Atos Computer Vision Platform

Smart vision in the wink of an eye

Agenda

1. Introduction to computer vision
2. Atos Computer Vision Platform overview
3. Use cases

Introduction to computer vision

Computer vision: Why it matters ?

700m

Globally there are 770 million closed-circuit television surveillance cameras

10,8%

Computer vision market will know a CAGR of 10,8% by the end of 2026

90%

Today, with an accuracy about 90%, computer vision models are faster to detect and react to visual inputs than humans.

99%

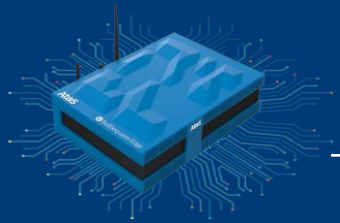
By 2022, 99% of video/image content captured for enterprise purposes will be analyzed by machines rather than humans

80%

Today, 80% of the not-analyzed data generated are video and images

How does computer vision work?

Cameras captures motion



Pictures are pre processed in a server

AI deep learning algorithms identify people, an abnormal situation, flows etc..

Action is taken

AI deep learning algorithms can be classify in four main purposes for infinite use cases:

Detection

- Quality control
- Default detection
- Intruser detection
- Event detection
- Covid mask detection

Localization

- Person searching
- Product localization in storage or store

Recognition

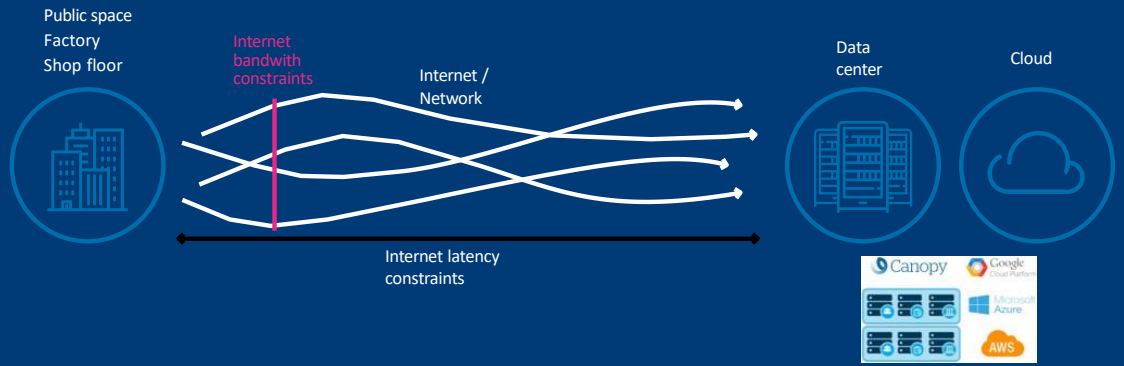
- Facial recognition
- Object recognition

Motion analysis

- Person tracking
- Flow management
- Crowd management
- Customer path in retail store

Video and image data: facing the challenge of the data wave

Computer vision requires to process data in real time to get most value out of it. The goal of replacing traditional video analysis or human eye is to gain in precision and speed. When video data is sent to the cloud, it increases drastically the bandwidth & latency while causing privacy issues. Indeed, video data is voluminous, which can be an issue is you want to send H24 7/7 data to the cloud. It is more interesting in terms of efficiency and cost, to analyze video data at the edge close to data and then send the pre-processed data to the cloud or to the data center.



1 Increasing the bandwidth

- a significant cost impact
- as issues with the availability of high bandwidth connections in certain geographical regions

2. The latency constraints

Caused by :

- the electrical signal travel time
- the number of routing hops an IP packet needs to take in order to reach its destination.

3. Guaranteeing data privacy and compliancy with GDPR

Data transport and storage in a remote cloud risks spy, manipulation and violation of data privacy.

4. Internet connectivity

Network may experience unplanned outages in critical areas

5. Recurrent cost

Complex AI solutions such as neural network-based video/image analytics require considerable GPU capacity to perform inference on cameras with high framerates or/and high resolutions.

Computer vision at the edge for enhanced performance

The five pillars

Latency

Data is analyzed at its source, which enables the lowest latency possible.

Bandwidth

Only pre-processed data is sent to cloud or datacenter for mid-term analysis. It allows to maintain costs however the data amount.

Security and privacy

Critical data is kept at the data source which reduces vulnerability breaches or hacking.

Autonomy

Edge computing servers work autonomously even without any network and in critical environment.

Maintained cost

However the data volume and complexity, costs are maintained.

Atos Computer Vision Platform overview

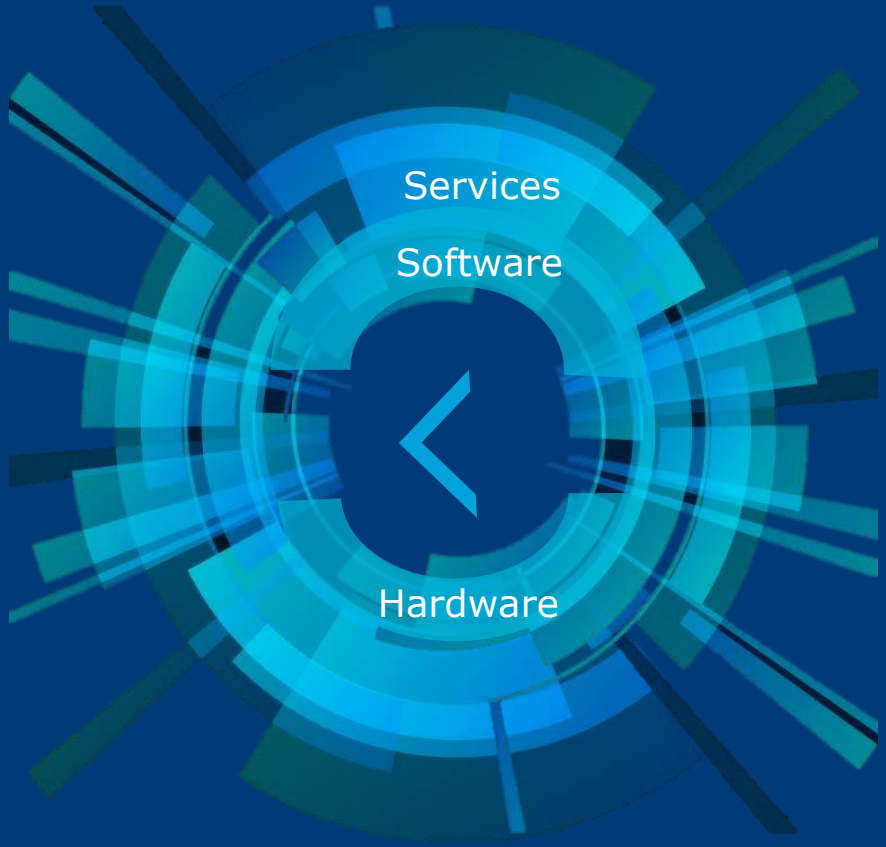
Atos Computer Vision Platform
Smart vision in the wink of an eye

Atos annonces Atos Computer Vision Platform, the first highly scalable end-to-end video analytics platform designed for a smarter and safer world.

- identifies events and behaviours to reduce error rates
- offers frictionless and personalized customer experiences
- guarantees people and asset safety
- delivers highest accuracy (>99%)

Atos Computer Vision Platform identifies events and behaviours to reduce error rates, to guarantee people and asset safety, to deliver highest quality, to offer frictionless and personalized customer experiences. Business and organisations keep up the paste of events and demand, by analyzing videos in real time at the edge to drive the best decisions.
We accompany clients from defining their needs, implementing tailored and pre-packaged solutions powered by Atos infrastructure servers and services. Atos Computer Vision Platform builds computer vision AI-based solutions, then delivers best-in-class deployment, management and monitoring from cloud to edge anywhere inside or outside datacenters.

Atos is the first highly scalable end-to-end video analytics platform designed for a smarter and safer world.



- Manufacturing
- Public sector & defense
- E&U
- Retail
- Smart cities
- Health & Life science
- Transport & Logistic

Atos Computer Vision Platform

The highly scalable end–to-end computer vision platform

Use case solutions

- Smart infrastructure
- Crowd management
- Person monitoring
- Covid-19
- Intrusion detection
- Worker safety
- Physical security
- Perimeter protection
- Violence detection
- Store analytics
- Automated surveillance
- Digital twin
- Person detection
- Quality Inspection
- Queue management
- Watchlist Alerting
- Intrusion detection
- ...

Expertise, Consulting & Services

Consulting
Deployment, configuration
Managed services
Data Science, Data Engineering, Data Ops

Software

(Product & Services)

Behaviours | ***Tag & track*** | ***Facial recognition*** | ***Forensic*** | ***Non facial recognition*** | ***License plate recognition*** | ***Heat maps***

Video search | ***Environment Sensing*** | ***Traffic monitoring*** | ***Object detection*** | ***Reports*** | ***Watchlist alerting*** | ***Touchless access control***

Ipsotek VISuite

Custom AI Models

Atos and partner solutions

Hardware

(Product & Services)

BullSequana Edge nano
GPU and install anywhere

BullSequana Edge
GPU and install anywhere

BullSequana SA20G
GPU and high storage capacity

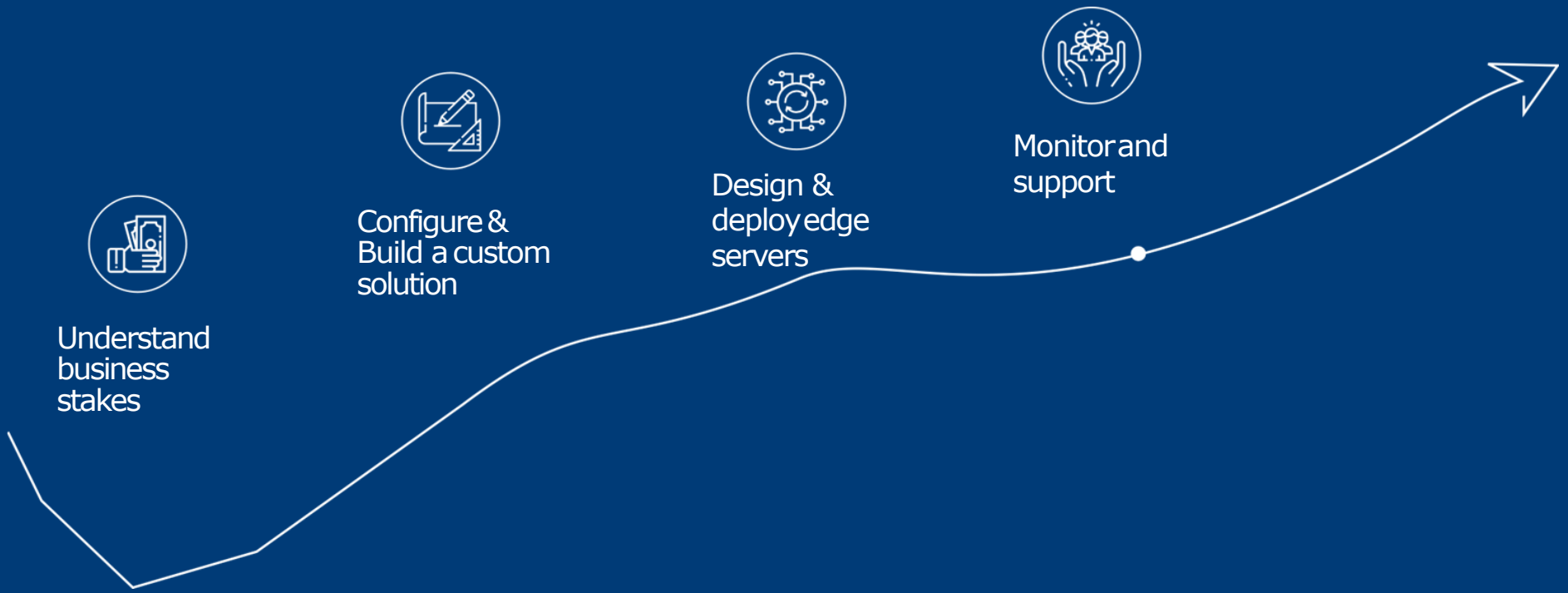
Stockable servers

BullSequana X451
Maximum GPU density

Stockable servers

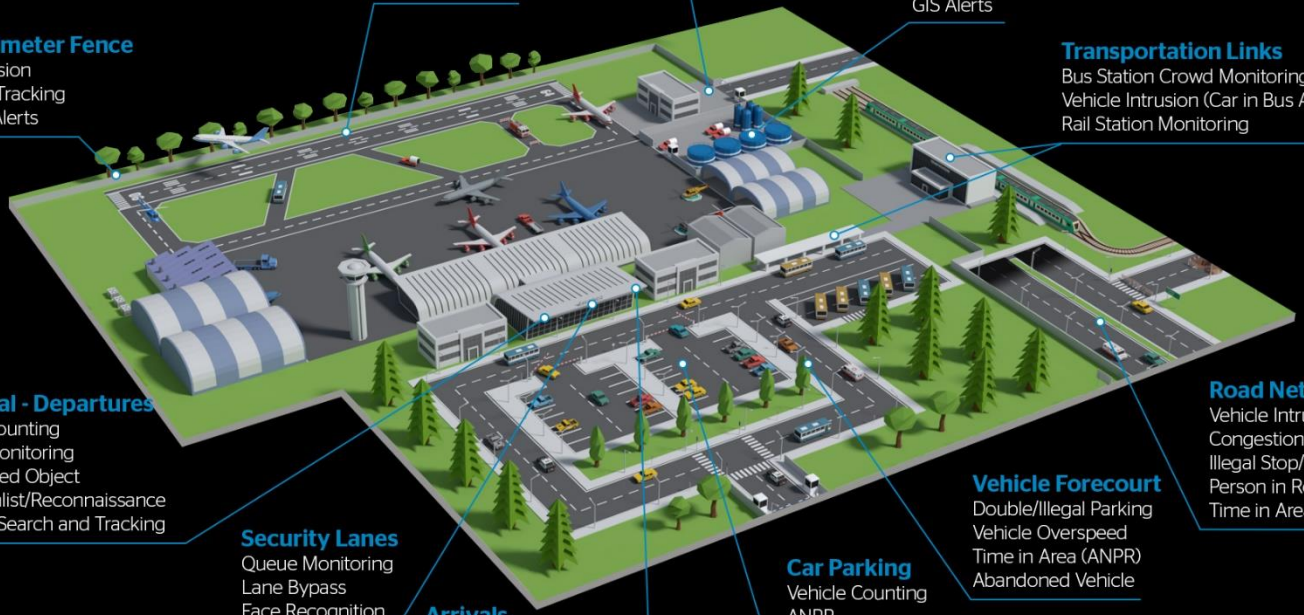
Atos delivers an end-to-end computer vision approach

- Consulting
- Integration & configuration of tailored and pre-packaged solutions powered by Atos infrastructure servers and services.
- Worldwide deployment, management and monitoring from cloud to edge anywhere inside or outside datacenters.



USE CASES

AIRPORT



Airfield
Intrusion
CP Line Violations
Time at Gate

Cargo
Dynamic Zone Intrusion
Access Control

Fuel Farm
Intrusion
PTZ Tracking
Vehicle Entry Watchlist
GIS Alerts

Perimeter Fence
Intrusion
PTZ Tracking
GIS Alerts

Transportation Links
Bus Station Crowd Monitoring
Vehicle Intrusion (Car in Bus Area)
Rail Station Monitoring

Terminal - Departures
People Counting
Queue Monitoring
Abandoned Object
FR Watchlist/Reconnaissance
Forensic Search and Tracking

Security Lanes
Queue Monitoring
Lane Bypass
Face Recognition

Arrivals
Anti-Backtrack
People Counting
Incident Response Search

Car Parking
Vehicle Counting
ANPR
Restricted Routes
Bay Occupancy Estimate

Vehicle Forecourt
Double/Illegal Parking
Vehicle Overspeed
Time in Area (ANPR)
Abandoned Vehicle

Road Network
Vehicle Intrusion
Congestion Detection
Illegal Stop/Parking
Person in Roadway
Time in Area (ANPR)

Resources

Web page

Brochure

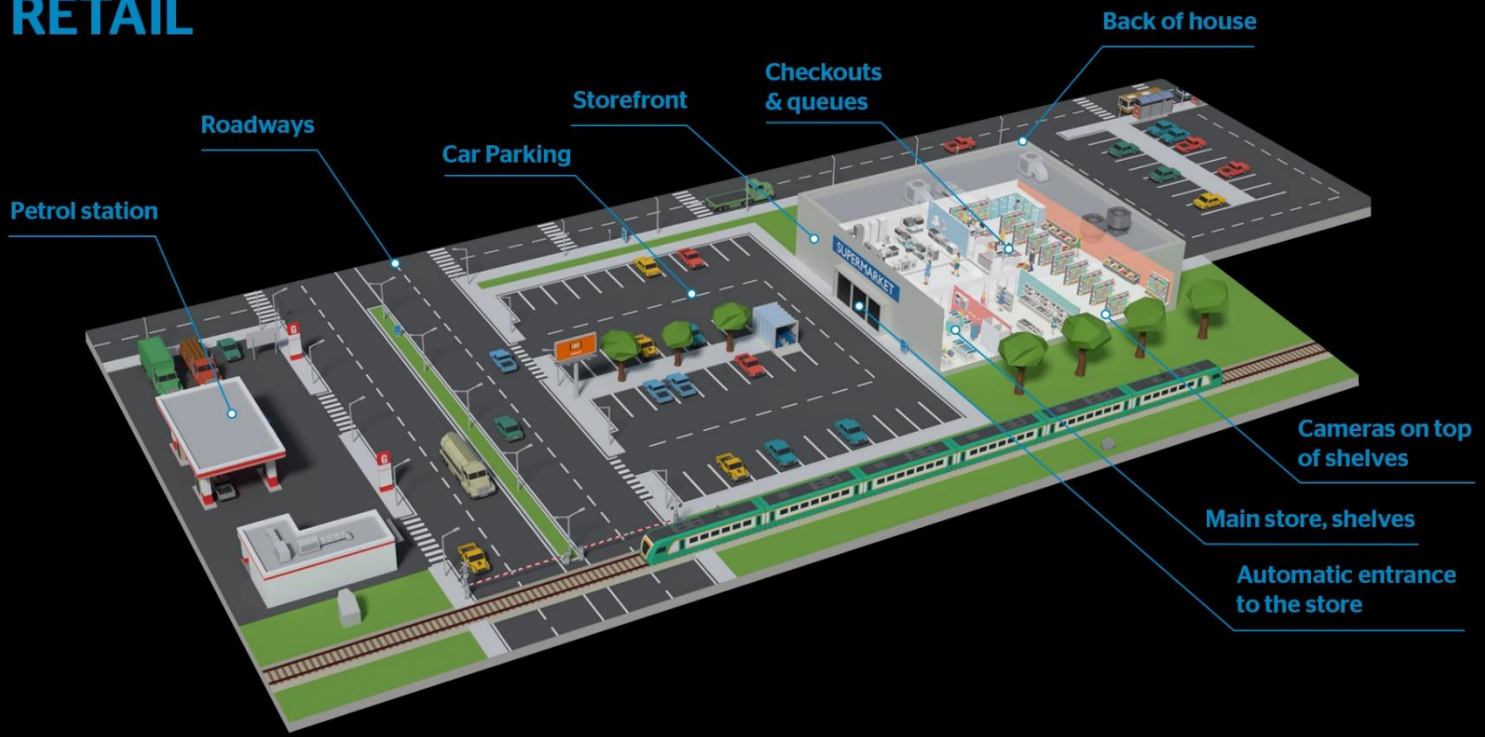
Airport security video

Related resources

Crowd counting

Perimeter protection demo

RETAIL



Resources

Web page

Brochure

Infographic

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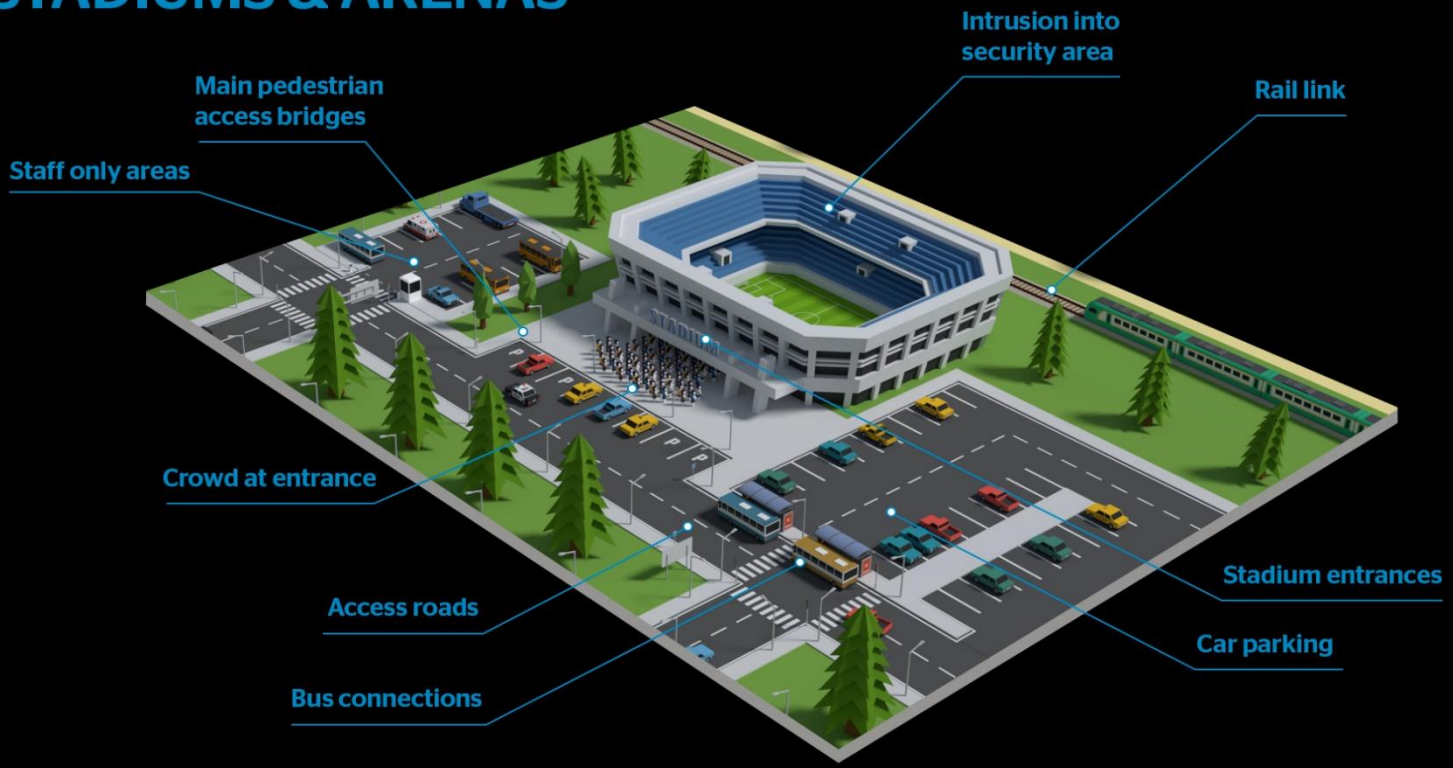
Perimeter protection demo

STADIUMS & ARENAS



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Infographic

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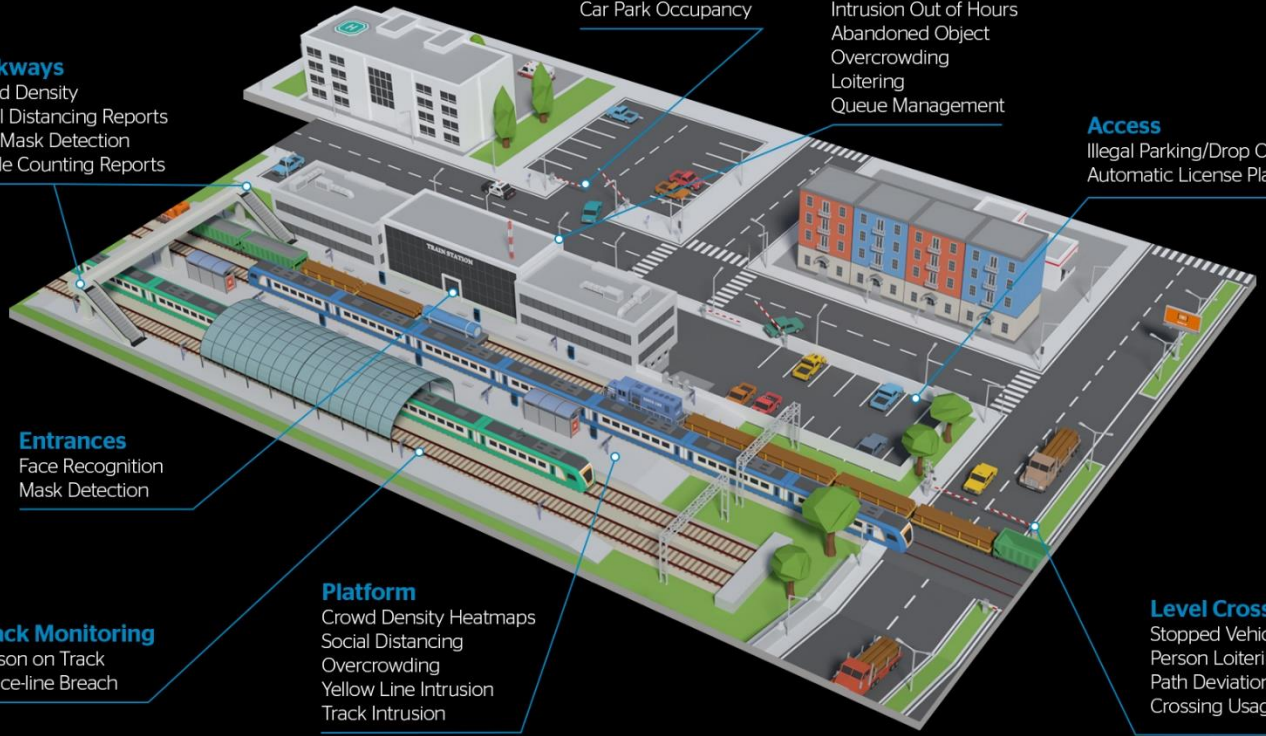
RAIL



Resources

Web page

Related resources

Crowd counting

Perimeter protection demo

Health organizations

Resources

Web page

Related resources

Face mask detection

Crowd counting

Perimeter protection demo

Smart city

Resources

Web page

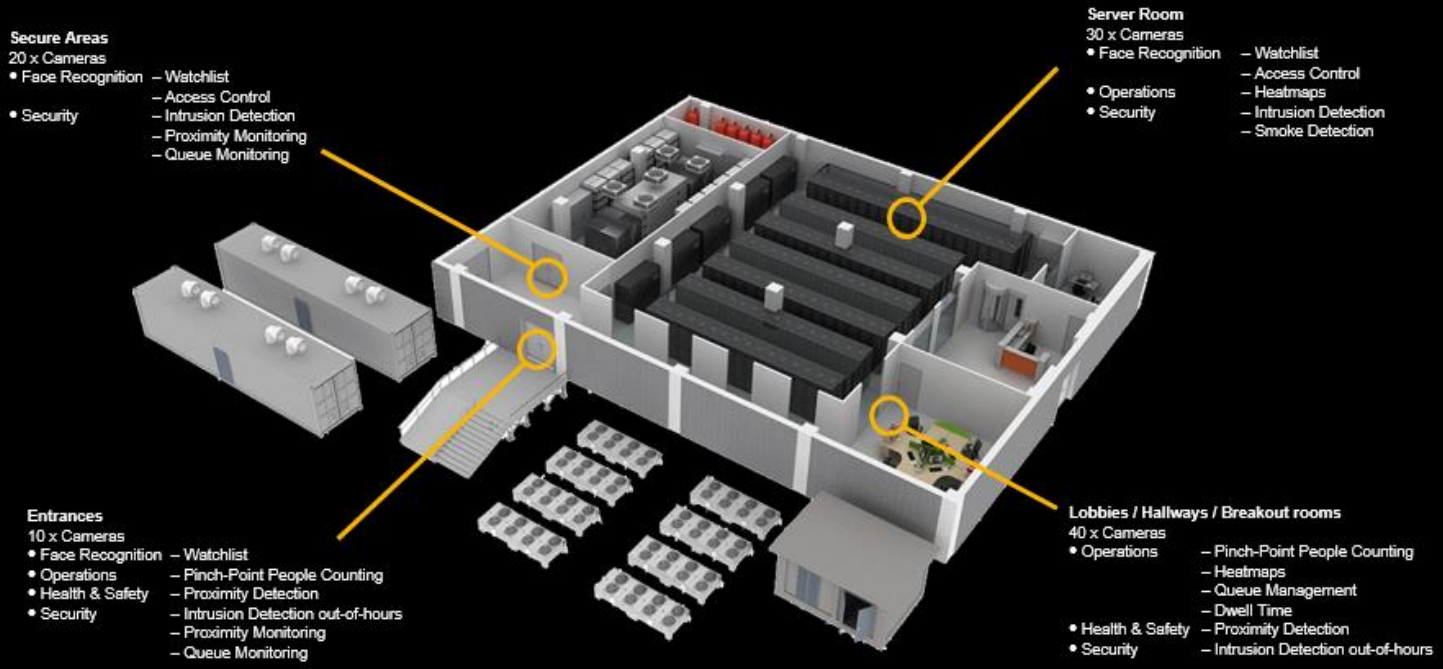
Related resources

Face mask detection

Crowd counting

Perimeter protection demo

Datacenter infrastructure



Resources

Web page

Datacenter surveillance

Perimeter protection demo

Manufacturing

Learn more

Request an innovation workshop

Contact us by email