Computer Vision Platform

Smart retail

Solving business critical challenges to provide
a state-of-the-art customer experience

Atos

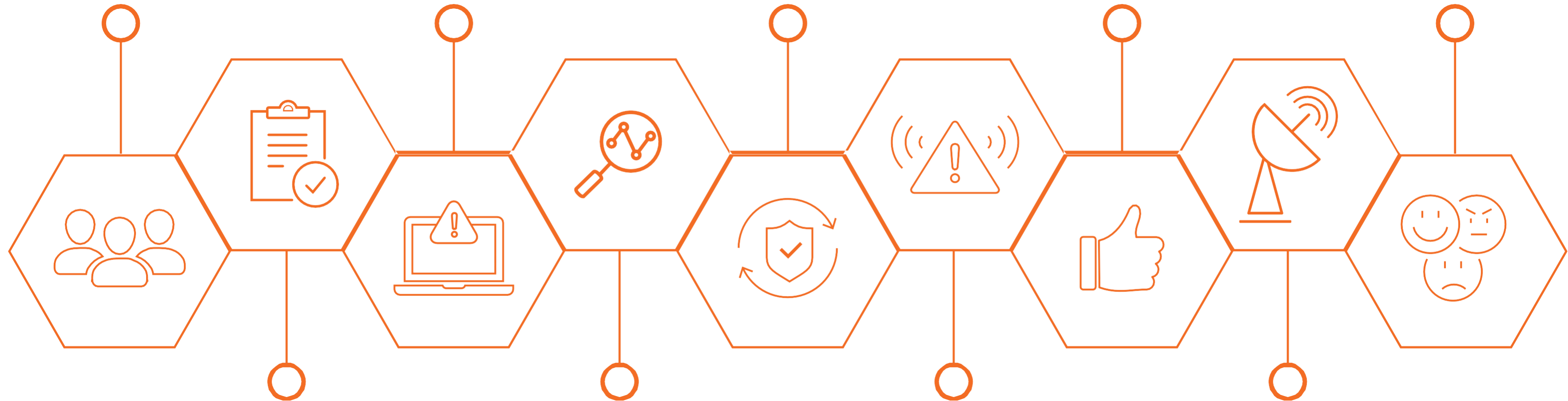Trusted partner for your **Digital Journey**

Key Challenges

Managing dozens to hundreds customers at the same time

React on-time to theft and threats

Maintaining a safe, yet unobtrusive security protocol

Providing a first-class frictionless experience to customers

Offer personalized experience to develop customer loyalty

Managing stocks in real time

Supporting and analyzing massive video streams

Providing real time alerts on stocks and store analytics

Overcome network bandwidth saturation

Our pre-trained AI models sets for retailers

Outside Store

Passing Trade Conversion
Reports
Groups Loitering
Bicycle on Pavement
Forensic Search

Checkouts

Queue Length Reports
Staff Time At Desk Reports

Warehousing/Back of House

Intrusion Detection
High Value Goods Protection
Smoke Detection

Parking

Vehicle Count Reports
Current Parking Occupancy
Vehicle Speeding
Vehicle Overstay
Abandoned Vehicle Detection

Retail Space

People Counting (By Area)
People Counting (Occupancy)
Customer Flow Heatmaps
Social distancing monitoring
Heatmapping
Dwell Time
Forensic Search

Entrances

Unique Visitor Counting
Customer Time in Store/Mall
Demographic Reports
Watchlist Alarms (VIP/Threat)
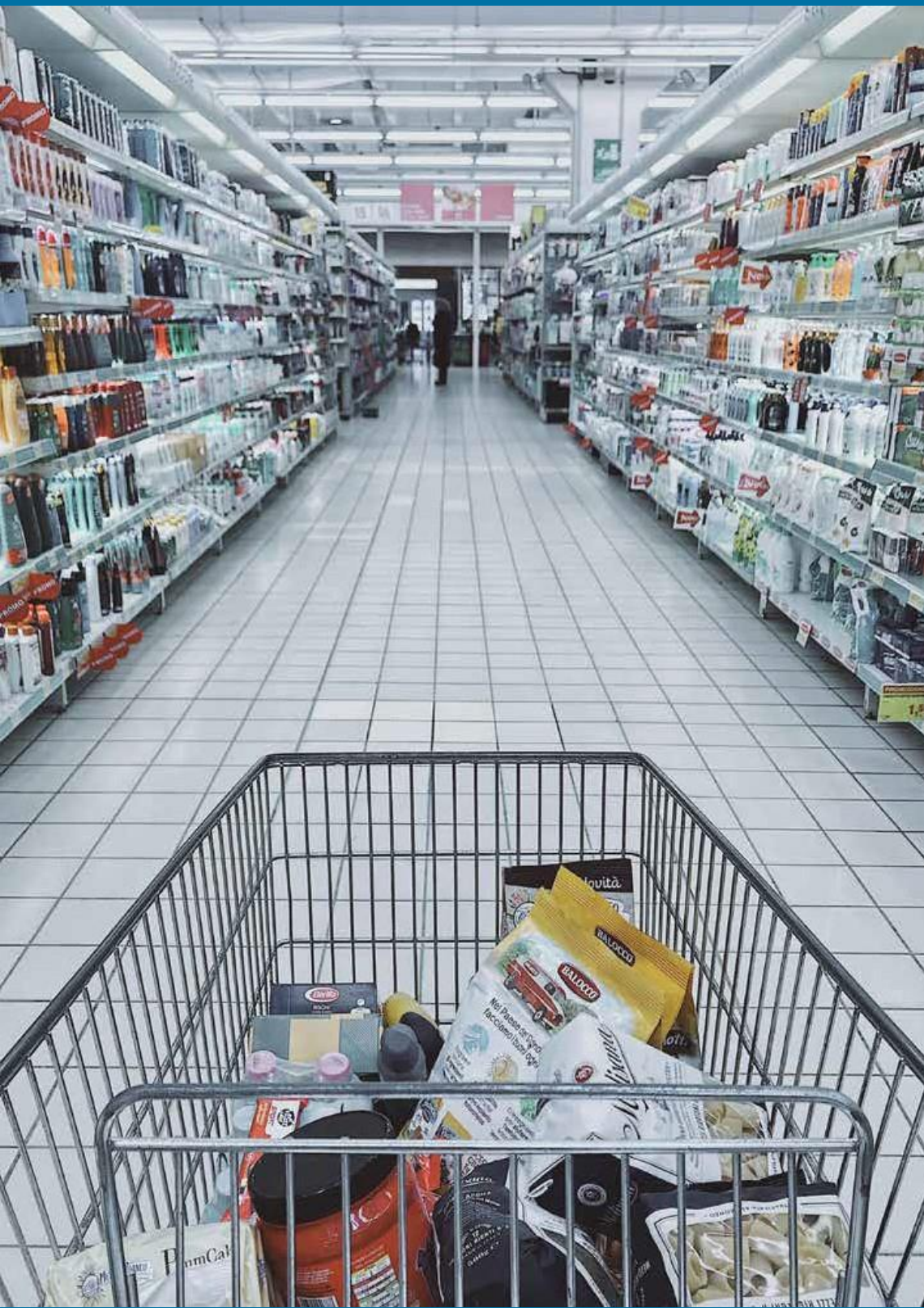Face Blurring
Face mask detection

Roadway

ANPR
Vehicle Intrusion
Wrong-way Detection
Forensic Reports
Face Recognition
Abandoned Vehicle Detection
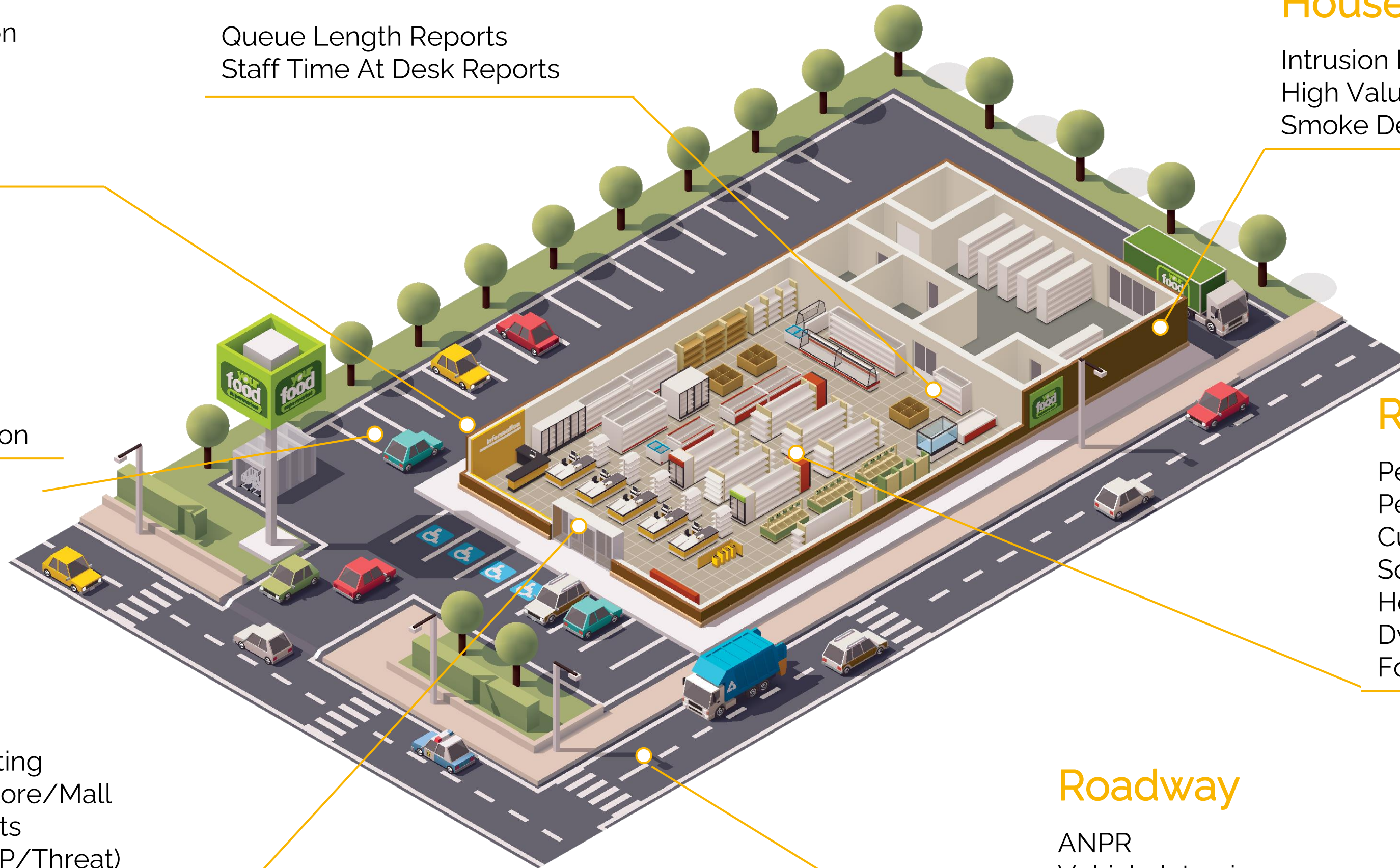
Capabilities for solving these challenges

Atos Computer Vision Platform automatically converts your video into crucial metadata so that you can dramatically improve response times, drive operational efficiencies, and open new business models. Thanks to this intelligent overlay of metadata, you can receive alarms for specific behaviors and events, perform forensic searches and produce informative reports based on this data.

Open New Business Models

- Leverage CCTV footage to understand passenger flow in retail areas.
- Deploy staff more efficiently to match usage statistics.

Reduce Operating Costs

- Receive real-time updates and alerts on pain points i.e., areas which are prone to overcrowding
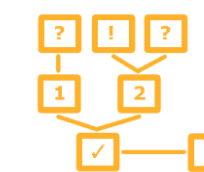- Spot trends and patterns in reports that can be used to inform next steps.

Improve Security Response Time

- Never miss an incident with automatic round-the-clock incident detection.
- Liberate your control room security staff and deploy staff more effectively.

Reduce Delays

- Respond faster to passengers in need thanks to customizable solutions for 'lost children', 'people with reduced mobility' and more.
- Visualize passenger flow and opportunities for signage improvements.

IPSOTEK
an atos company

Why is edge computing key in smart retail ?

With edge-enabled intelligent stores, retailers can take real time decisions and benefit from real time analytics to drive a state-of-art frictionless customer experience. Processing data at the edge through AI algorithms reduces shrinkage, eliminates stockout, and enhances visibility into in-store customer behavior to optimize merchandising.

Retail stores leverage data from cameras and sensors to provide valuable analytics that enable smart decision- making, improve operations, and increase efficiency.

Furthermore, real time analytics at the edge is key to deliver fast customer checkout experience without compromising on security and the risk of theft.

Store analytics.

BENEFITS

Optimise Store Usage

New Business Models

Improve Productivity

Reduce Loss

Crowd density - Heatmap

DEMO

Retail floor spaces are hugely complicated and optimizing how this area is laid out, allows you to maximize product turnover, avoid losses and can help to drive profit.

Using video analytics, you can create heat and usage maps to optimize floor layout and how staff use their time.

Optimising Customer Flow Through Heatmaps

Atos Computer Vision Platform in motion

Understanding how and where customers spend their time in a store is very valuable information for retailers.

VISuite's AIVA engine anonymously detects and tracks people as they walk through each camera view. Their route and time taken is collected into reports and can be converted into heatmaps detailing their visit in real time.

Retailers can use this data to reorganize the store to maximize customers time spend browsing. The data can inform where to place promotional displays based on where footfall is highest and can then measure the impact of the new product placement.

A frictionless customer experience thanks to real time analytics

1 Check in

When a customer enters the store, they scan their phone to check-in.
Their physical presence is registered on Atos Computer Vision platform and they can begin their frictionless experience.

2 Analytics

During the shopping experience, cameras track them, identify the product selected (and put-backs) which helps eliminate billing errors and will provide analytics to offer personalized promotions during and after the experience.

3 Post shopping experience

Thanks to AI & machine learning, all analytics linked to a customers are kept and used to send personalized promotions for future shopping experiences.

SUPERMARKET

Warehousing & back of house

Warehousing and back of house areas are critical to the efficient operation of retail stores, but are a key area of risk, inefficiencies, and potential losses.

Video analytics can help monitor these areas to better understand staff performance, to avoid intrusion or notify when high value goods areas are accessed, and to monitor for health and safety violations.

BENEFITS

Improve Health and Safety Compliance

Improve Productivity

Reduce Loss

Learn more in the warehouse brochure

Reducing Loss From Back Of House

Warehouse areas are challenging to secure as they are seldom properly monitored; constantly change due to the flow of goods and as they require easy access to the main retail store space.

There can also be issues due to high-value goods that may be accessible and in higher qualities; potentially hazardous machinery and the risk of non-staff members entering.

Video analytics can help to monitor back of house teams whenever high-value goods are accessed to ensure that it was permitted and verified, as well as securing the perimeter to monitor intrusion around vehicles, helping to reduce major loss.
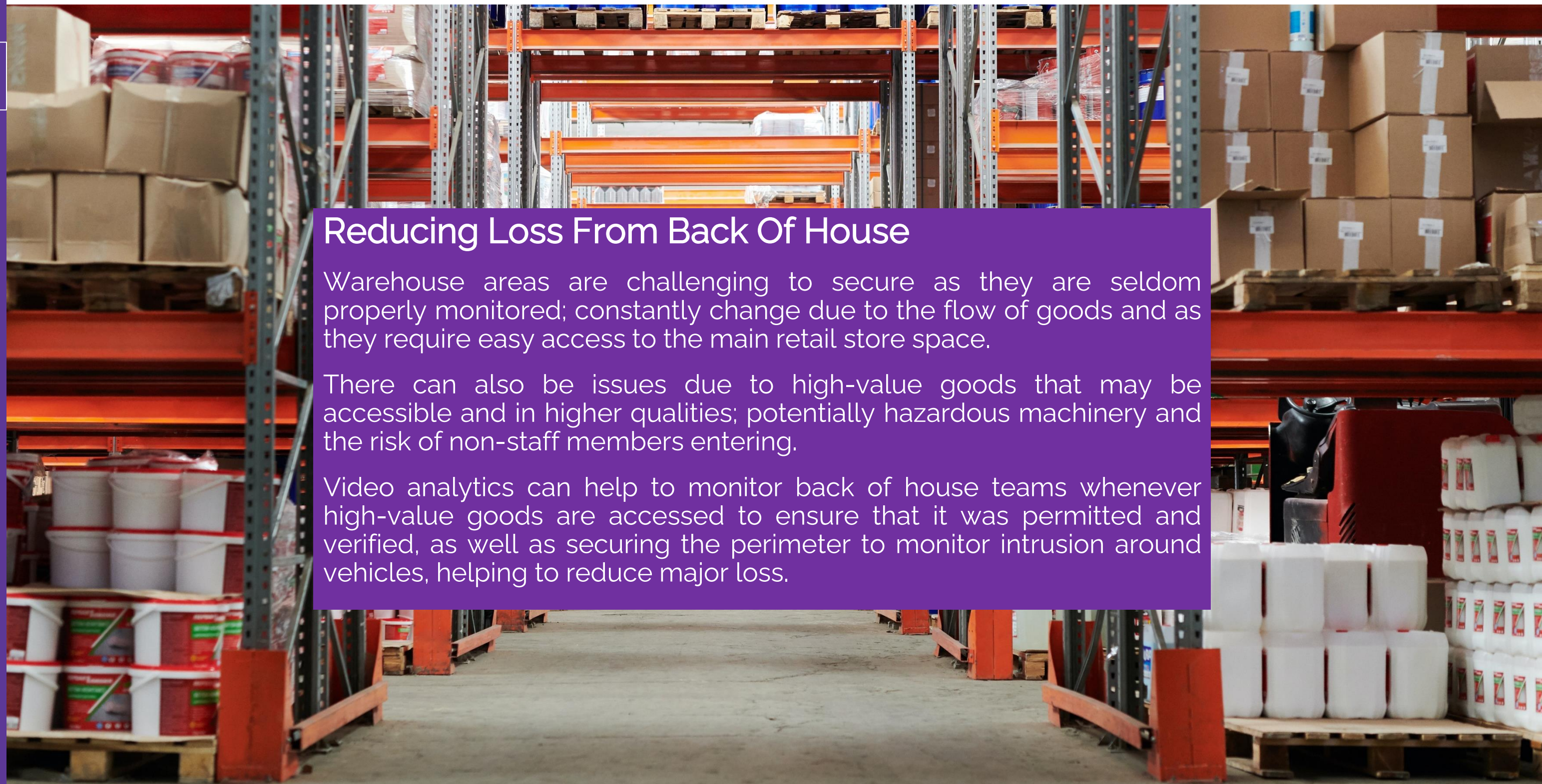
Parking and Roadways

BENEFITS

Optimise Store Usage

Improve Customer Experience

Improve Health and Safety Compliance

Illegal parking

Loitering detection

DEMO

The first experience with a retail site is often the parking or roadway areas. Video analytics can help to make these processes smoother by directing staff to solve parking concerns, or automatically communicate when a car park is filling up and an alternative location may be better.

In larger retail sites, video analytics can direct passengers between free parking locations or be used at taxi ranks to monitor queue and wait times.
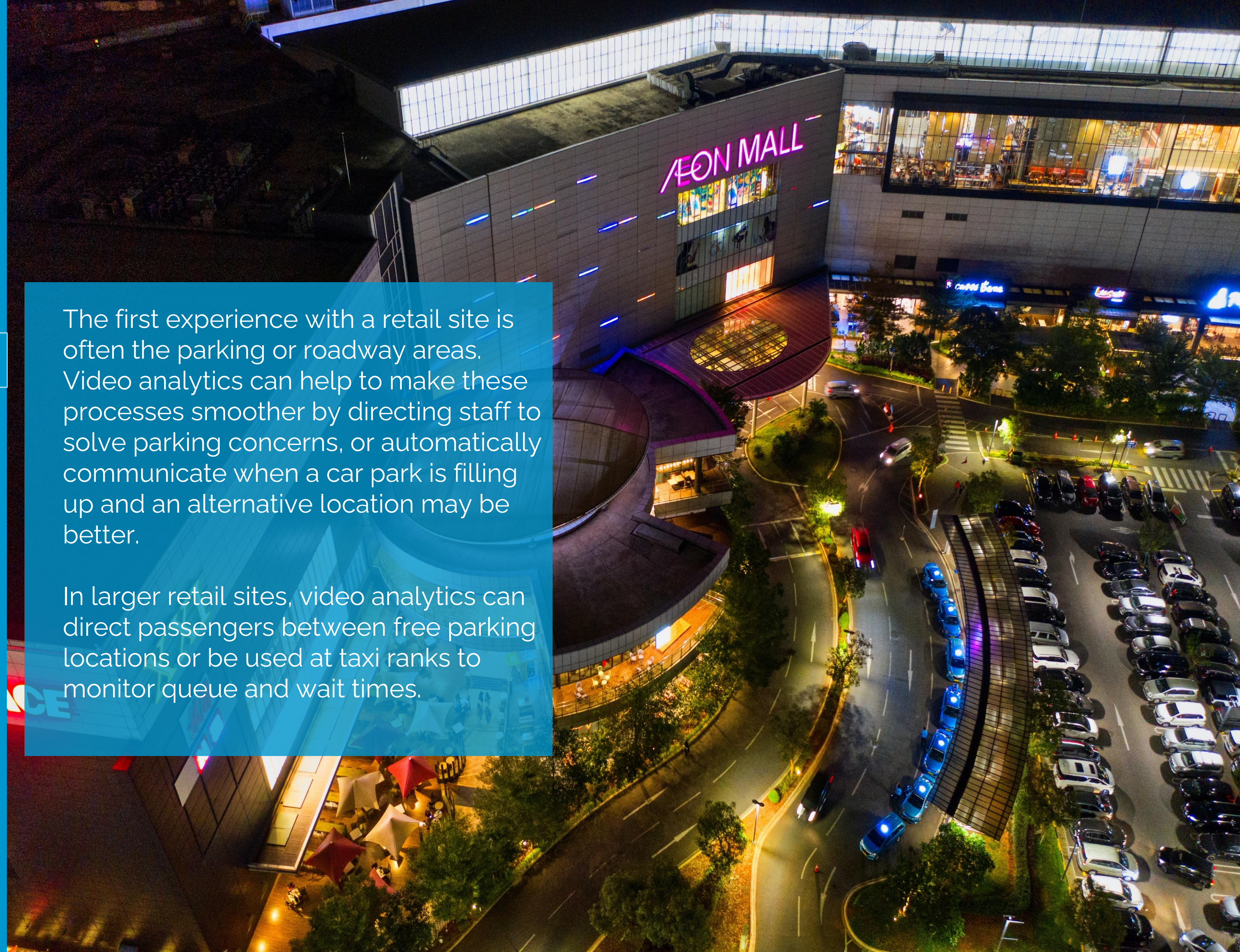
How to manage parking without increasing staffing?

Atos Computer Vision Platform's software stack, VISuite, can work on most most camera types to upgrade their capabilities. By reusing the cameras previously installed in parking areas for security reasons, Ipsotek can monitor how many parking bays are available and display the results in real time.

Thanks to 3rd party integrations via the PSIM, such as with neon-lit notice boards, customers can save time by being directed to areas where there is free space. This data can also be used retrospectively to work out how the parking area could be better organised. VISuite can also compare passing trade statistics with the number of vehicles to work out whether the parking is being used for other purposes, such as nearby schools.
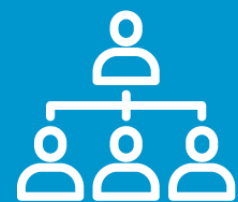
Petrol Filling Station

The dual-challenge of high costs and the increasing popularity of electric vehicles means that fuel retailers must decide between either cutting costs or offering more benefits (charging points, car washes etc.).

Video analytics automatically monitors sites that allow for safe operation with reduced or no staffing.

BENEFITS

New Business Models

Improve Productivity

Optimise Store Usage

Reduce Loss

Smoke detection in a refinery

Loitering detection

DEMO

Automating Petrol Forecourts

One of the biggest fears for all fuel retailers is the risk of sparks or fire breaking out on their site. Atos Computer Vision Platform has received fire safety approval in the UK to monitor petrol forecourts and can help to mitigate these risks through AI-enhanced video analytics.

The control room receives a direct alert via fibre or 4G for smoke, vehicle overstay, people without vehicles and more. It means that immediate action can be taken, such as operators disconnecting pumps or using the intercom system to warn about problematic behavior.

Theft and threaft prevention

Using existing camera systems, retailers can install computer vision applications running on the shop floor to analyze detect theft temptation and abnormal behaviors in real time.

Theft

The system can detect ticket switching and mis-scans in real-time at the point of sale, in the aisles and at store entrances. Alerts are triggered in real time to prevent the person to leave the store.

Threats

The system detects any abnormal situation that can lead to a physical threat. An alert is triggered before a dangerous situation can occur.

On average, a typical retailer is losing 1.4-2 percent of its sales due to shrinkage.

Store analytics and operations

Store analytics

Online-shopping data and in-store data generated from points of sale, cameras, and sensors are ripe with insights that can help determine customer preferences.

The system provides:
- customer demographics
- Flow and Path map analytics: identifies popular and unpopular store aisles
- customer dwell time
- number of unique visitors.
- Dynamic Signage

With a better understanding of shopper behavior, retailers can improve store merchandising, increase overall sales, and deliver a better omni-channel experience for their customers. They can even break down product interest by age and gender to group similar products for the target customer.

Store operations

Focus on customer facing tasks
Less time on inventory counts
Less time on replacing misplaced items
No scanning for out-of-stock situations

BullSequana Edge servers powers the cameras in the aisles to scan items on store shelves to check stock levels, correct shelf location, and price accuracy.
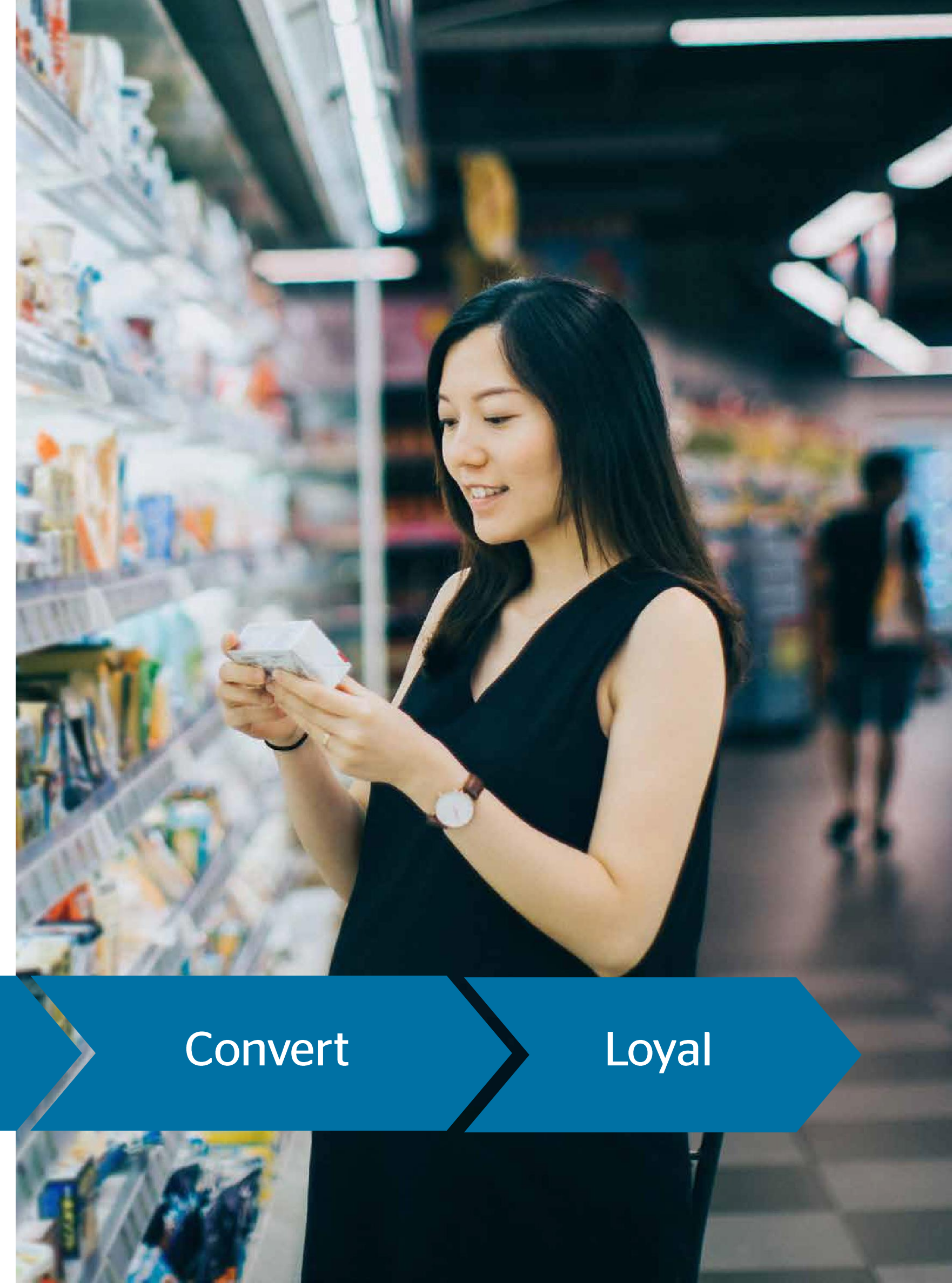
Aware → Attract → Engage → Convert → Loyal

Computer Vision Platform

The highly scalable end–to-end computer vision platform

Pre-trained
& customizable
AI models

Software

One Platform

Hardware

One hardware & software
platform providing pre-trained &
customizable AI models enriched
by Atos computer vision experts
through a worlwide labs.

VISuite

VISuite empowers automation in CCTV applications through premium high end video analytics for live response and forensic investigations. It has been successfully deployed in mission critical solutions globally, across multiple verticals. VISuite is at the forefront of the Artificial Intelligence revolution backed by strong global patents.

Learn more ❯

VISuite Forensics ▶
Learn more ❯

VISuite AI ◀
Learn more ❯

VISuite Protect ▶
Learn more ❯

VISuite FR ◀
Learn more ❯

VISuite Investigation ▶
Learn more ❯

VISuite LPR ◀
Learn more ❯

Full range of edge computing servers from edge datacenter/cloud to far edge

Atos Computer Vision Platform is based on compute intensive servers allowing cloud to edge computer vision models to process data in real time anywhere, whatever business constraints

BullSequana X451

High performance computer vision computing for training

Learn more >

BullSequana SA20G

AI inference & training inside the datacenter

Learn more >

BullSequana Edge

AI inference and training outside the datacenter

Learn more >

BullSequana Edge nano

Plug & play analytics in a compact & ruggedized server

Learn more >

Atos delivers an end-to-end computer vision approach

We take into account your existing infrastructure and your priorities, to go from idea to realization. The Atos approach combines business and technology expertise and accelerates the passage from idea to implementation.

- Delivering custom service with our worldwide expert labs
- Delivery & managed service to provide the best model to the customer APEX/OPEXConsulting
- Integration & configuration of pre-trained & custom solutions powered by Atos infrastructure servers and services

Monitor and support

Deploy edge

Configure and Build a custom solution

Understand business stakes
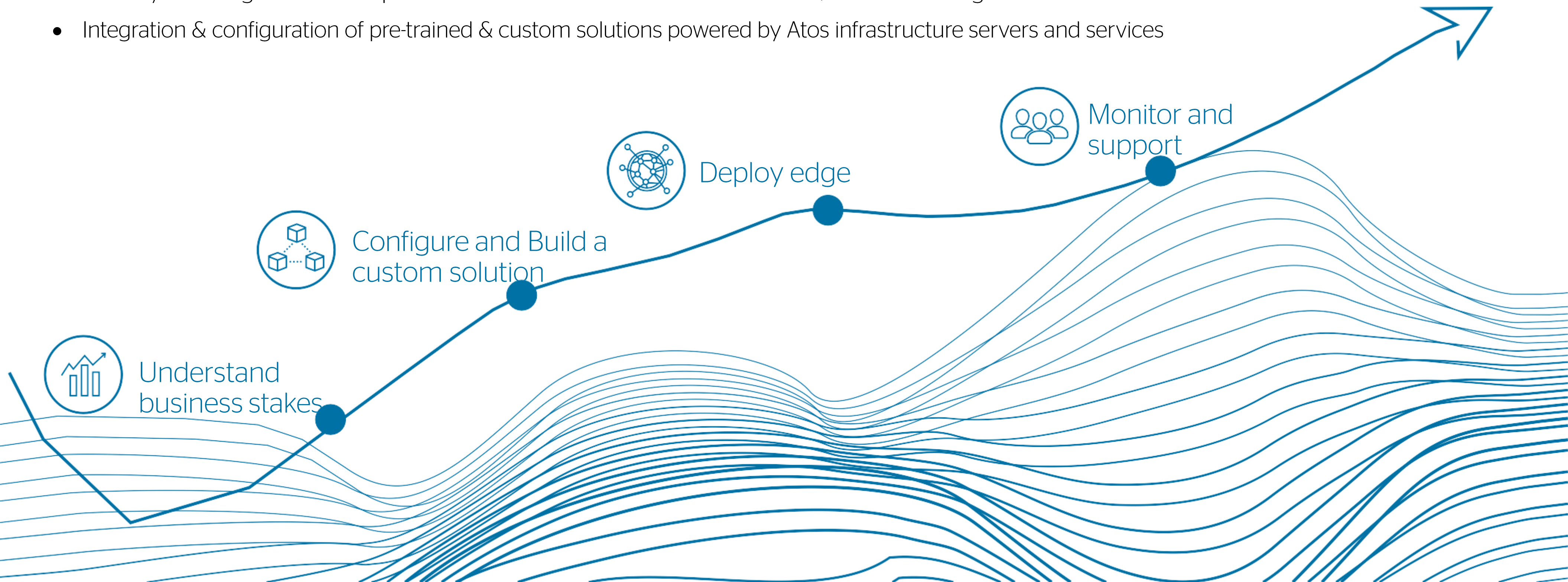
Atos positioned as « leader of leaders » in Edge AI (Global)

Internet of Things - Services and Solutions
Artificial Intelligence on the Edge
2021
Global

Leader Global

ISG Provider Lens™
Quadrant Study

2021

Source: ISG Research 2021

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Brochure

About Atos

Atos is a global leader in digital transformation with 105,000 employees and annual revenue of over € 11 billion. European number one in cybersecurity, cloud and high performance computing, the Group provides tailored end-to-end solutions for all industries in 71 countries. A pioneer in decarbonization services and products, Atos is committed to a secure and decarbonized digital for its clients. Atos operates under the brands Atos and Atos|Syntel. Atos is a SE (Societas Europaea), listed on the CAC40 Paris stock index.

The purpose of Atos is to help design the future of the information space. Its expertise and services support the development of knowledge, education and research in a multicultural approach and contribute to the development of scientific and technological excellence. Across the world, the Group enables its customers and employees, and members of societies at large to live, work and develop sustainably, in a safe and secure information space.

Find out more about us
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Let's start a discussion together