

ASECAP DAYS



MILANO 2024



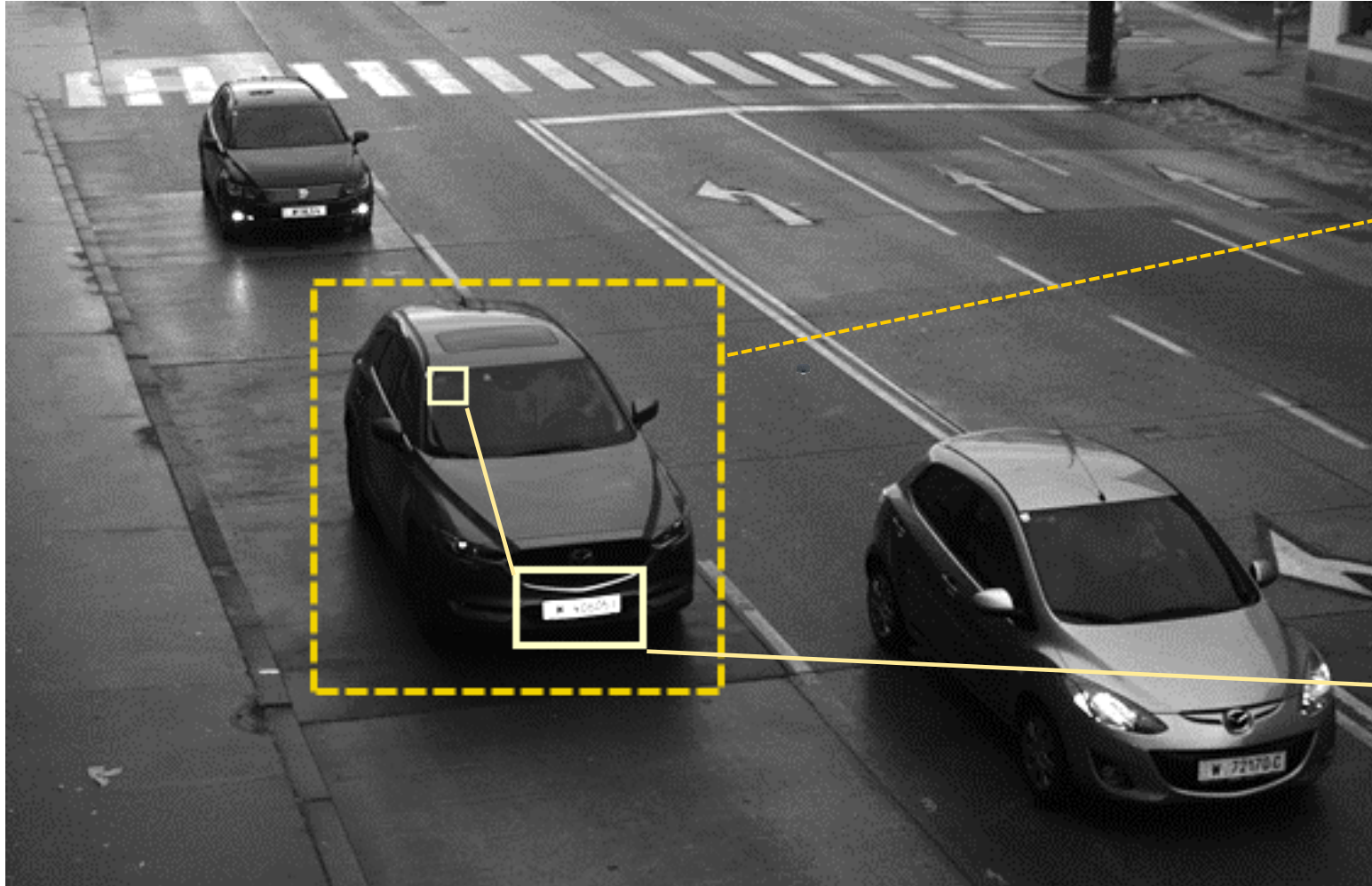
The new Lean Kapsch Roadside

Operian Platform

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May 2024

Lean Kapsch Roadside: Key Functions & Technologies



- Detection**
- Tracking**
- Classification**
- Video

- Identification**
- License Plate
- DSRC

Lean Kapsch Roadside: Defined

Lean Kapsch Roadside

Cost-optimised system units

designed to reduce Total Costs of Ownership

Unified Roadside Software - Operian Platform

Intended Use: Side-mounted / Overhead / Mobile
Free Flow Multi-Lane / Bi-Directional

AI & Machine Learning to substitute HW by SW

Highly integrated Sensors & Controllers
with multimode capabilities



Side-mounted

Front & Rear

Video



Mobile / Portable

Front & Rear

Video



Overhead

Front & Rear

Video

DSRC



CAPEX/ Infrastructure footprint

leaner steel constructions, fewer HW, lower power usage



CAPEX/ Installation & Setup effort & complexity

simplified SW alignment, less lane closures, less cabling



OPEX/ Maintenance effort

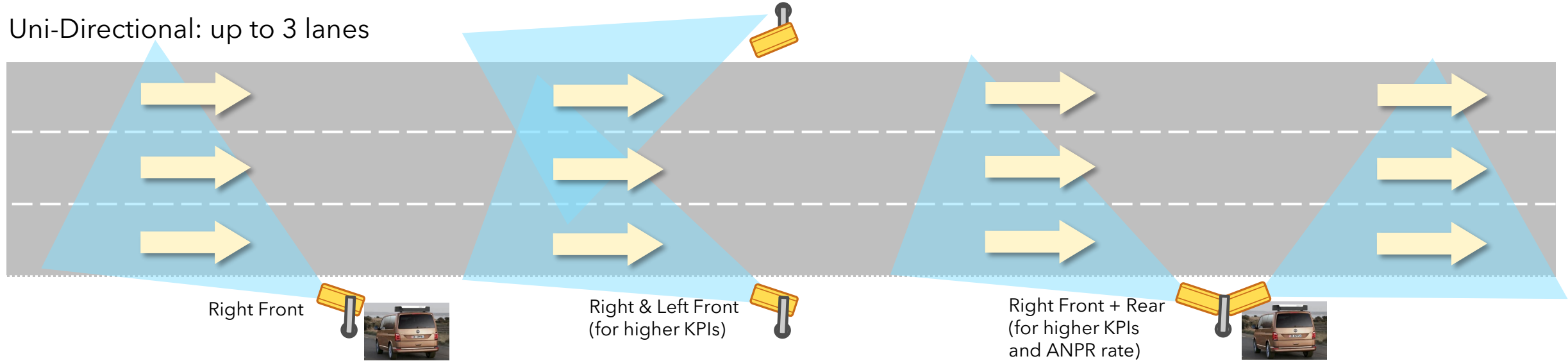
less on-site maintenance, easy to monitor and operate,
less lane closures, reduced spare parts management



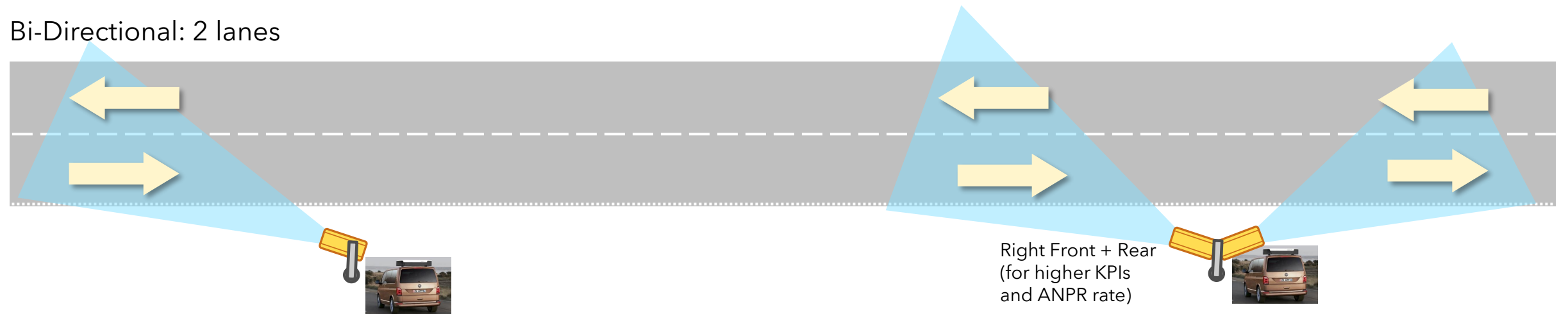
Configurations: Side-mounted or Mobile

Vehicle Detection, Tracking, Classification and Identification

Uni-Directional: up to 3 lanes



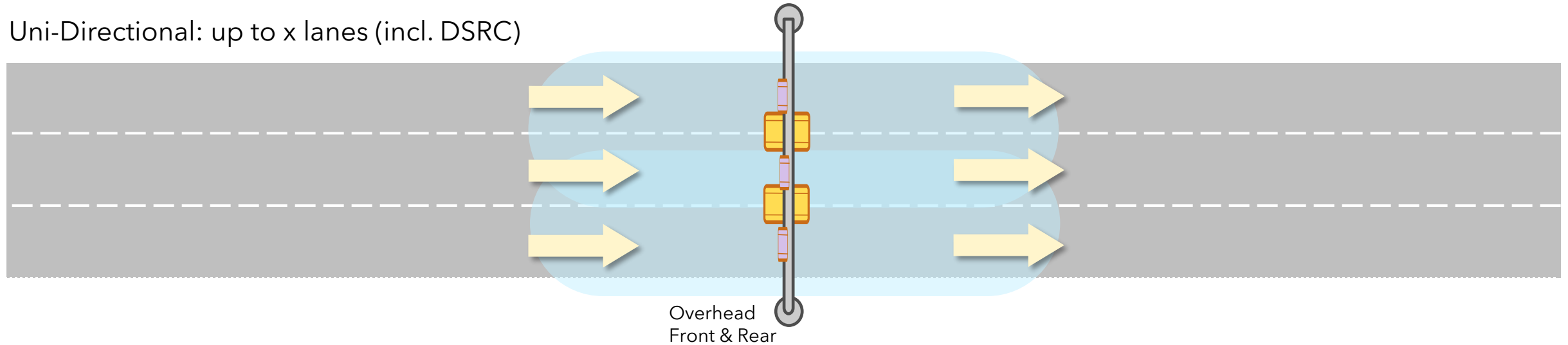
Bi-Directional: 2 lanes



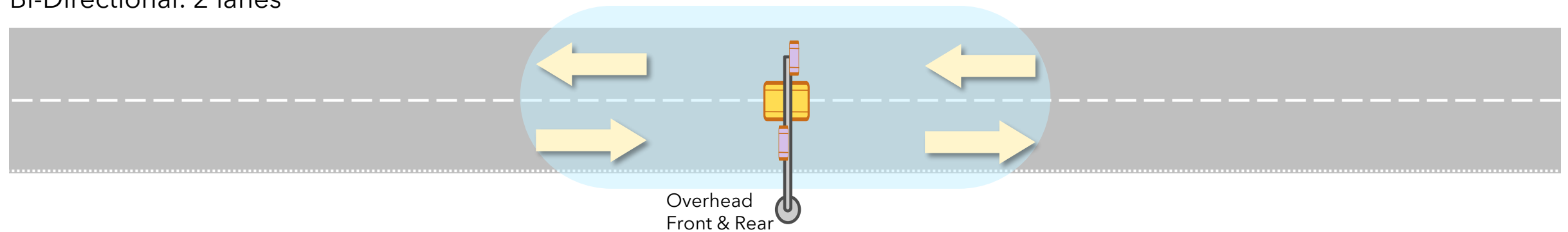
Configurations: Overhead

Vehicle Detection, Tracking, Classification and Identification

Uni-Directional: up to x lanes (incl. DSRC)



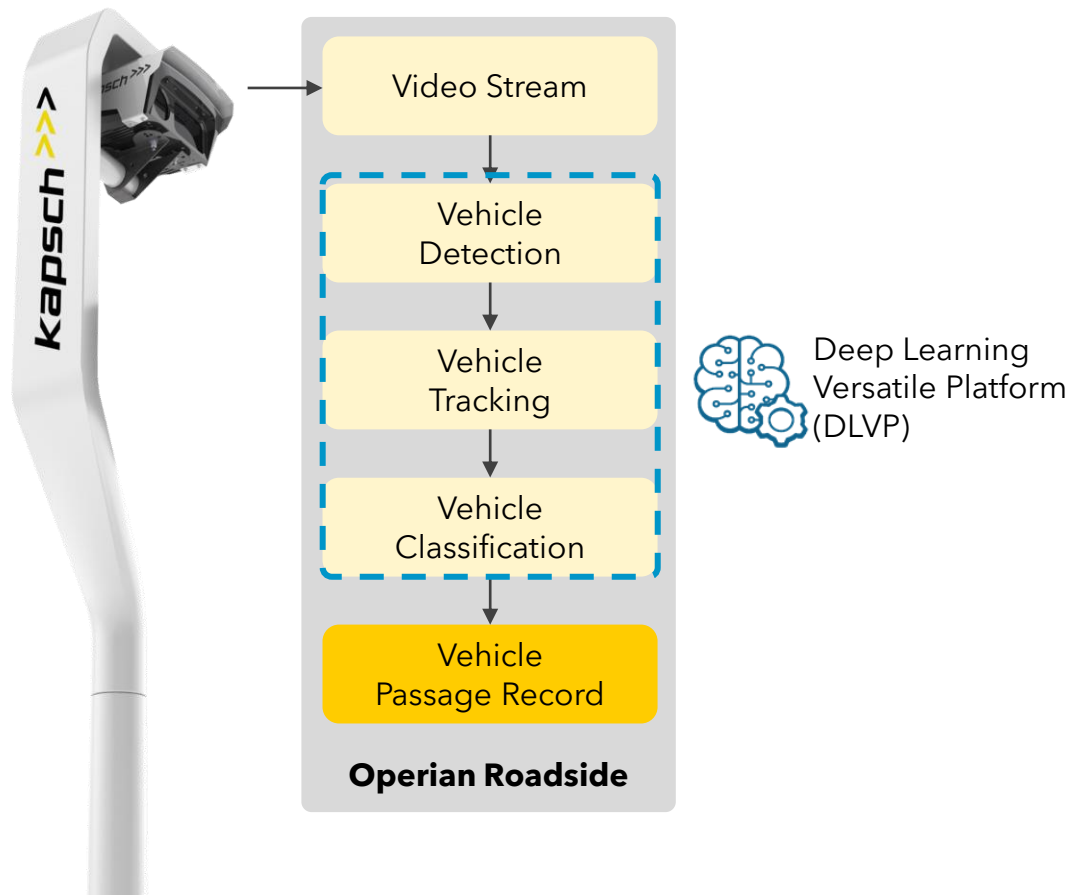
Bi-Directional: 2 lanes



Key Enabler: Deep Learning Versatile Platform (DLVP)

Innovative Kapsch inhouse developed AI & Machine Learning application - trained to detect, track and classify vehicles in complex Multi-Lane Free Flow environments, based on a single video source (no further sensors needed!).

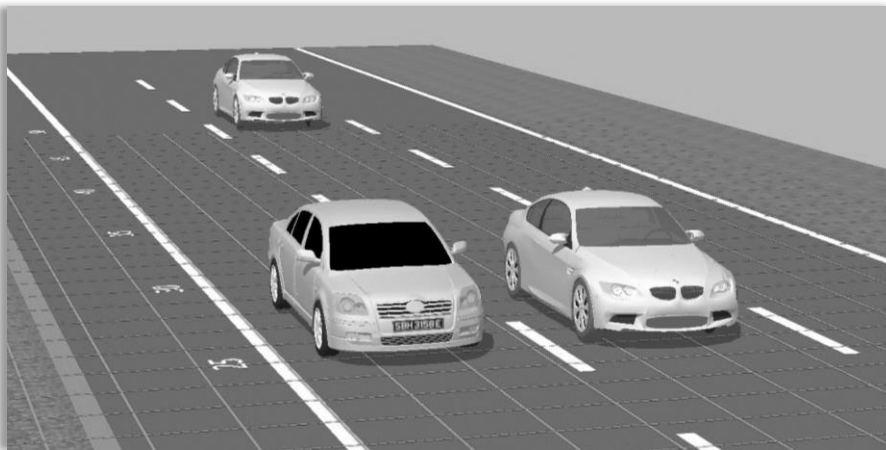
Facilitates HW by SW substitution, enabling significant CAPEX & OPEX reductions



Key Enabler: Multimode Camera for side mounting

Kapsch VRX-3550 Multi-Lane Camera with built in Station-Controller for DLVP Software:
Vehicle detection, tracking and classification + ANPR identification with separate control channels, using a single lens.

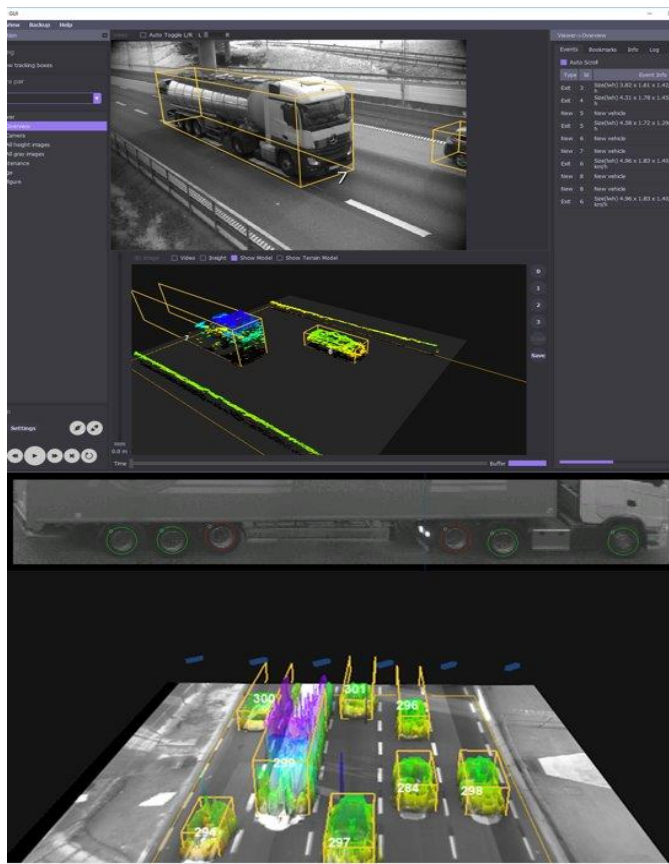
Facilitates HW footprint optimisation, enabling significant CAPEX reductions in Roadside infrastructure.



Key Enabler: Multimode Videosystem for overhead mounting

Kapsch VDX²ⁱ Multi-Lane Videosystem:
Vehicle detection, tracking and classification + ANPR identification with separate control channels using 4 lenses.

Facilitates HW footprint optimisation, enabling significant CAPEX reductions in Roadside infrastructure.



The new Lean Kapsch Roadside

- Less hardware footprint
- Less environmental impact
- Less energy consumption
- Just Video (no additional sensors needed)
- Unified Software Platform - Operian usable for stationary, portable and mobile Roadside System

- Less CAPEX, Less OPEX, less Total Costs of Ownership
- Easy to install, setup and operate
- Better vehicle detection, tracking and classification
- Better ANPR performance

- All Key Components (HW & SW) designed, developed and produced by Kapsch!



Thank you!



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