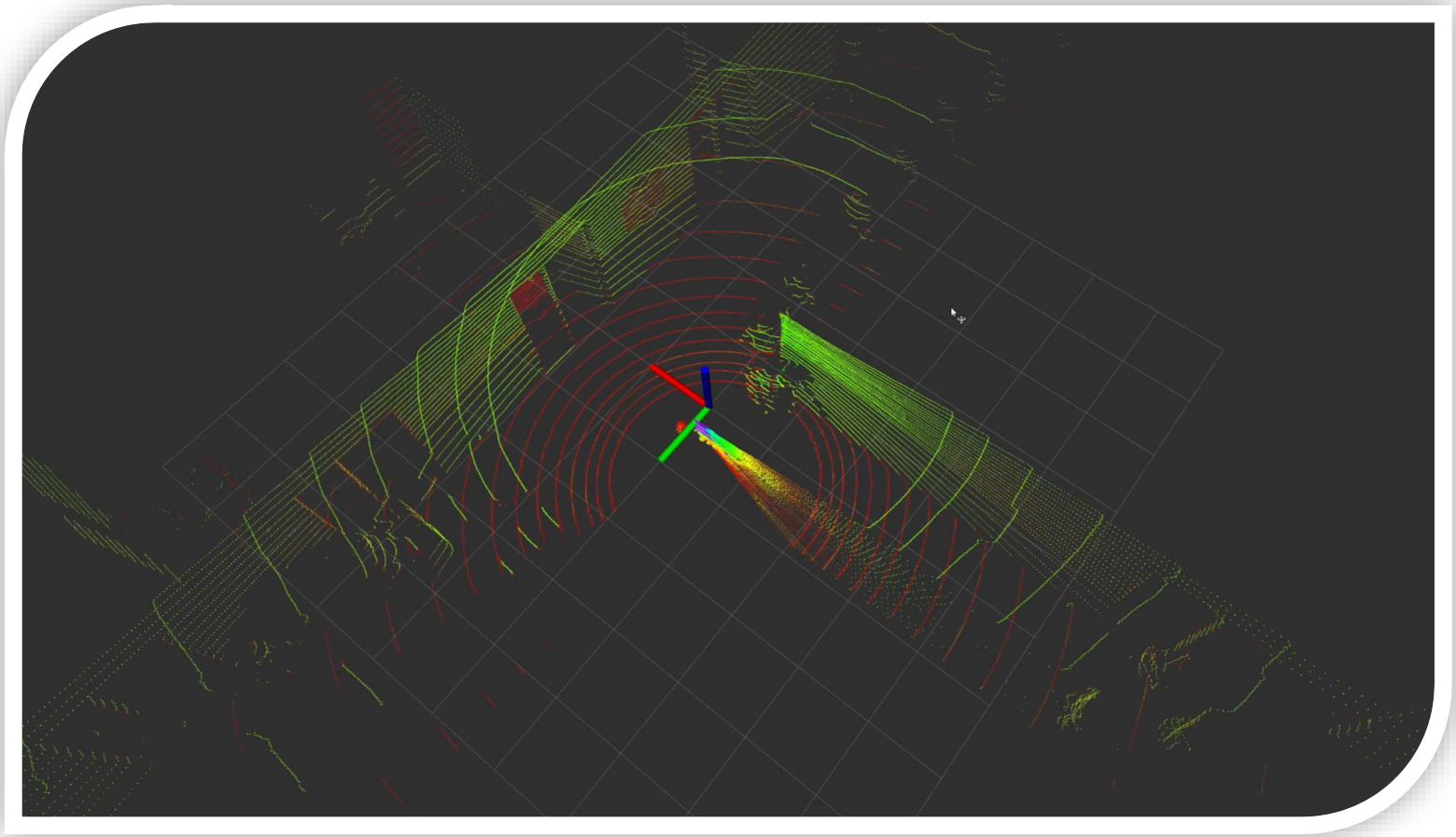
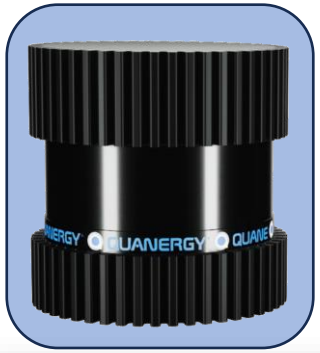
Dense Scenes, 1000+ Objects





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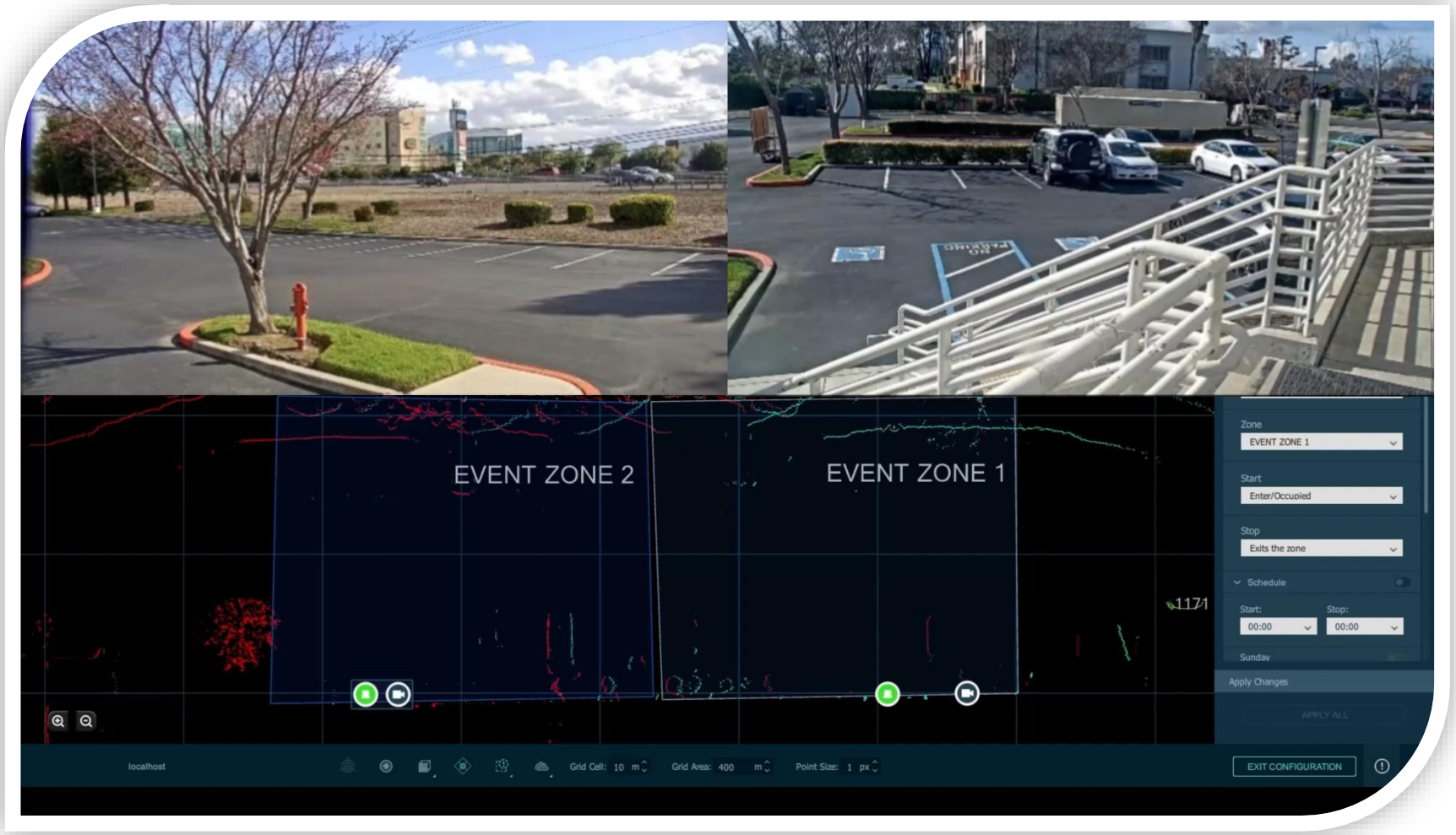
Outdoor Tracking with LiDAR & Cameras



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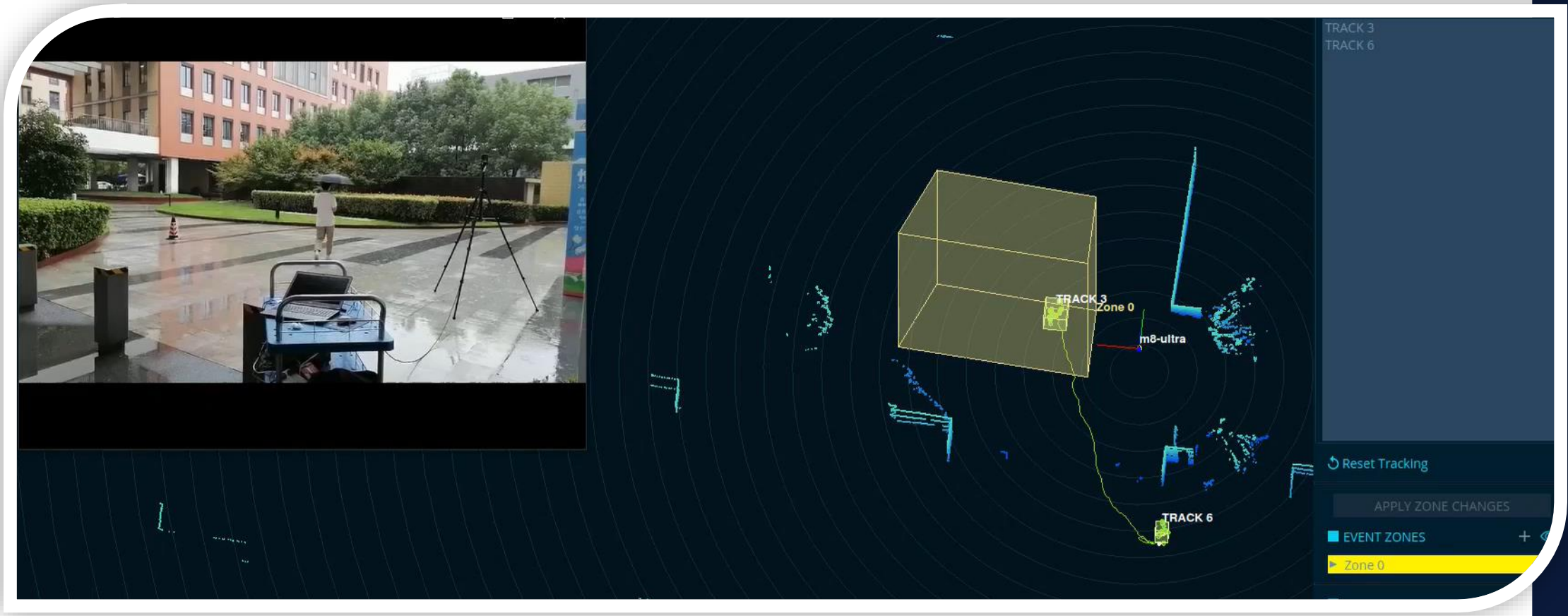
LiDAR in the Rain



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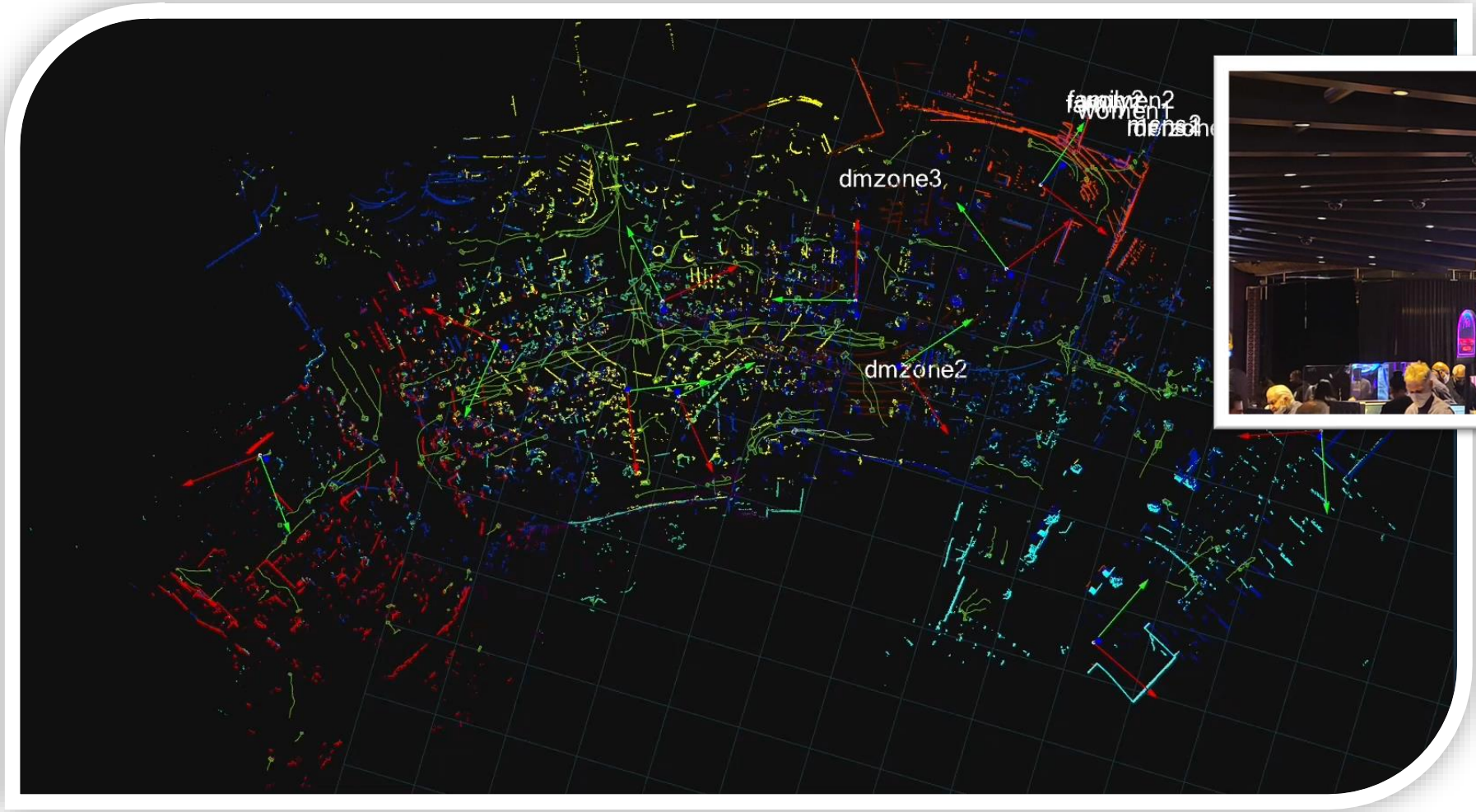
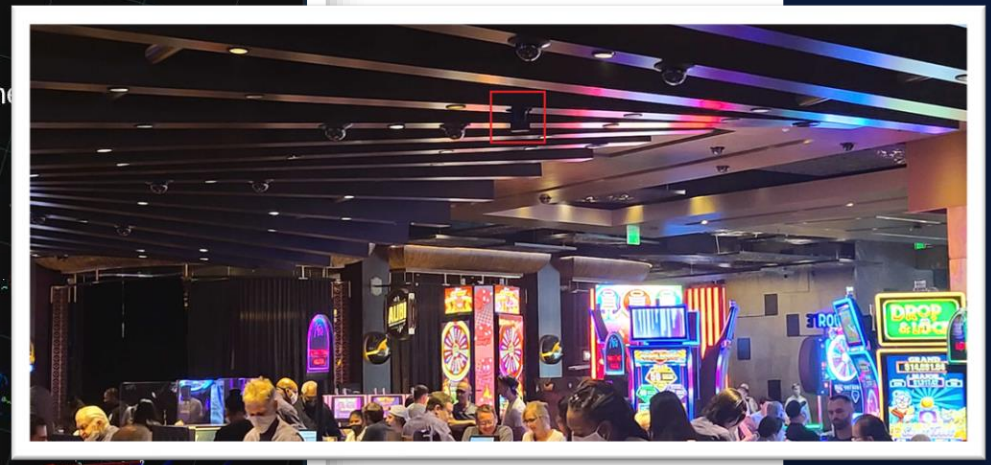
Continuous Tracking (15,000 m2) – 10 Sensors





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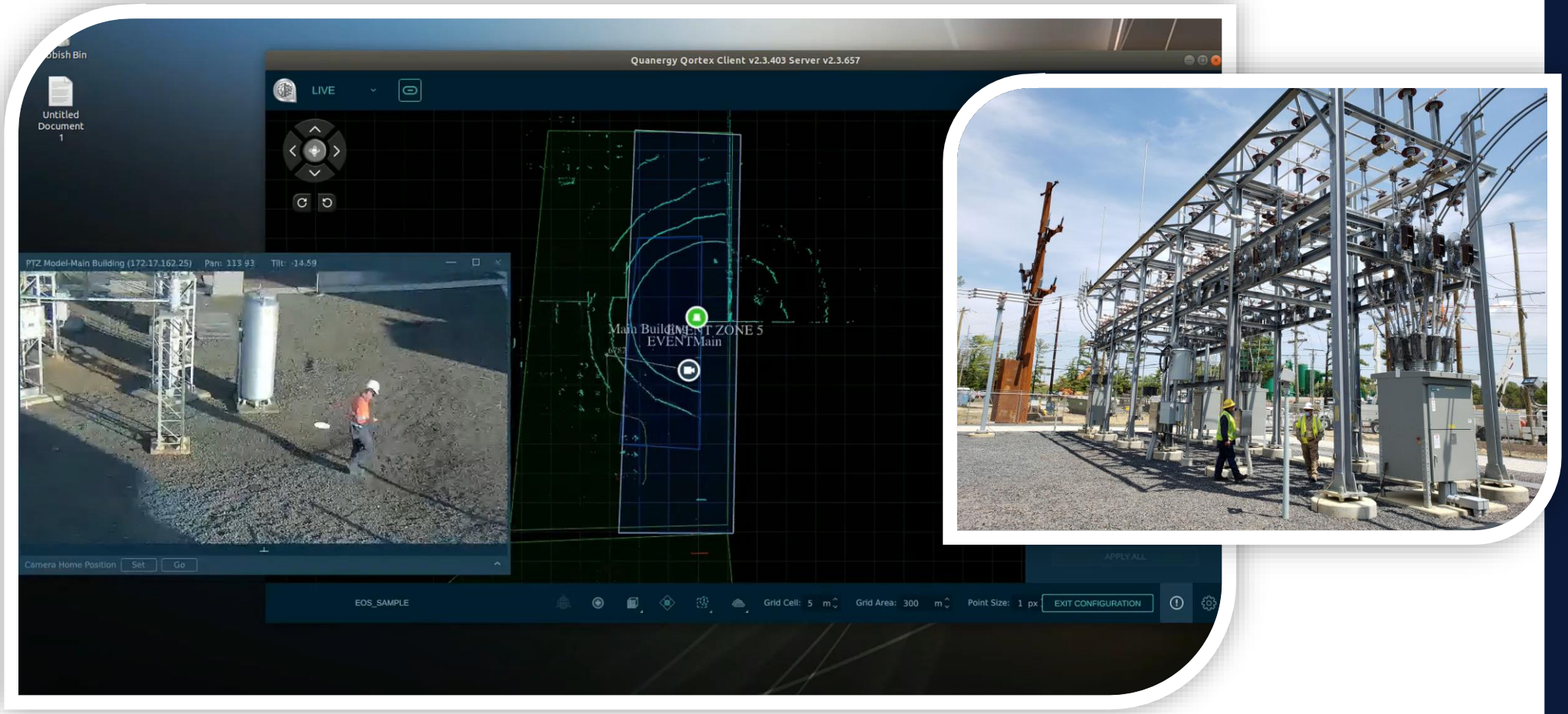
PIDs for Substation Sites (NO RF ISSUES)



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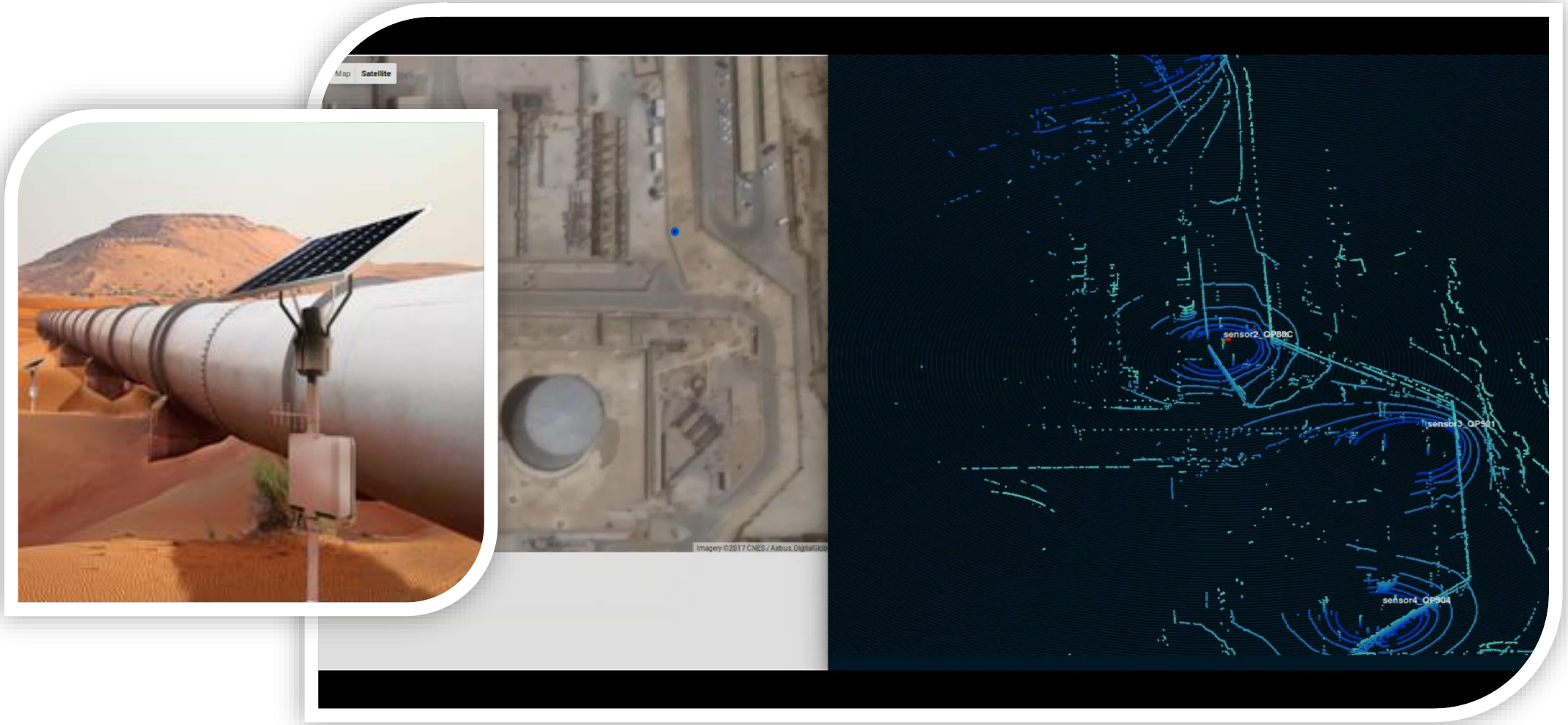
PIDs for Oil & Gas Sites



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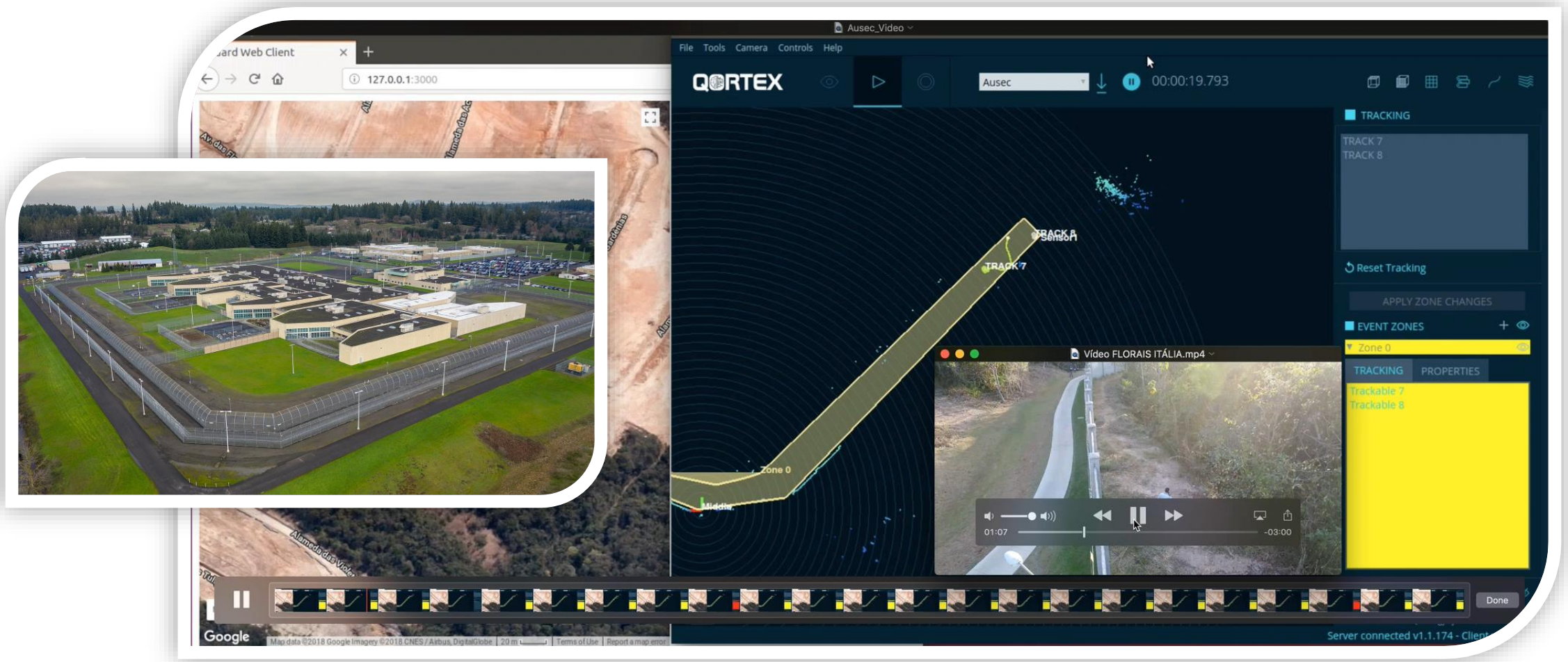
PIDs for Correctional Sites



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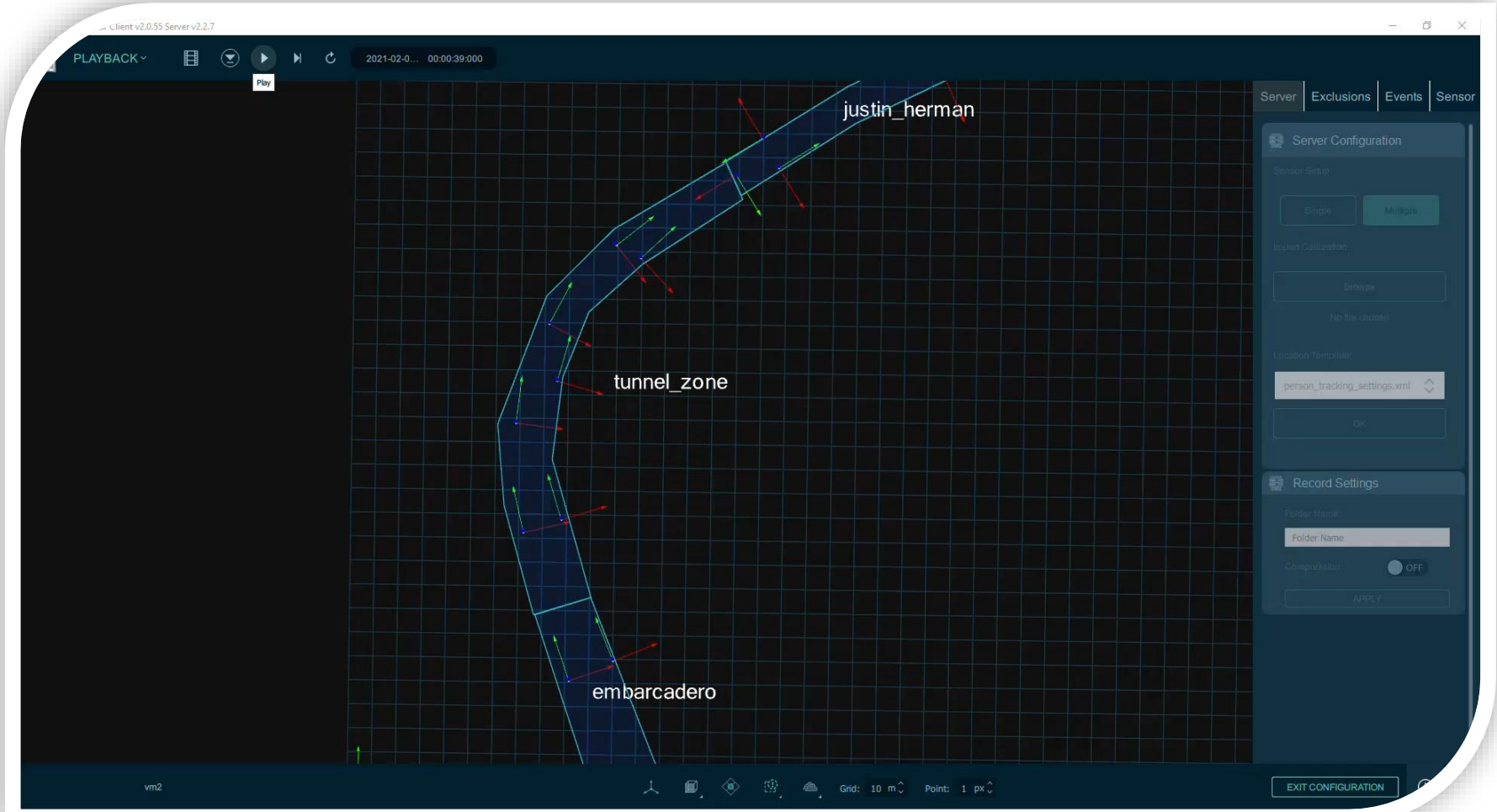
PIDs for Transportation Sites



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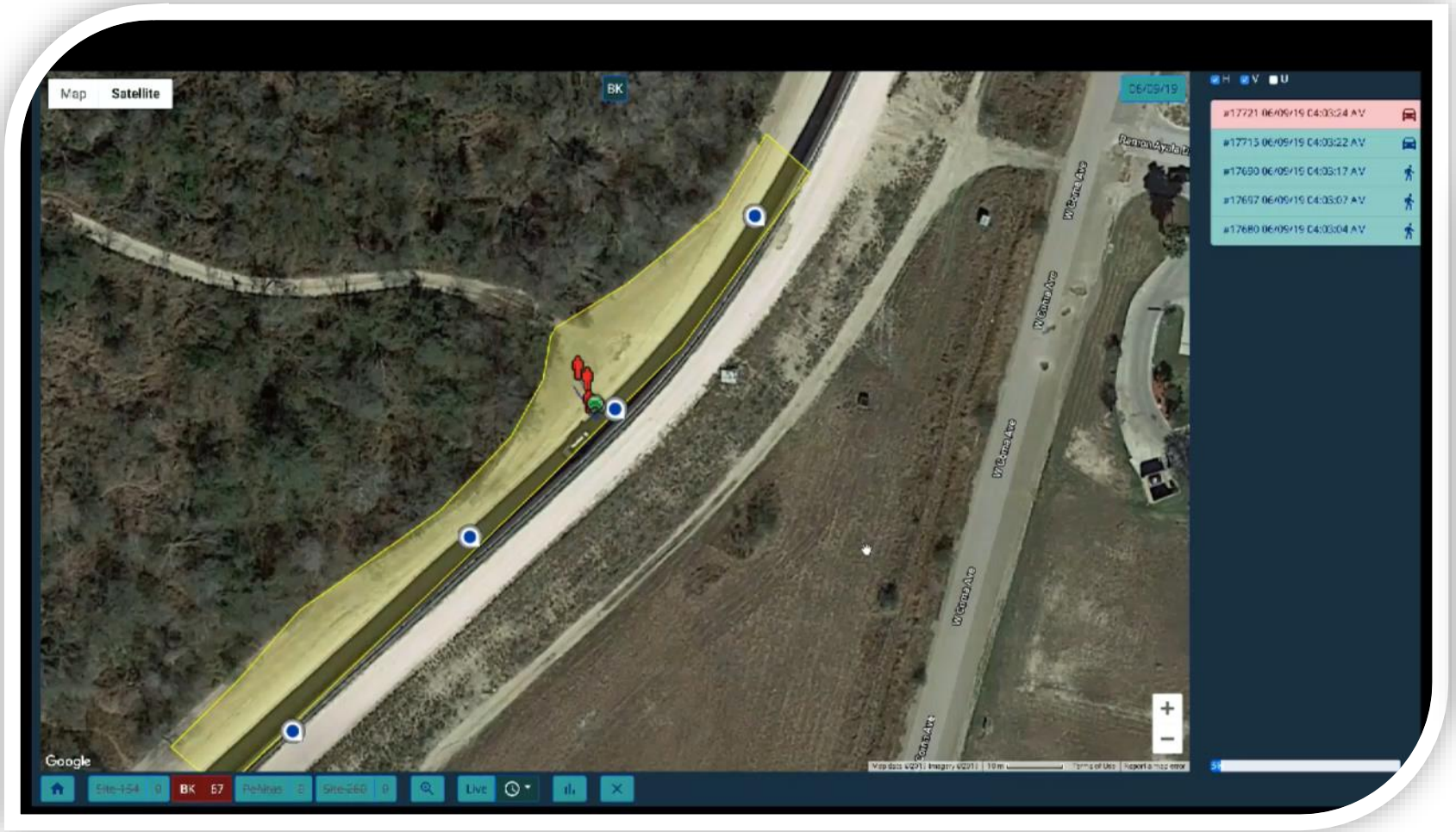
PIDs for Border Sites



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Case Study:
Global cloud services provider perimeter intrusion detection

Problem

- Experienced over 178,000 false alarms in 33 weeks
- False alarms led to guard fatigue
- Missed 2 actual intrusions

Solution

- After a myriad of testing, against 14 other technologies, Q-Track was selected as the only solution able to pass all tests
- Hundreds of Q-Track units deployed and integrated into existing security infrastructure
- Deployment was tailored for the specifications of each datacenter

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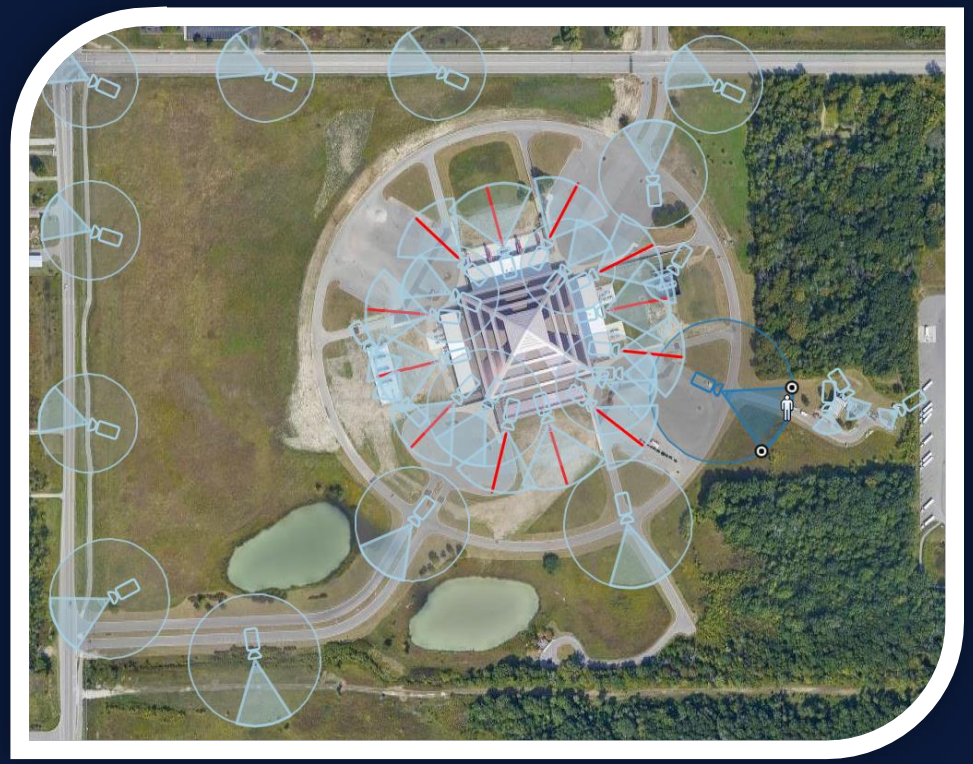
TCO

32 Sensor Deployment



32 Sensor Deployment

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SAFR from realnetworks

BRAD DONALDSON
VP OF COMPUTER VISION & GM
SAFR FROM REALNETWORKS

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Challenges with Perimeter Surveillance

- Large area to cover
- Environmental factors – weather, complex lighting, terrain & obstacles
- False alarms & detection accuracy – real threats can be missed
- Connectivity & Power – remote locations may lack reliable power or network
- Remote or unattended access points
- High cost of AI-based analytics

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Good Perimeter Surveillance Requires Multiple Technologies

- Infrared
- Motion Detectors
- Radar/Lidar
- Drones
- Robust Access Control
- CCTV with dedicated AI or Computer Vision

Computer Vision enhances perimeter surveillance by automatically detecting, tracking, and analyzing intrusions or suspicious activities in real time, reducing false alarms and improving security response efficiency.

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Facial Recognition Technology Can Enhance Perimeter Security

- **Intruder Detection & Identification** – The system can scan and compare faces against a database of authorized personnel, flagging unauthorized individuals in restricted areas.
- **Real-Time Alerts** – If an unauthorized person is detected, security teams can receive instant alerts, allowing them to respond quickly.
- **Access Control Enhancement** – Facial recognition can be integrated with gate or door access control systems to allow or deny entry based on pre-approved facial profiles

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Facial Recognition Technology Can Enhance Perimeter Security

- **Continuous Monitoring –** Unlike human guards who may get fatigued or distracted, AI-powered facial recognition operates 24/7 with consistent accuracy.
- **Reducing False Alarms –** By differentiating between known individuals (employees, frequent visitors) and potential threats, the system can minimize unnecessary security interventions.
- **Forensic Analysis –** Recorded footage with facial recognition can help investigators track movements, analyze past security breaches, and improve future threat responses.

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What to Look for in a Facial Recognition Solution

- High accuracy and speed at the edge
- Very low racial bias
- Purpose built devices
- Cameras with high resolution , low light capabilities and long focal length lenses
- Access Control devices with robust anti-spoofing and tailgating detection
- Firmware designed to capture the face
- Unified Ecosystem – solutions for surveillance and access control integrated with enterprise software

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The Time is Right

- Public sentiment toward facial recognition is shifting
- Advancements in edge-based solutions are driving down costs
- Networks of sensors like access control door stations, surveillance smart cameras and mobile devices can work together to provide more intelligence than ever before
- Privacy options like template on card or template on mobile are available for those with concerns

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ASSA ABLOY
Opening Solutions

CHRIS HOBBS
DIRECTOR, NATIONAL ACCOUNTS
ASSA ABLOY OPENING SOLUTIONS

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Secured Entry Solutions

Long range readers and Facial Recognition

- Parking solutions for corporate campus and multi-family applications
  - Allowing access up to 15 meters of range and for up to 200,000 users
- Biometrics for perimeter doorway security
  - Identification of up to 100,000 faces

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Secured Entry Solutions

IP Intercom

- HD video intercom w/ ultra wide-angle lens
- Credential reader built-in
  - QR codes, BLE, RFID reading
- Configuration available via an app for easy on-site management
- Integrations with over 85 management software systems

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Secured Entry Solutions

Specialty Door Solutions

Bullet Resistant

- 8 levels available
- UL752 Certified
- Meets Federal Government domestic sourcing regulations
- Fire Rated 90 minutes

Blast Resistant

- Up to 100+ psi
- Meet or exceed requirements of the Departments of Defense, State, Homeland Security, and other regulatory groups
- Meets Federal Government domestic sourcing regulations
- Fire Rated up to 3 hours

FEBR

- Tested to withstand 60 minutes of “mob” attack
- Resistant to 5.56 M193, 5.56 M855 and 7.62 M80 ballistic rounds
- Meets Federal Government domestic sourcing regulations
- Fire Rated up to 3 hours

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Locking Hardware

Traditional Mechanical Solutions

Forced Entry Solutions

Grade 1 Door Hardware

Patented Key Control

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Locking Hardware

Emerging Solutions

Glass Solutions

Intelligent Key Systems

Electronic
Access Control

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BOON EDAM

KURT MEASOM
VP OF GLOBAL ENTERPRISE ACCOUNTS
BOON EDAM

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SECURITY IN LAYERS

What's your tailgating mitigation strategy?

DETER
UNAUTHORIZED ENTRY

Waist High Turnstiles

DETECT
UNAUTHORIZED ENTRY

Optical Turnstiles

PREVENT
UNAUTHORIZED ENTRY

Full Height Turnstiles

Security Revolving Doors

Interlocking Mantrap Portals

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CORPORATE OFFICE - LAYERS

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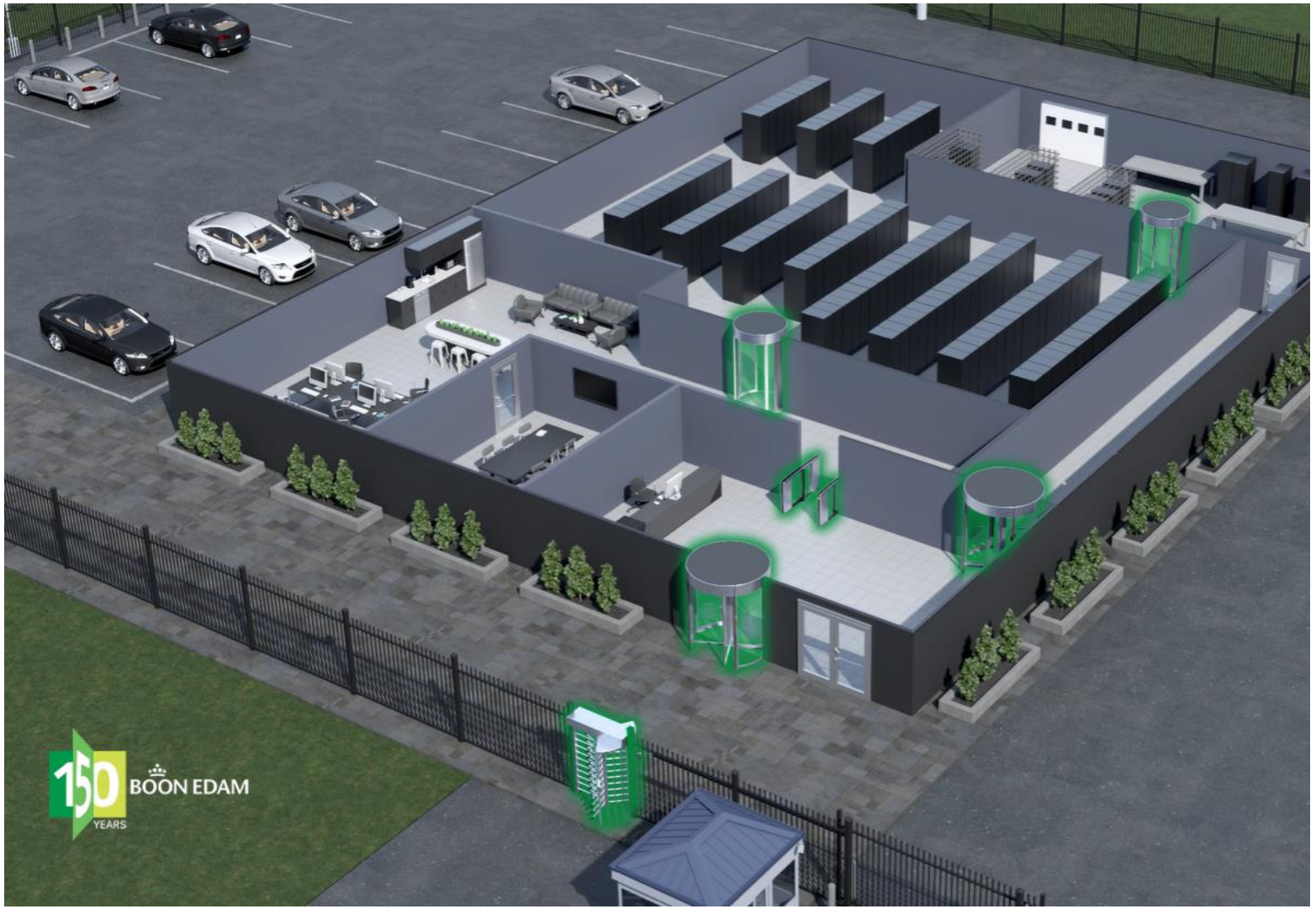
DATA CENTER - LAYERS



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AWNING

- Heavy duty structural design- perimeter security
- Climb over prevention
- Meets rigorous wind and snow loads
- Keep data centers in mind

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Q&A

Thank you!

Have thoughts about SIA Education@ISC?

Scan the QR Code on the left to provide your feedback on SIA Education@ISC Sessions at ISC West

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