



# TMA Smart Camera Solutions

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## Overview

Deployment	Edge	On-Premise	Cloud	
Applications	Manufacturing	Security & Safety	Retail	Smart Building
Hardware	Camera	Edge computer	Server	Mobile/ Tablet

## Functions

Face Recognition	Gender Recognition	Age Prediction
Children Detection	People Detection	Trespassing & Vandalism Detection
Behavior Analytics	Pet Detection	Gun Detection
Fighting Detection	Crowd Detection	Vehicle Detection
License Plate Recognition	Protective Personal Equipment Detection	Pest Detection
Pig Disease Detection	Disease in Rice Paddy Detection	Road Damage Detection



# Sample Hardware

## Camera



## Edge Computer



## AI server with GPUs



## AI on Mobile



# Technologies

## Edge AI

- Tensorflow Lite
- Pytorch Mobile
- OpenVINO
- NVIDIA Jetson
- Edge Impulse
- Caffe 2
- MXNet

## Model Type

- Object Detection
- Image Classification
- Image Segmentation
- Pose Estimation
- Image Captioning
- Style Transfer
- Super Resolution

## Frameworks

- OpenCV
- Scikit-image
- Pillow
- Tensorflow
- Keras
- Pytorch

## Cloud AI

- AWS Rekognition
- AWS
- Kinesis
- Azure Cognitive Service
- GCP AutoML Vision



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## Smart Camera for Security & Safety

Weapon detection

Daytime loitering detection

Crowd monitoring

Aggressive behavior detection

Vehicle detection

Road damage detection

Throwing detection

Door/window tampering & breaking detection

Fall detection

Trespassing & vandalism detection

Nighttime loitering detection

Children detection



## Smart Camera for Manufacturing

Access control

Attendance check

Personal protective equipment detection

Trespassing & vandalism detection

Behavior analytics

Analog device reader

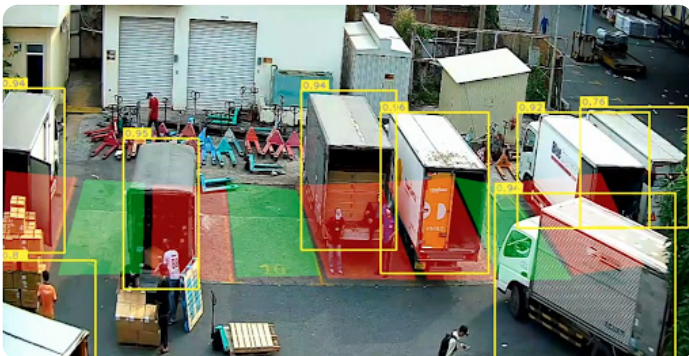
Product quality control

Object counting

Vehicle monitoring

Parking lot detection

License plate recognition



# Solutions

## Smart Camera for Retail

People detection &  
Traffic tracking

People counting

Age &  
gender detection

VIP &  
blacklist detection

People heatmap

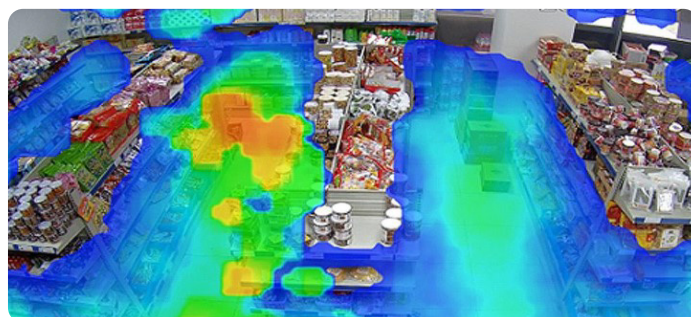
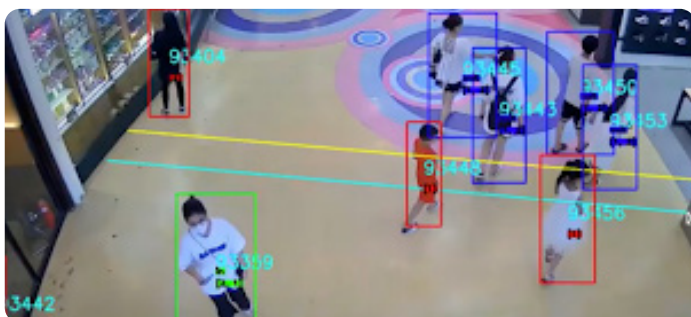
Product &  
brand detection

Customer journey  
tracking

Queue management

Warehouse access control

Attendance check



## Smart Camera for Building

Resident recognition

Staff recognition

Guest recognition

Children detection

Trespassing &  
vandalism detection

Pet detection



# Contacts

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