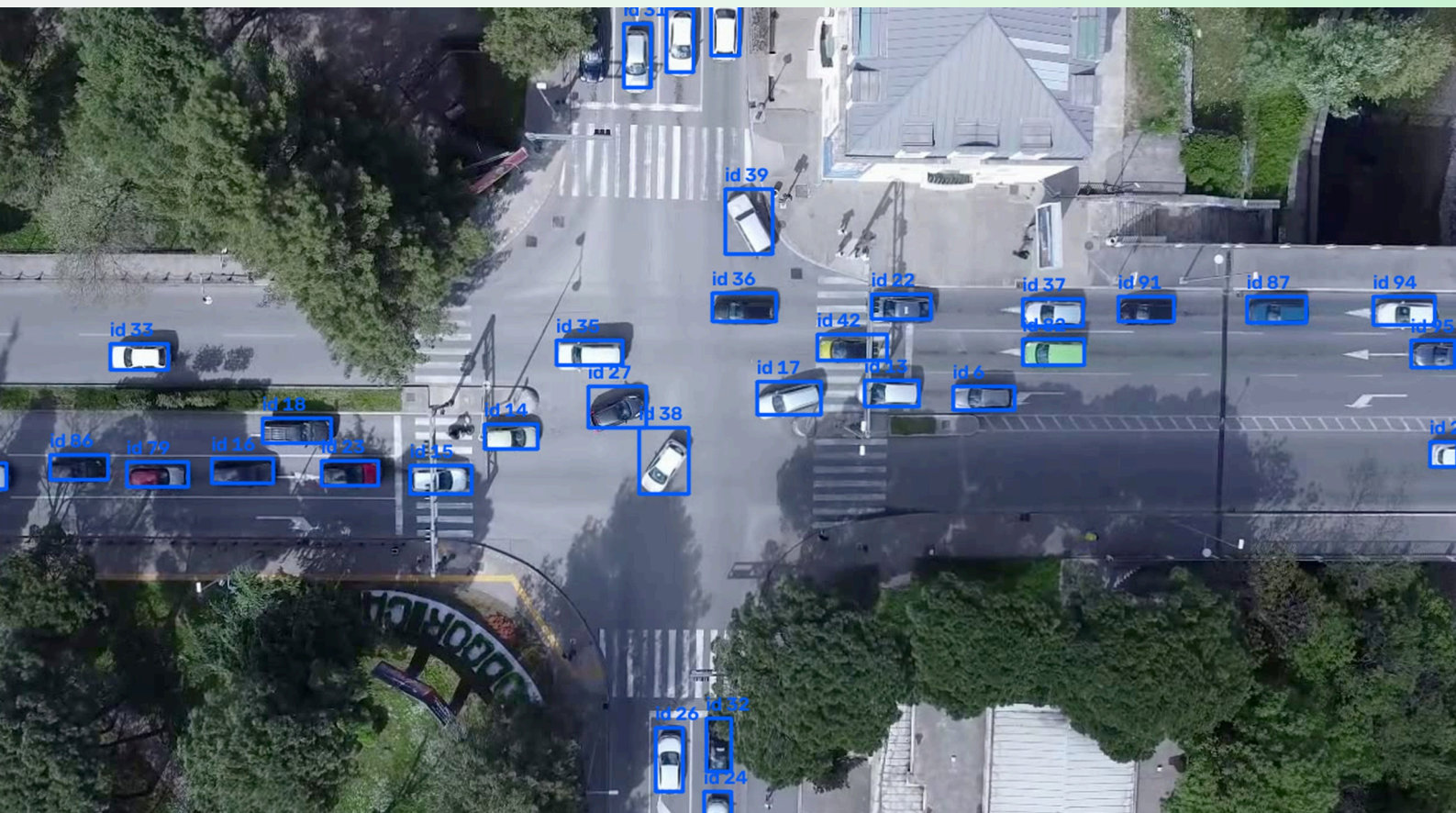


VIDEO TRAFFIC ANALYTICS

HAWKAI · ARTIFICIAL INTELLIGENCE FOR VIDEO TRAFFIC ANALYSIS



Overview

HAWKAI processes live video streams to generate data for real-time traffic control, and recorded video for detailed analysis and strategic planning.

It works with fixed cameras on a pole, or with a drone camera. It detects, classifies and tracks every road user in the frame; the output is origin-destination matrices, detections and trajectories, ready for control and planning.



Detection and
classification



Real-time
data



No work on the
road surface



Pole or drone
camera



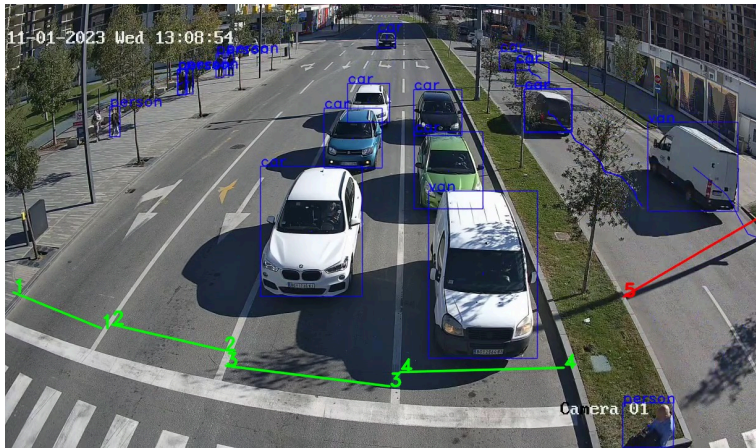
Connects to
PTV tools

 artificial intelligence

What HAWKAI delivers

- ✓ O-D matrix
- ✓ Vehicle speeds
- ✓ Delay (time losses)
- ✓ Vehicle detection
- ✓ Density estimate
- ✓ Pedestrian detection
- ✓ Vehicle classification
- ✓ Queue lengths
- ✓ Trajectory and movement analysis

VIDEO RECORDING ANALYSIS



ONLINE - IN REAL TIME

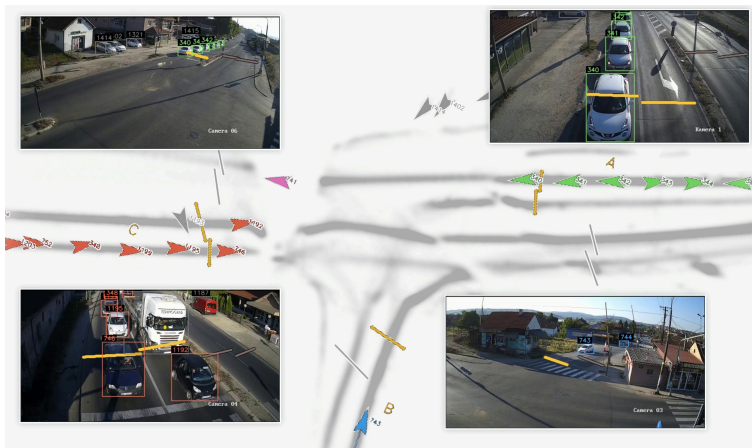
Live detection – input for adaptive control.

- ✓ Detection and classification
- ✓ Queue lengths per approach
- ✓ Speed and density

PTV Epics

PTV Balance

PTV GROUP
the mind of movement



OFFLINE

4 cameras merged into one trajectory map – for analysis and planning.

- ✓ O-D matrix per manoeuvre
- ✓ Trajectories and occupancy heat map
- ✓ Delay and demand per lane

PTV VISUM

PTV VISSIM

LISA

A loop sees a point. A camera sees the intersection.

INDUCTIVE LOOP



sees only the vehicle in the loop's detection zone

VIDEO DETECTOR (HAWKAI)



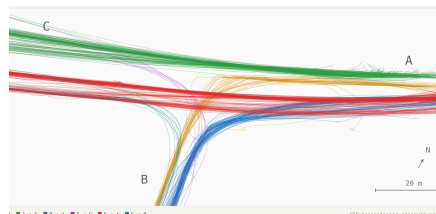
the whole approach – every vehicle, queue, speed

What you get from a recording

FROM \ TO	A	B	C	Σ
A	-	54	220	274
B	92	-	21	113
C	348	21	-	369
Σ	440	75	241	756

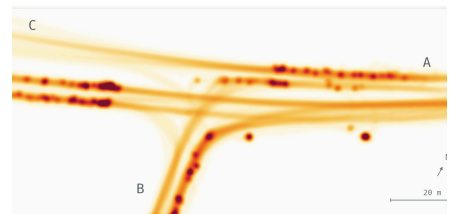
ORIGIN-DESTINATION MATRIX

vehicles for each entry – exit pair



VEHICLE TRAJECTORIES

every trajectory through the intersection, coloured by manoeuvre



OCCUPANCY HEAT MAP

where traffic actually stands still – queues and conflict zones