

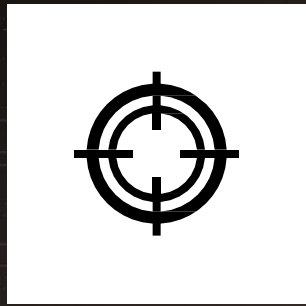
WORLD'S LEADING AI ENGINE BUILDERS

VAIDIO

AICUDA TECHNOLOGY & IRONYUN

VAIDIO AI VISION PLATFORM

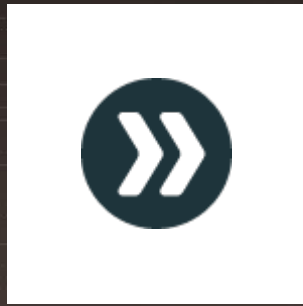




ACCURATE
ALERTS



MAXIMIZED
EFFICIENCY



FAST
VIDEO SEARCH



AI-ENABLED
ANALYTICS



COMPREHENSIVE
FUNCTIONALITY

VERSATILE

More analytics than any alternative

FAST

Search days of video in minutes

ACCURATE

Reduce false positives by orders of magnitude

IMMEDIATE

Real-time alerts in 3 seconds or less

INTELLIGENT

Natural-language search across multiple objects

OPEN

Integrate with 97% of ONVIF devices

IMPACTFUL

Increase alert readiness, improve productivity



































TRAFFIC
MANAGEMENT

AI-BASED ANALYTICS

Detect/ count

Attribute/ classification

Identification

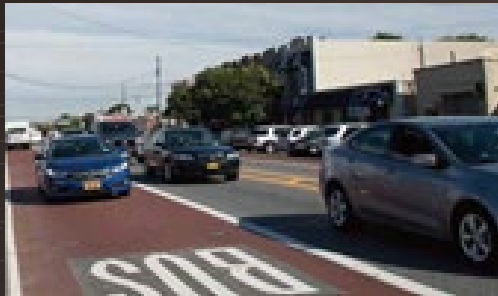
 Vehicles	Area total  Count within the field of view or within a specified area	Model 4 models:  Car  Bike  Bus  Truck  Motorbike	Car make & model 200 makes and 2000 models:  Audi  BMW  BUICK  CHEVROLET  CHERY  CITROËN  DAIHATSU  Ford  HONDA  HYUNDAI  KIA  LEXUS  MAZDA  Mercedes-Benz  MITSUBISHI MOTORS  NISSAN  PEUGEOT  SUBARU  SUZUKI  TOYOTA  VW  VOLVO	License plate recognition  100+ countries worldwide
	Line total  Entry/ exit count	車色 8 colors: <input type="checkbox"/> Silver/Gray <input type="checkbox"/> Black <input type="checkbox"/> White <input type="checkbox"/> Pink <input type="checkbox"/> Green <input type="checkbox"/> Yellow <input type="checkbox"/> Blue <input type="checkbox"/> Red		
	Illegal parking detection  Detection of illegal parking in a car park section/ area			

TRAFFIC MANAGEMENT

Traffic Monitoring



Driving in bus lane



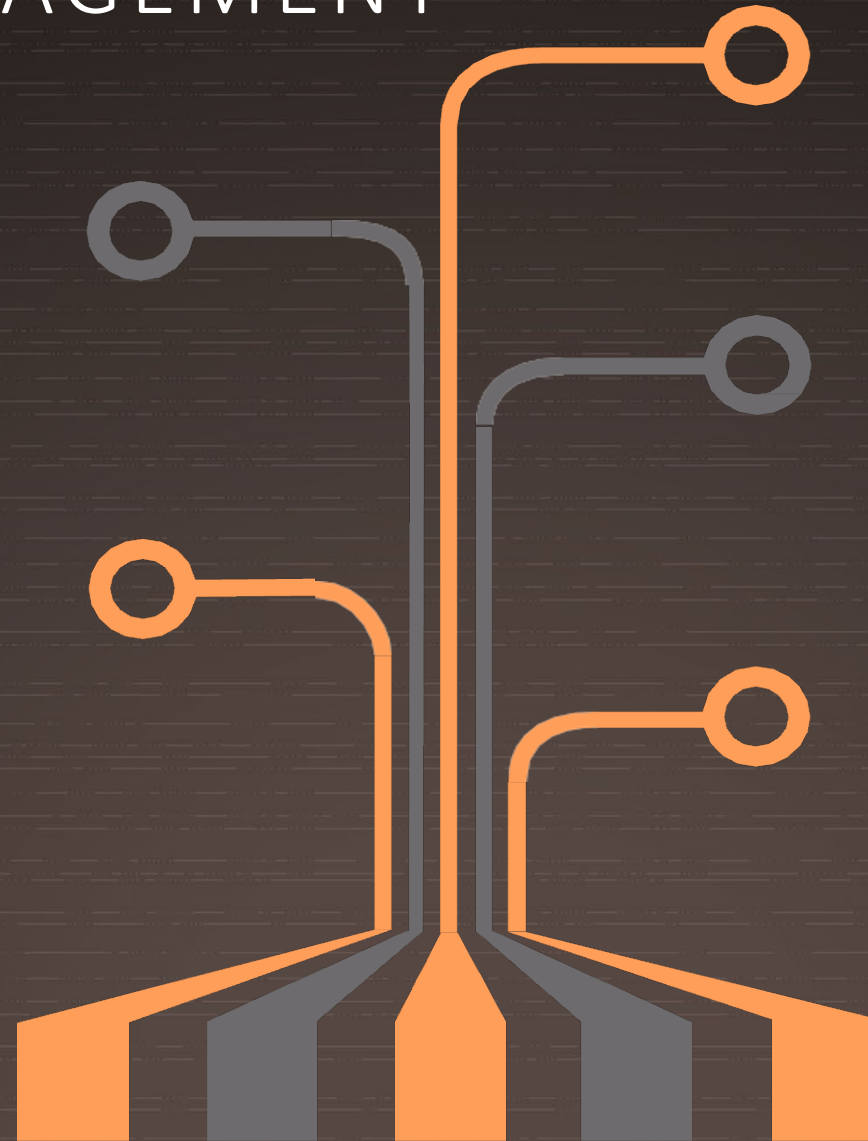
Parking violation



Red light enforcement



Speed violation



VAIDIO TRAFFIC MANAGEMENT

Abandoned Vehicle Detection

Accident Detection

Car Stop in Tunnel Detection

Changing Lane Detection

Container ID

Double Parked Vehicle Detection

Dynamic Zone Intrusion Detection

Hard Shoulder / Breakdown Lane

Human Enter / Exit Vehicle

Illegal Parking Detection

Illegal Turn Detection

Kiss and Ride (airports)

Level Crossing Violations

License Plate Recognition

Line Crossing Detection

Make & Model Detection

Obstacle in Road Detection

Occupancy Measurement Detection

Overcrowding & Congestion Detection

Illegal Parking Detection

Parking Occupancy

Parking Spot Detection

Parking Statistics / Dashboard

Parking Time Out

Pedestrian In Tunnel Detection

Pedestrian On Road Detection

Wrong Way / Ghost Driving

Slow Vehicle / Queue Detection

Speed Detection

Speed Penalty Detection

Stop / Stationary Vehicle Detection

Traffic Classification

Traffic Detection - Traffic Flow & Density

Vehicle Classification

Vehicle Colour

Vehicle Tracking



CHALLENGES



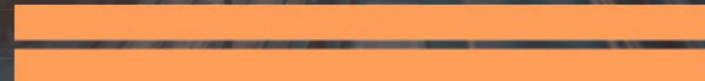
Security

- Annual growth number of serious injuries and fatalities from accidents
- Increased Traffic accidents due to the rapid growth in drivers and cars
- Lack of evidence to enforce traffic violations



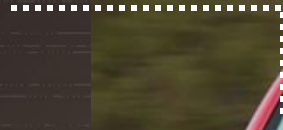
Efficiency

- Traffic congestion causes lost time and money
- Enforcement systems are not integrated with other traffic systems
- High-cost, complex, and customized systems are difficult to create and maintain



AI VIDEO ANALYTICS TECHNOLOGY

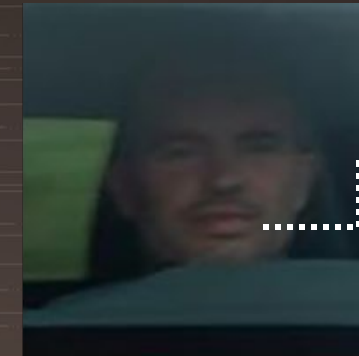
Mobile phone and
seat belt detection



Make and model
detection



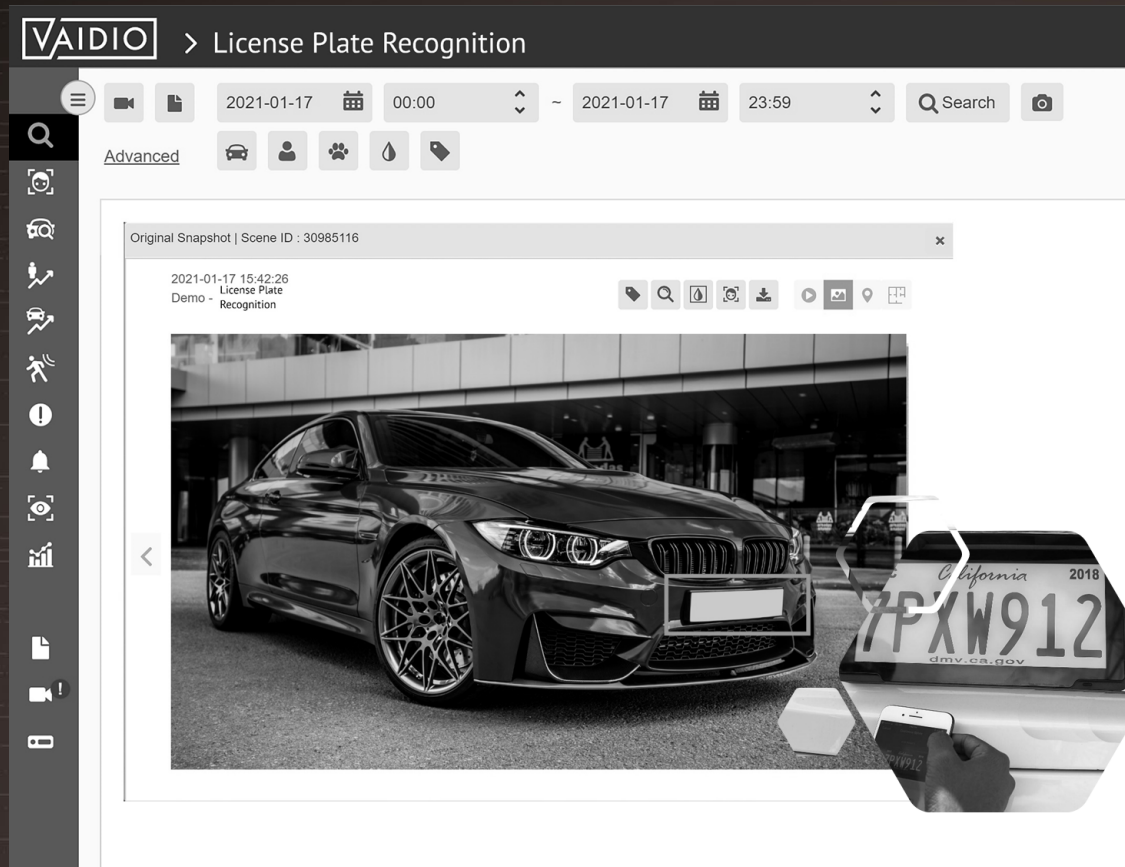
Vehicle license
plate recognition



Face recognition

Speed, car stop, slow moving
and traffic flow

AI-BASED LICENSE PLATE RECOGNITION



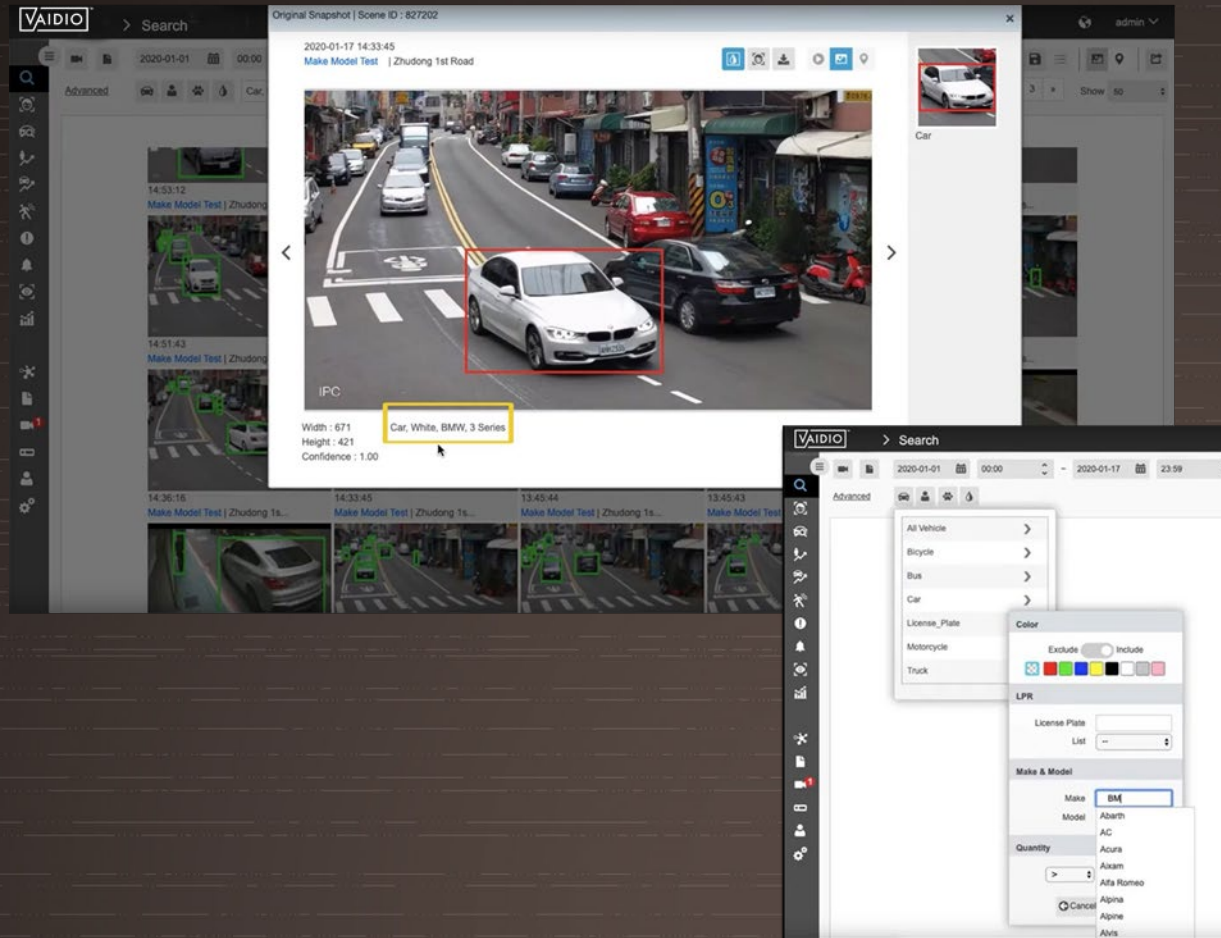
REGISTER VEHICLE LICENSE PLATES FOR AUTOMATIC ENTRANCE CONTROL

APPLY LICENSE PLATE RECOGNITION AND ENTRANCE CONTROL WITH WHITELIST FOR RESTRICTED PARKING AREAS FOR EMPLOYEES AND VIP CUSTOMERS

TRIGGER ALERTS FOR VEHICLES THAT ARE ILLEGAL PARKED

TRIGGER ALERTS FOR VEHICLES THAT ARE ON A STOLEN VEHICLE LIST

AI-BASED MAKE AND MODEL DETECTION



SEARCH FOR A SPECIFIC VEHICLE MAKE AND MODEL THROUGH MULTIPLE CAMERAS AND UPLOADED VIDEO FOOTAGE

NARROW DOWN SEARCH RESULTS WHEN SEARCHING FOR A TARGET VEHICLE

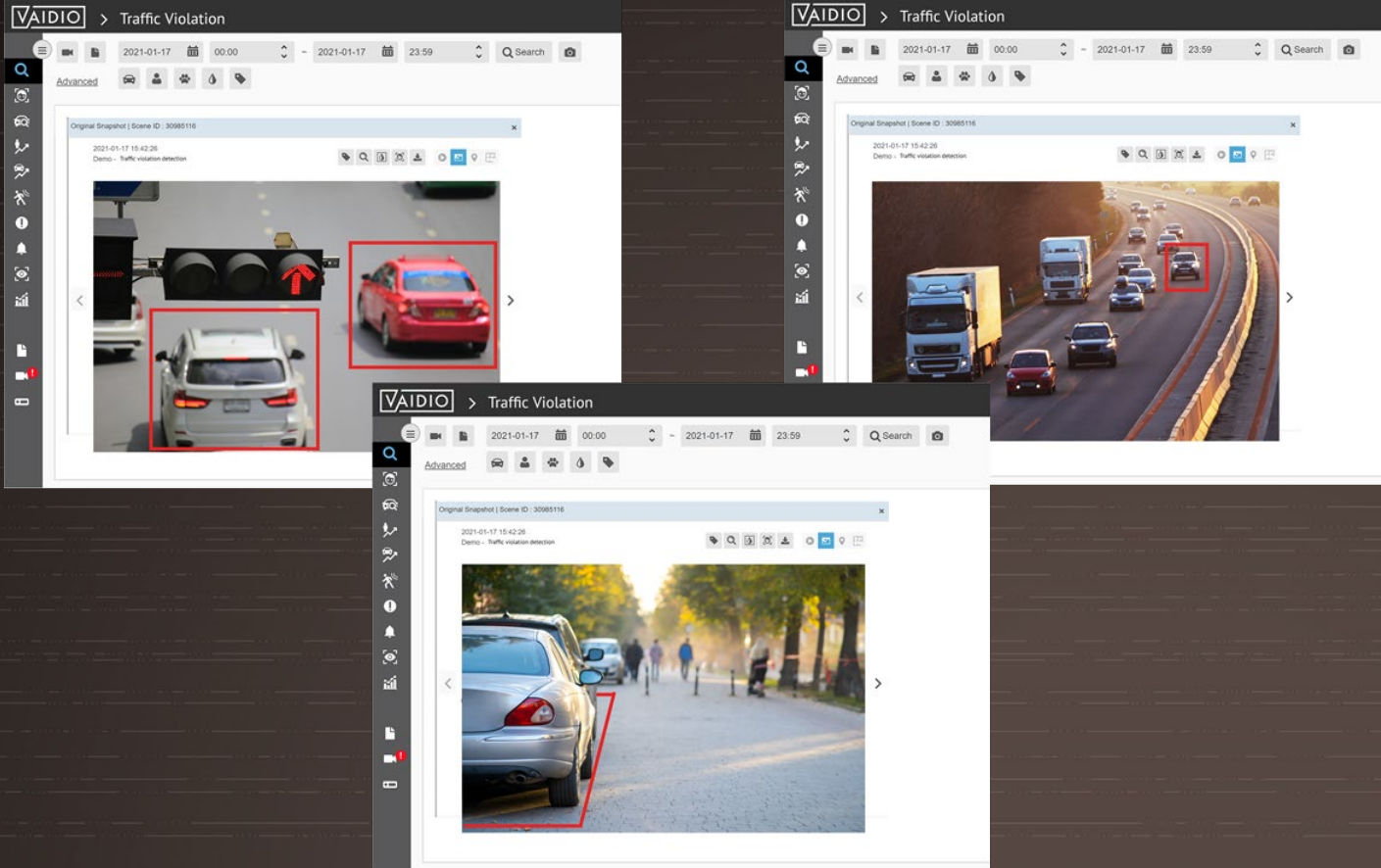
TRACK VEHICLES IN REAL-TIME BASED ON COLOR, QUANTITY AND PARTIAL LICENSE PLATE NUMBER

TRIGGER ALERTS WHEN A SPECIFIC MAKE AND MODEL IS DETECTED

IDENTIFY OVER 200 MAKES AND 2000 MODELS



AI-BASED TRAFFIC VIOLATIONS DETECTION



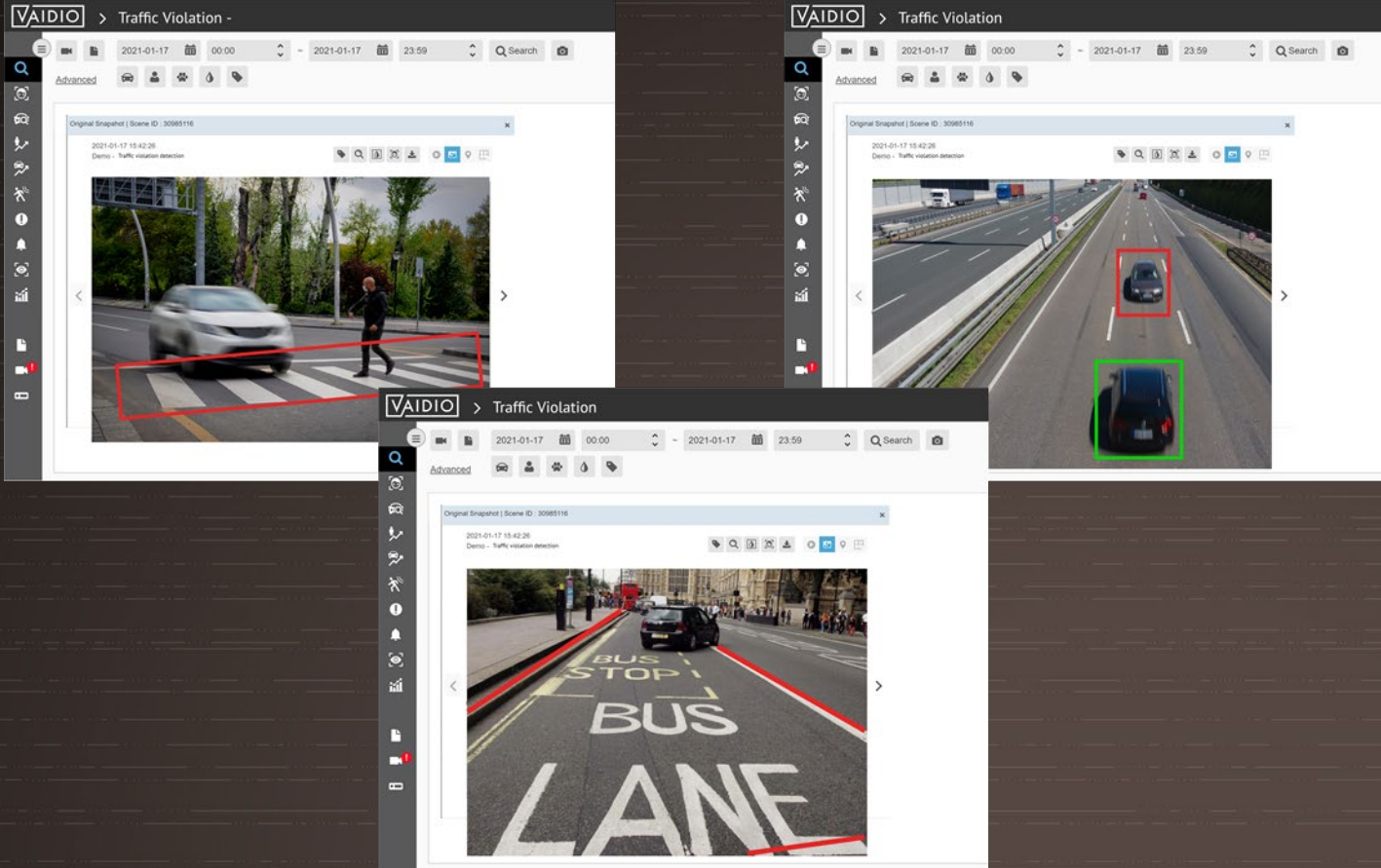
SAFE TRANSPORTATION IS A GLOBAL CONCERN IN A MODERN SOCIETY WITH INCREASED MOBILITY

RED LIGHT AND SPEED VIOLATIONS ARE A MAJOR FACTOR TO CONSIDER IN TRAFFIC TRAGEDIES

VAIDIO REAL-TIME TRAFFIC VIOLATION DETECTION REDUCES TRAFFIC VIOLATIONS BY TRACKING AND PENALIZING OFFENDERS

AI VIDEO ANALYTICS IS FAR MORE COST EFFECTIVE AS EXPENSIVE RADAR OR LIDAR DEPLOYMENTS

AI-BASED TRAFFIC VIOLATIONS DETECTION

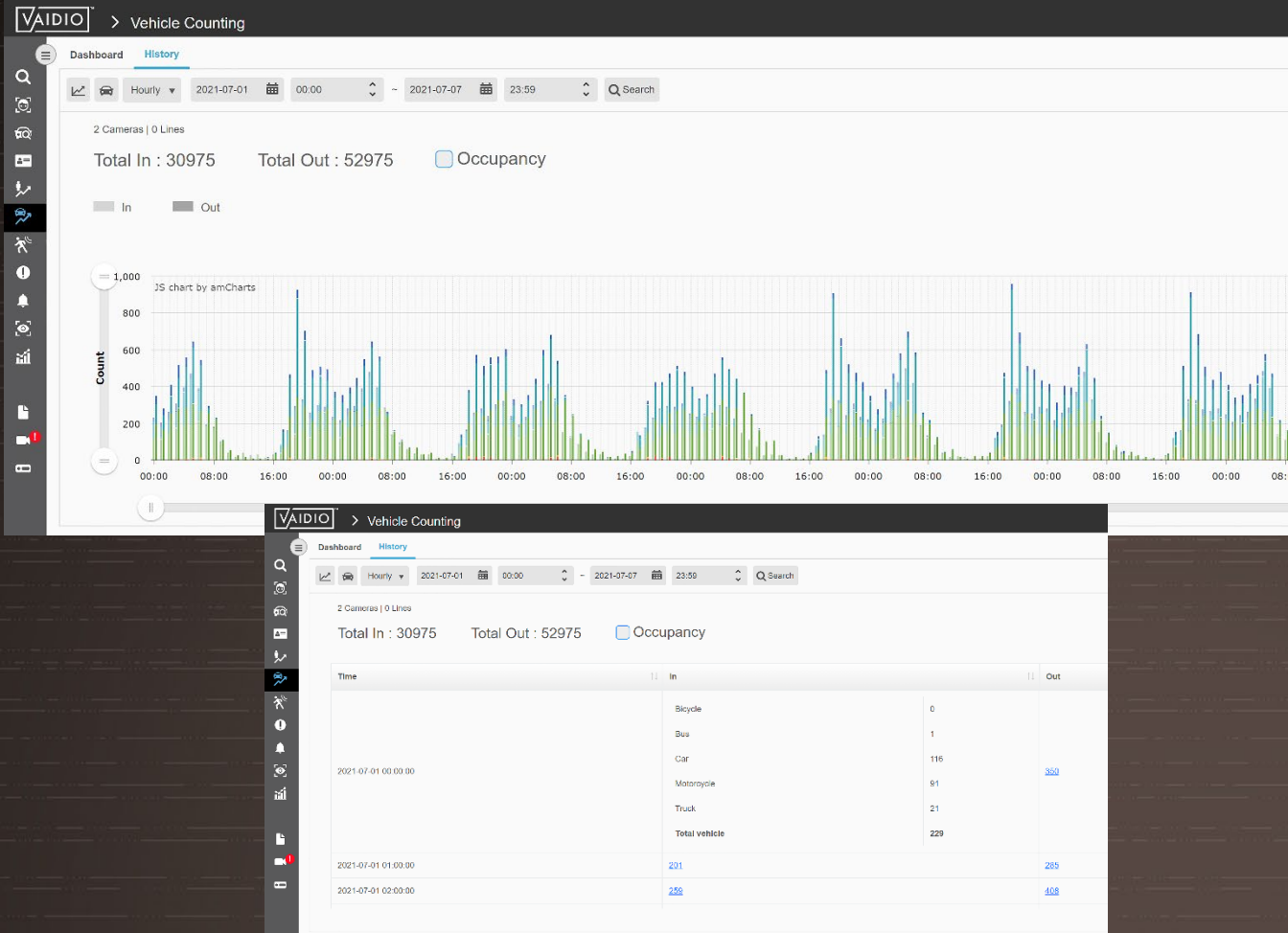


SETUP THE REGION OF INTEREST AND ALERT RULES FOR NON-PARKING AREAS, BUS LANES, PEDESTRIAN CROSSINGS, ILLEGAL TURNS, LINE CROSSING ETC. AND TRIGGER REAL-TIME ALERTS FOR VEHICLES THAT ENTER THE REGION OF INTEREST

PREVENT POTENTIAL COLLISIONS BY WARNING GHOST DRIVERS AND TRIGGER ALERTS TO THE LOCAL TRAFFIC MANAGEMENT CENTER OR GROUND OFFICERS

INTEGRATE VAIDIO WITH SIGNALING DEVICES TO WARN GHOST DRIVERS

TRAFFIC DATA COLLECTION - INFRASTRUCTURE



VAIDIO PROVIDES ACTIONABLE DATA TO ANALYZE TRAFFIC FLOWS AND OPTIMIZE DECISION MAKING AROUND TRAFFIC INFRASTRUCTURE TO SPUR ECONOMIC GROWTH

DETERMINE PEAK HOURS AND TRAFFIC CONGESTIONS TO REDUCE POLLUTION AND FUEL CONSUMPTION

CATEGORIZATION OF VEHICLES IN BICYCLE, BUS, CAR, MOTORCYCLE AND TRUCK

LOWER TRANSPORTATION COSTS

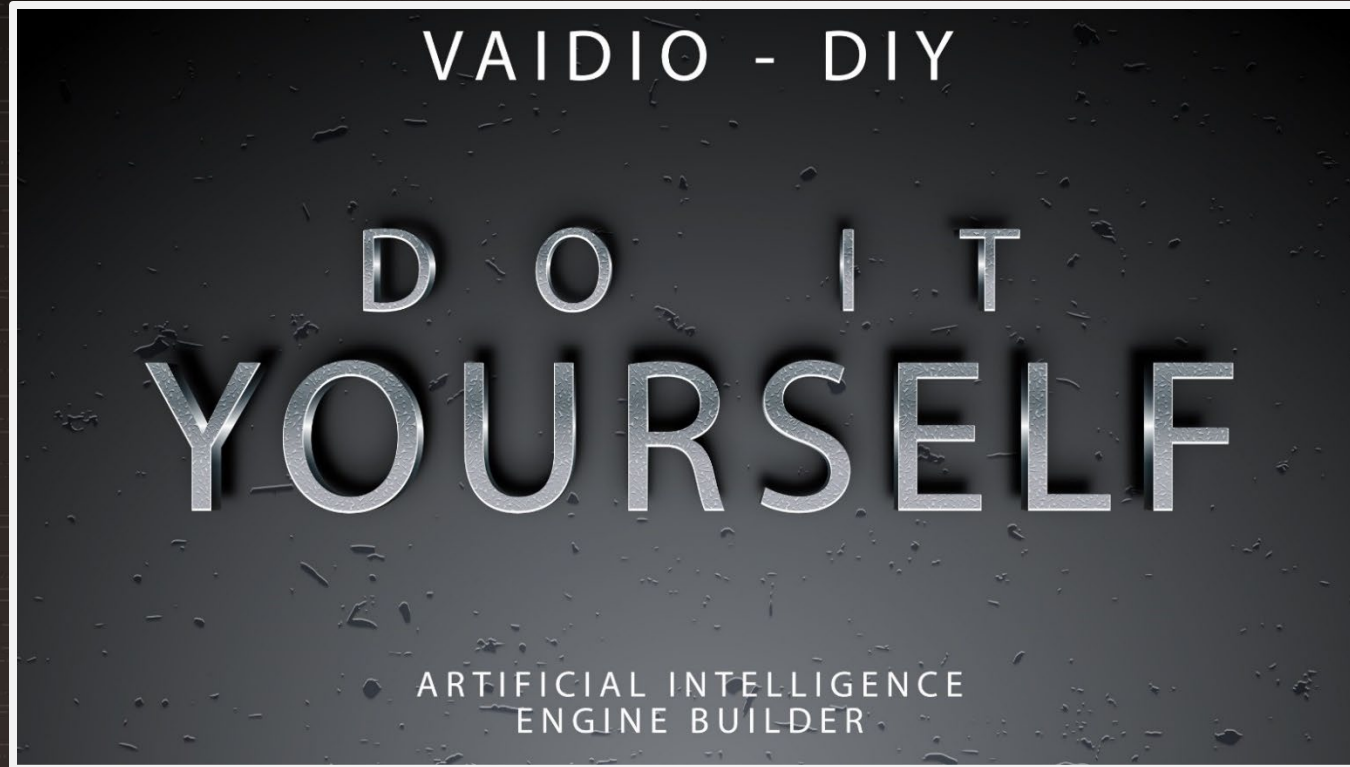
REFERENCE – TUNNEL PROJECT NORWAY

POC Tasks and deliverables	Planned	Actual
0. TMC approves and sign-off on project kick-off	-	-
1. TMC select key use cases (main video analytics to deploy)	Week 1	Week 1
2. TMC and Aicuda team select 20 IP cameras for POC	Week 2	Week 2
3. Aicuda ships AI appliance server (2U rack mount server)	Week 3	Week 3
4. Collect video data for analysis and perform fine tuning	Week 4-7	Week 4-5
5. TMC team evaluate results of Vaidio AI video analytics	Week 8-10	Week 6-9
6. Prepare final test report and production roll-out plan	Week 11-12	Week 10-11

REFERENCE – TUNNEL PROJECT NORWAY

Tasks	Tunnel AI - Use Case		Monitoring	Violations	Infrastructure
1	License Plate Recognition		x		
2	Make & Model Detection		x		
3	Reverse Movement Detection Vehicle		x		
4	Line Crossing Detection			x	
5	Average Speed Detection		x		
6	Stop / Stationary Vehicle Detection		x		
7	Slow Vehicle Detection		x		
8	Accident Detection		x		
9	Occupancy Measurement Detection				x
10	Vehicle Tracking		x		
11	Dynamic Zone Intrusion Detection		x		
12	Double Parked Vehicle Detection		x		
13	Illegal Turn Detection			x	
14	Speed Penalty Detection			x	
15	Illegal Parking Detection			x	
16	Abandoned Vehicle Detection		x		
17	Level Crossing Violations			x	
18	Changing Lane Detection		x		
19	Pedestrian on Track Detection		x		
20	Pedestrian In Tunnel Detection		x		
21	Pedestrian On Road Detection		x		
22	Obstacle in Road Detection		x		
23	Overcrowding & Congestion Detection				x
24	Hard Shoulder / Breakdown Lane Detection		x		
25	Car Stop in Tunnel Detection		x		
26	Vehicle Counting				x
27	Area Occupation Detection				x
28	Accident Smoke & Fire Detection		x		

VAIDIO TOOL KIT



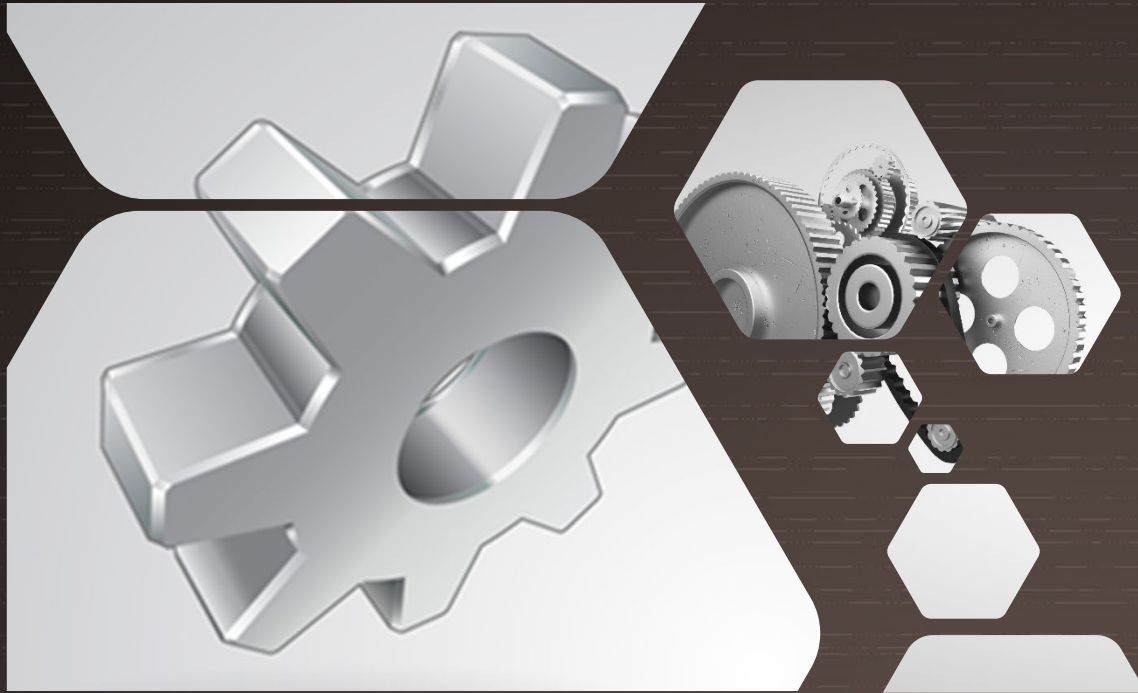
TRAIN YOUR OWN OBJECT
DETECTION MODEL

INPUT: USER SELECTED
FOOTAGE

OUTPUT: READY-TO-USE
AI MODEL



VAIDIO TOOL KIT



ADVANTAGES

EASE-OF-USE

NO KNOWLEDGE REQUIRED AROUND NEURAL NETWORKS, AI LIBRARIES, ALGORITHMS AND DATASETS

VERSATILITY

TRAIN A MODEL FOR ANY OBJECT

INTERFACE

INTUITIVE GRAPHICAL USER INTERFACE

SECURITY

NO DATA SHARING TO 3rd-PARTY LABELLING SERVICES

CUSTOMIZATION

NO CUSTOMIZATION FEE FOR CUSTOMER SPECIFIC REQUESTS



USE CASE



CHALLENGE

DETECT CORROSION AND SURFACE DEFECTS FOR BRIDGES, HIGHWAYS, RAILWAYS AND TUNNELS

SOLUTION

TRAIN YOUR OWN CORROSION AND SURFACE DEFECTS DETECTION MODEL WITH VAIDIO-DIY

BENEFITS

- ❖ PROTECT CRITICAL INFRASTRUCTURE
- ❖ PREVENT SEVERE ACCIDENTS

TRAFFIC INFRASTRUCTURE

INTEGRATION CAPABILITIES



CAMERA INTEGRATION

CLOUD PLATFORM INTEGRATION

ERP INTEGRATION



IO DEVICE INTEGRATION

SOFTWARE SERVICES

VMS INTEGRATION

TRAFFIC MANAGEMENT



VAIDIO BENEFITS & SAVINGS

VAIDIO AI-ENABLED VIDEO ANALYTICS HELP MAINTAIN THE SAFETY IN TRAFFIC

VAIDIO AI-ENABLED VIDEO ANALYTICS PROVIDES ACTIONABLE DATA TO ANALYZE & OPTIMIZE DECISION MAKING AROUND TRAFFIC INFRASTRUCTURE

REVIEW HOURS OF VIDEO IN SECONDS – INCREASE IN PRODUCTIVITY OF THE MONITORING STAFF

REAL-TIME ALERTS AND PRO-ACTIVE FOLLOW UP CAN PREVENT EVENTS FROM HAPPENING – DAMAGE REDUCTION

VAIDIO AI-ENABLED VIDEO ANALYTICS WILL REDUCE THE NUMBER OF FALSE POSITIVES TO A MINIMUM – SAVE TIME AND RESOURCES FROM INVESTIGATING FALSE ALERTS

MONITOR TRAFFIC INFRASTRUCTURE FROM A CENTRAL LOCATION. PROVIDE REAL-TIME ALERTS TO GROUND OFFICERS VIA MOBILE DEVICES

WORKING TOGETHER
ON THE ROAD TO A
SAFER TOMORROW

