

Computer vision stadiums



Atos

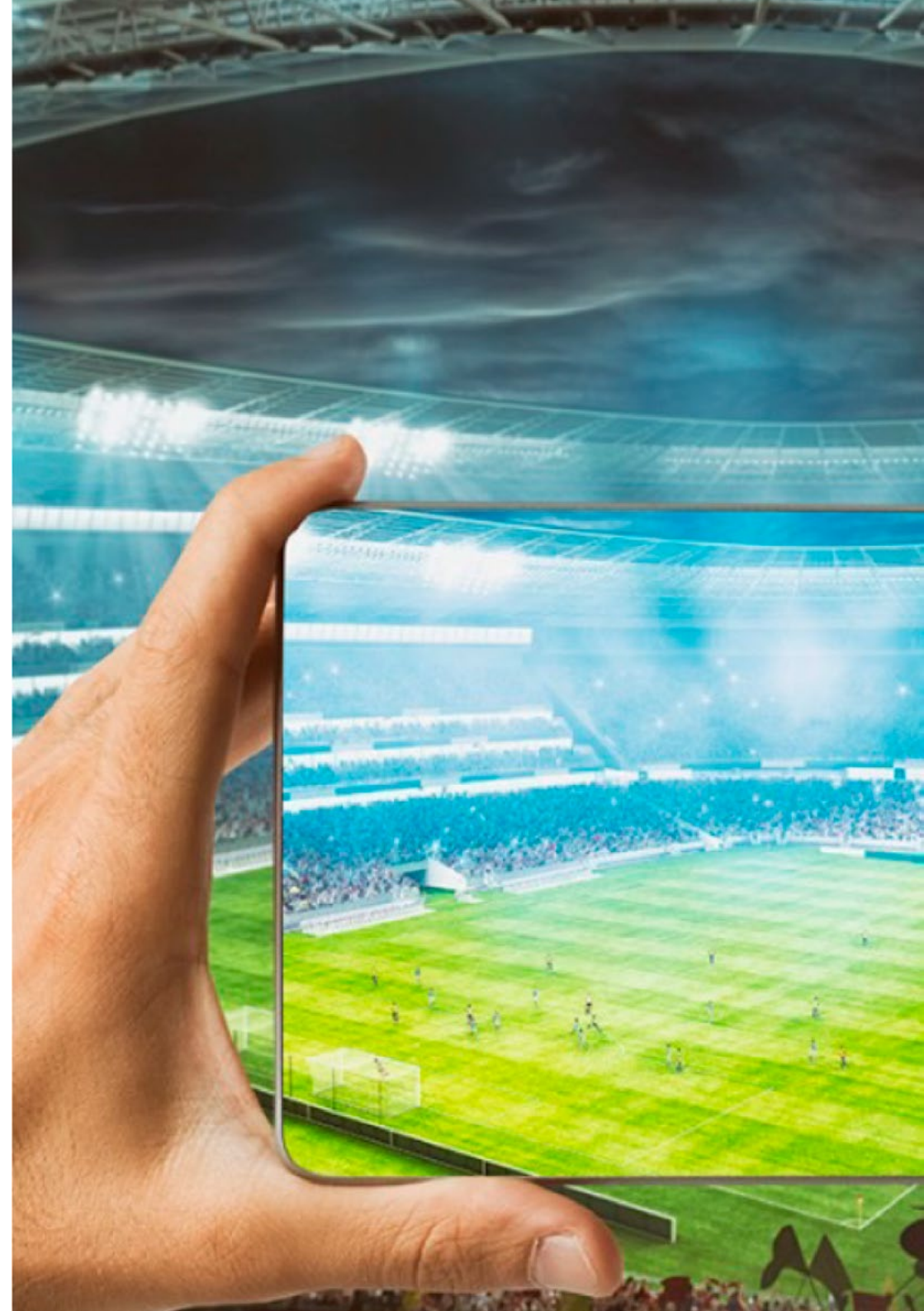
Reinventing the fan experience

Introduction

With lower latency and higher bandwidth, computer vision enhanced by 5G & edge computing revolutionizes the fan experience making you feel even closer to the experience. As venues become smarter, more data and analytics are being captured than ever before.

The atmosphere of a concert or sports event is electrifying. Experience a sports or music event like never before. Live a front row experience wherever you are and receive exclusive and immersive content.

With these technologies, it's possible to stream high-definition video in real time. The venue can more easily collect and process security camera feeds in real time, too, and support building automation and inventory management applications. Low latency, high bandwidth connectivity helps the venue with its operations too, including security and retail.



Delivering better customer venue experience



65 percent

of operators say major sporting events are influencing their decisions to accelerate a 5G rollout



During 2019 SuperBowl:

24 terabytes of data was transferred within the stadium alone
+47% from 2018



Enhanced
immersive audio



Surveillance
camera



Real time
Smart parking
status



Personal
concierge e.G
smart ticketing



Indoor seat
navigation



Reliable and
constant mobile
broadband

The challenges you face...

What do fans expect from your venue?

They expect the environment in the arena to be safe
They expect an exciting, comfortable and clean atmosphere
Quick service & attention

These expectations represent a major challenge for your operations teams, human vision supervising & analyzing from 500 camera feeds is impossible to monitor in real time. Especially considering the number of entry points & the crowd movements during a short period of time.

Traditional video surveillance can struggle to get key indicators of security efficiency.

How many fans are entering per minute?

On average, how long are fans waiting in line?

What is the sentiment of the fans in general service areas?

How we help you solve them...

Improve security & efficiency in access



Benefits

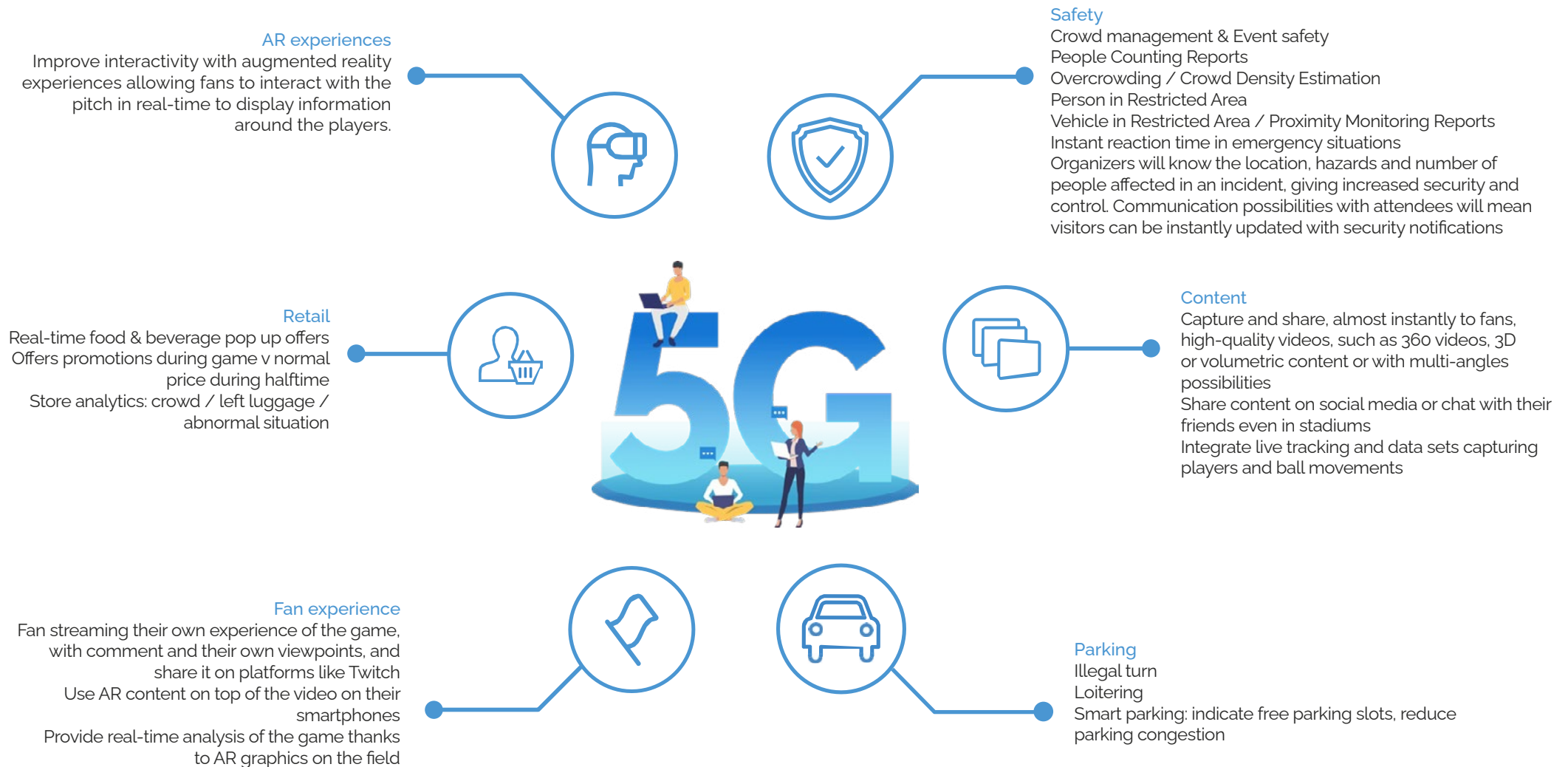
Improvements on entrance & exit

Reduction in waiting time in service areas

Increase on detection & handling of potential bottlenecks in navigation

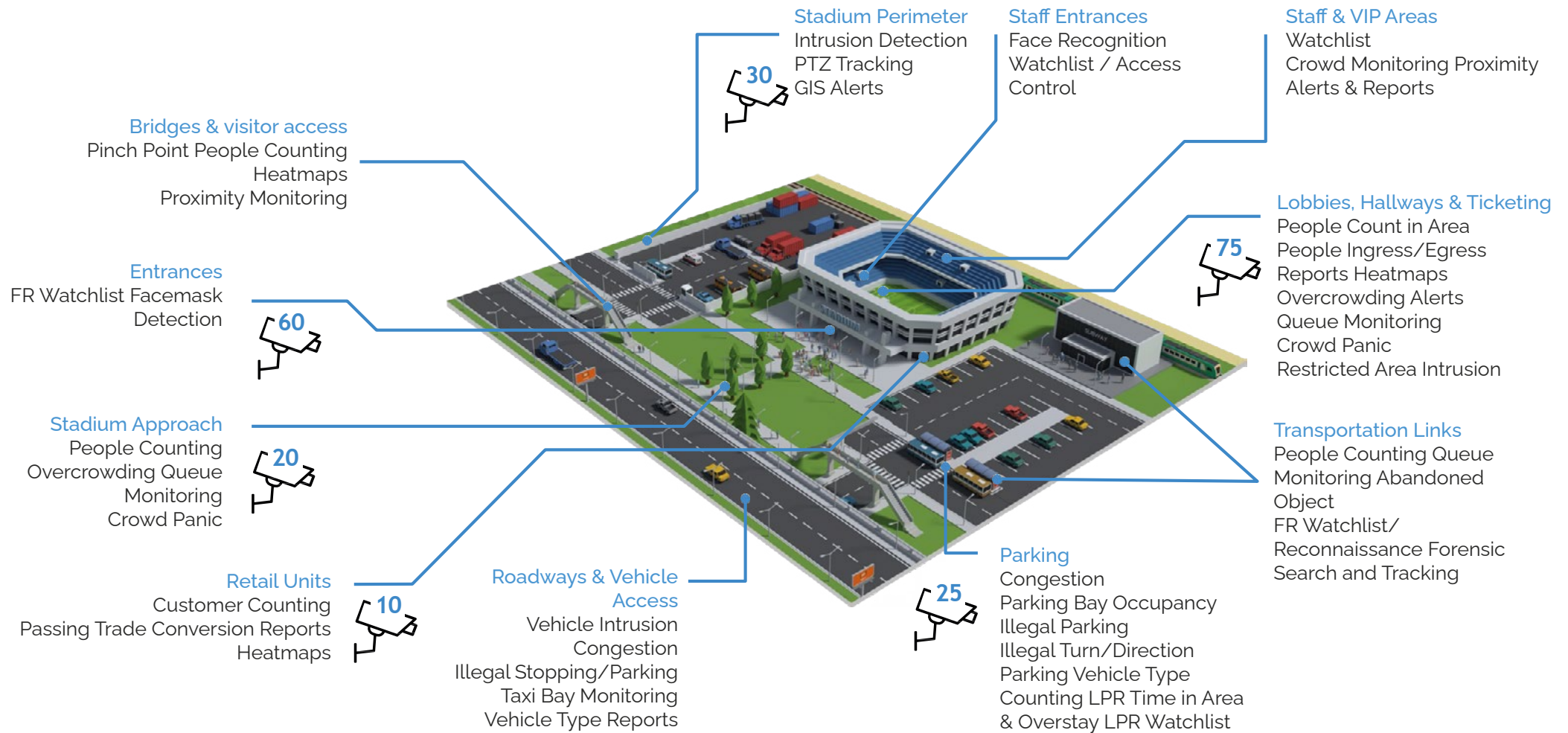
Increase in upselling rate improvement

Edge x Computer Vision supporting major events use cases



Focus on computer vision use cases

250 camera deployment for +41 use cases



A blue-tinted photograph of a crowd at a sports event. In the foreground, the back of a person's head and their raised arms are visible. Another person's arm is also raised to the left. The background shows a blurred crowd of spectators in a stadium.

Use Cases

Increased Fan Safety

Season Ticket Holders



Pre-registration &
digital ticketing



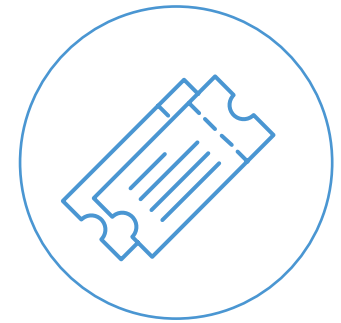
Barriers open based
on facial recognition



Enters fastlane
bypassing normal
queues



Facemask Detection

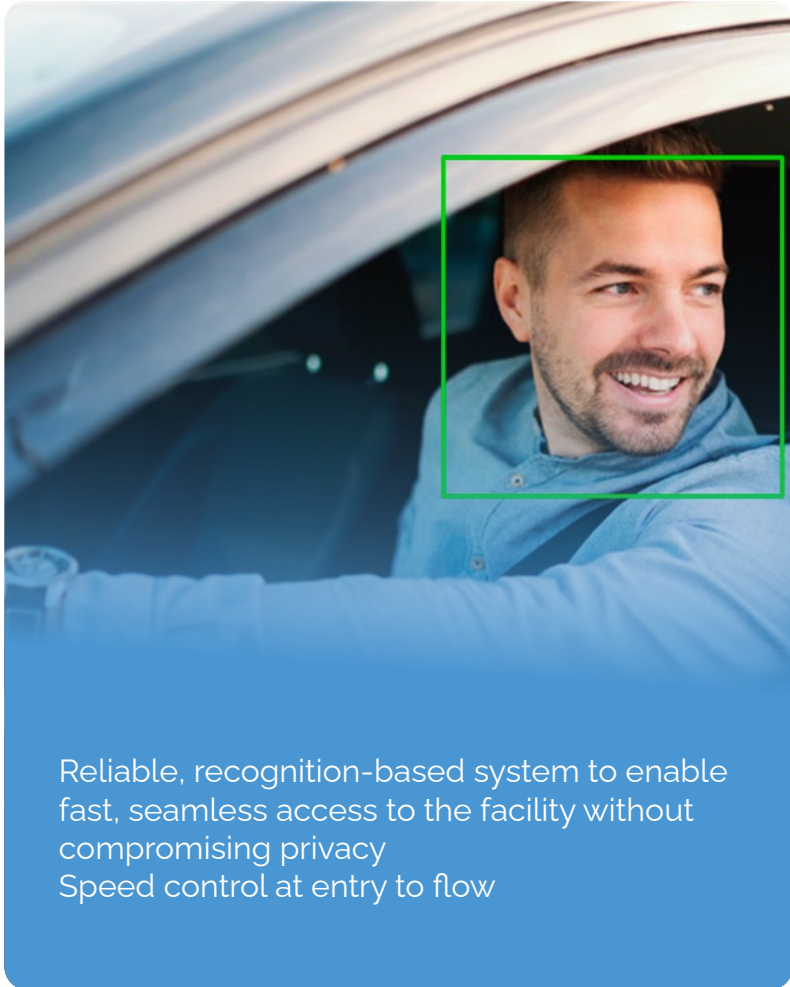


Ticket Collection

Technologies involved

LPR, FR, Liveness Detection, Mobile App (stadium/team branded), ticketing system

Season Ticket Holder: VIP Parking



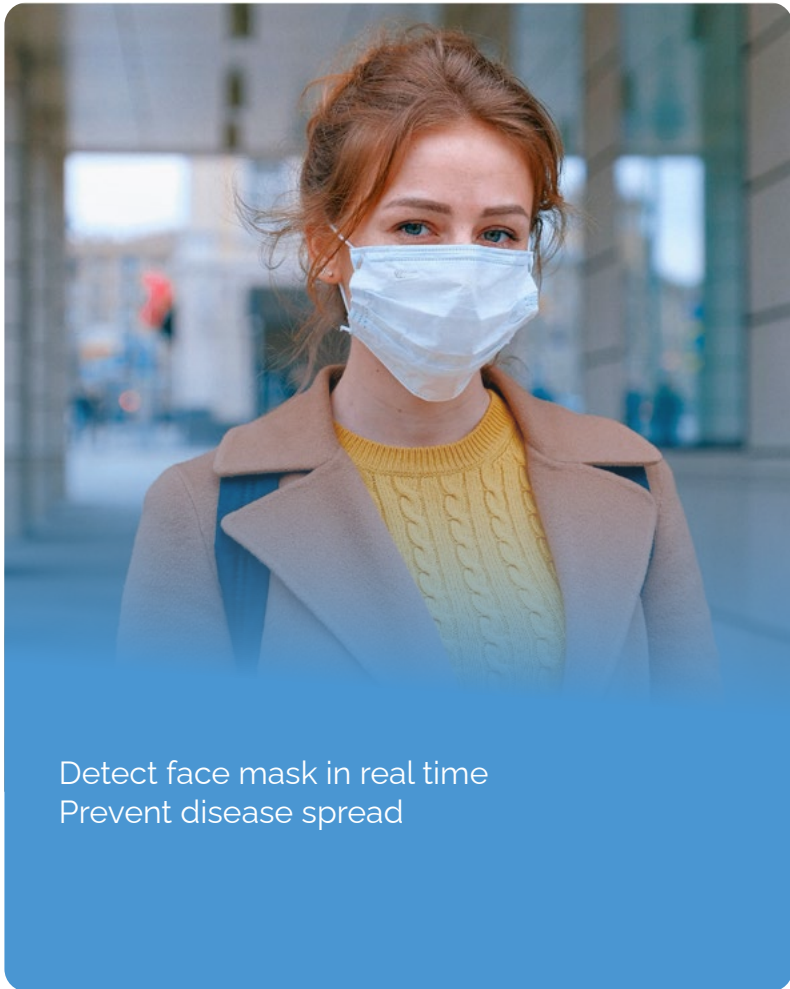
Managing crowds



Ideal capability for venues and stadiums which typically have multiple entrances and exits
Results can be displayed in real-time in the analyzed camera video feed
Aggregate values can be displayed in the dynamic dashboard in the control room along with other operational statistics.



Face mask detection



Increase Physical Security

Identifying Hooligans & Banned Fans



Upload list of known hooligans
and banned spectators



Identify hooligans when
they enter the stadium



Identify new hooligans in
real-time and dynamically add
them to watchlist

Use cases

Identification of Hooligans in Real-Time



Identify hooligans in real-time and add them to watchlist



Increase Physical Security

Defending Against Scalpers + Online Ticket Registration



Upload list of known scalpers



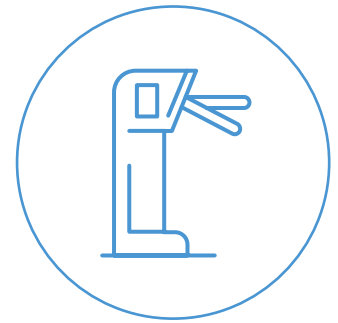
Identify scalpers approach the stadium



Identify new scalpers in real-time and dynamically add them to watchlist



Online pre-registration (picture of face captured)



Turnstile opens based on facial recognition

Increase Physical Security

Authorized Access Control for Stadium Entry



Reliable, recognition-based system to enable fast, seamless access to the facility without compromising privacy
Speed control at entry to flow



Increase Physical Security

Missing Children



Child/person goes missing



Parent provides picture of lost child to security



Stadium adds child's picture to watchlist



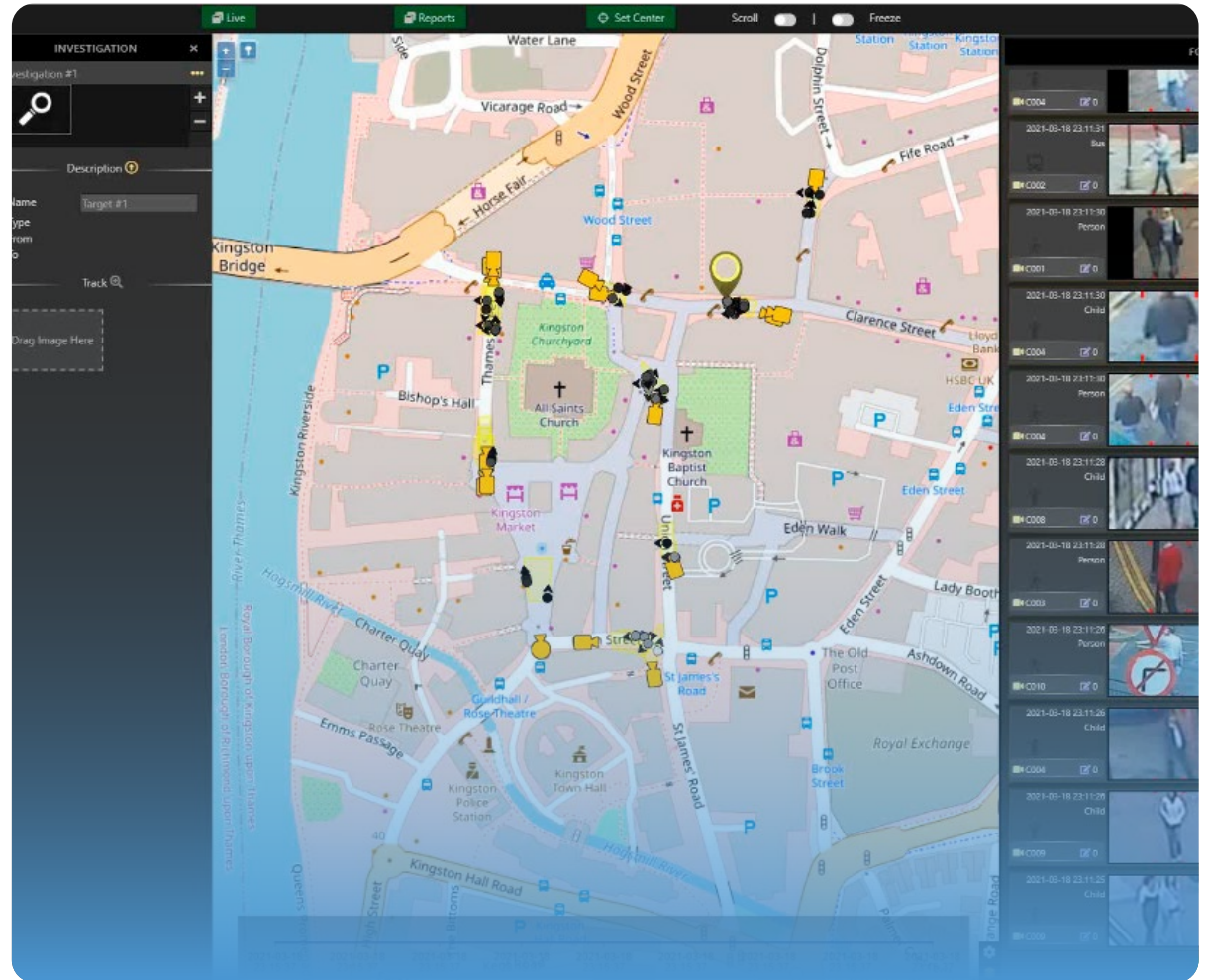
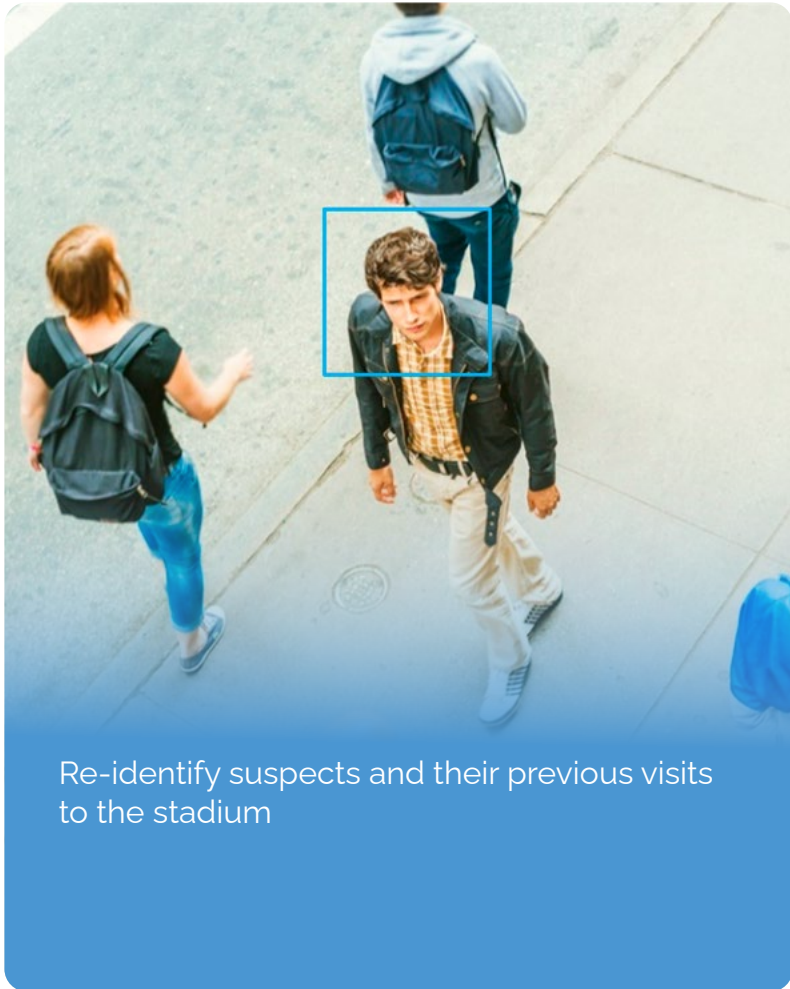
Security cameras scan for child in real-time



Security alerted when child is spotted

Use cases

Facilitate Investigations After-the-Fact



Increased Fan Safety

Contact Tracing



Player/coach test
positive for COVID



Historical footage
from practice facilities
reviewed



Other players
identified who were in
close proximity



Temperature checks
can be implemented at
point of entry to flag high
temperatures

A person's silhouette is shown from behind, with their arms raised high in the air. They are wearing a dark watch on their left wrist. The background is a blurred stadium filled with spectators, creating a sense of excitement and celebration.

Get Started

Use Cas Contact one of our edge computer vision experts

Access to content on atos.net

Read our blog on 6 ways AI & computer vision can deliver a winning stadium

About Atos

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Let's start a discussion together



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