LiDAR PROCESSING UNIT
for Intelligent Transportation Systems

LiDAR Processing Unit

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Augmented LiDAR Box©

Detect, classify and track Pedestrians and Vehicles, in Real-Time.

Develop your own ITS application

The Outsight **Augmented LiDAR Box** real-time output enables rapid development of solutions for multiple distinct use cases.

PEDESTRIAN/VRU
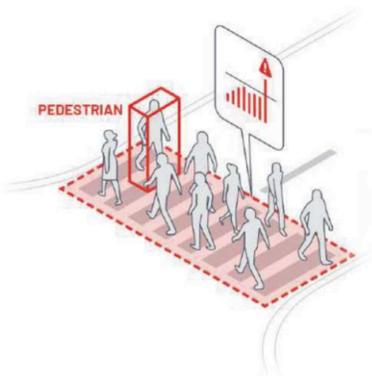
INTERACTIONS
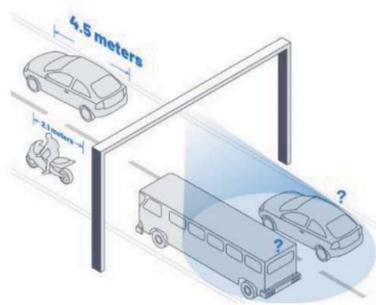
SPEED & TRAJECTORY
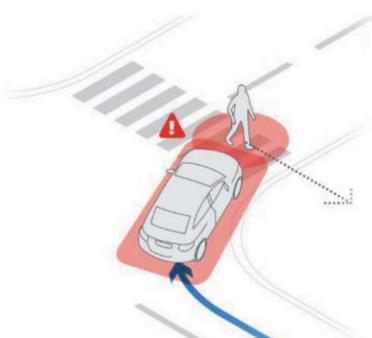
MEASURING & TOLLING
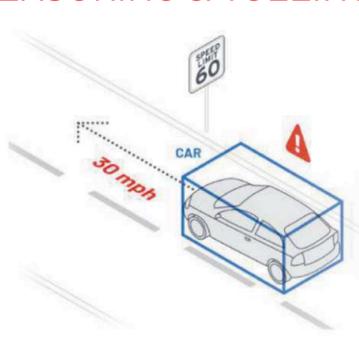
- Stop Bar detection
- Wrong way
- Illegal right turn
- Class-wise over-speed
- Cross-walk safety
- Reserved lane violation
- Lane change detection
- Vehicle trajectory monitoring
- Yellow box junction
- People flow monitoring
- Pedestrian near-miss
- Vehicle near-miss
- Vehicle dimensions
- Traffic jam starting/ending
- Class-wise tolling

Built in features

You can develop practically any ITS use case in your
host platform combining three built-in features

Tracking Vehicles & Pedestrians

- ‣ Persistent ID per object
- ‣ Classification
- ‣ Position, Orientation and Velocity
- ‣ 3D Bounding Box
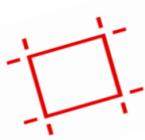
Zones of Interest

- ‣ Easily define and modify your own zones with a graphical interface or using the API.
- ‣ Define custom Exclusion and Detection Zones to focus on what matters.

Real-time occupancy

- ‣ Detect events (e.g. an object entering or leaving a zone) in real-time and/or keep statistical records over time.
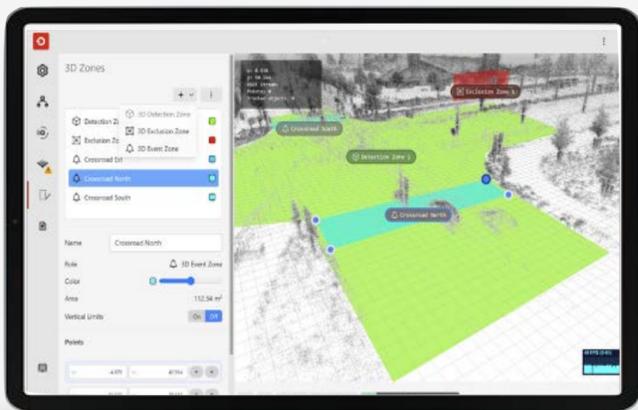
As a user, you can **establish 3D zones** to restrict processing to specified areas or to emphasize the presence of objects of interest in particular places.

This makes zone-based ITS scenarios easier to implement (e.g. reserved lane violation).

Other **Key features**

- ‣ IP65 and low power consumption.
- ‣ 24/7 any-lighting performance.
- ‣ No personal identifiable information collected.
- ‣ Same output format regardless of LiDAR model.
- ‣ HTTP REST API to control your device.

Settings

Fine tune based on your context and objective.

Maintenance

All configuration and maintenance operations are easily performed from a web-based configuration interface.

Seamless multi-LiDAR
Fusion & Integration

By combining 3D data from many LiDARs, the movement of vehicles and pedestrians can be **tracked continuously across a large observation area**, improving vehicle and vulnerable road user recognition and classification.

Multi-LiDAR Fusion reduces the impact of occlusions in dense areas.
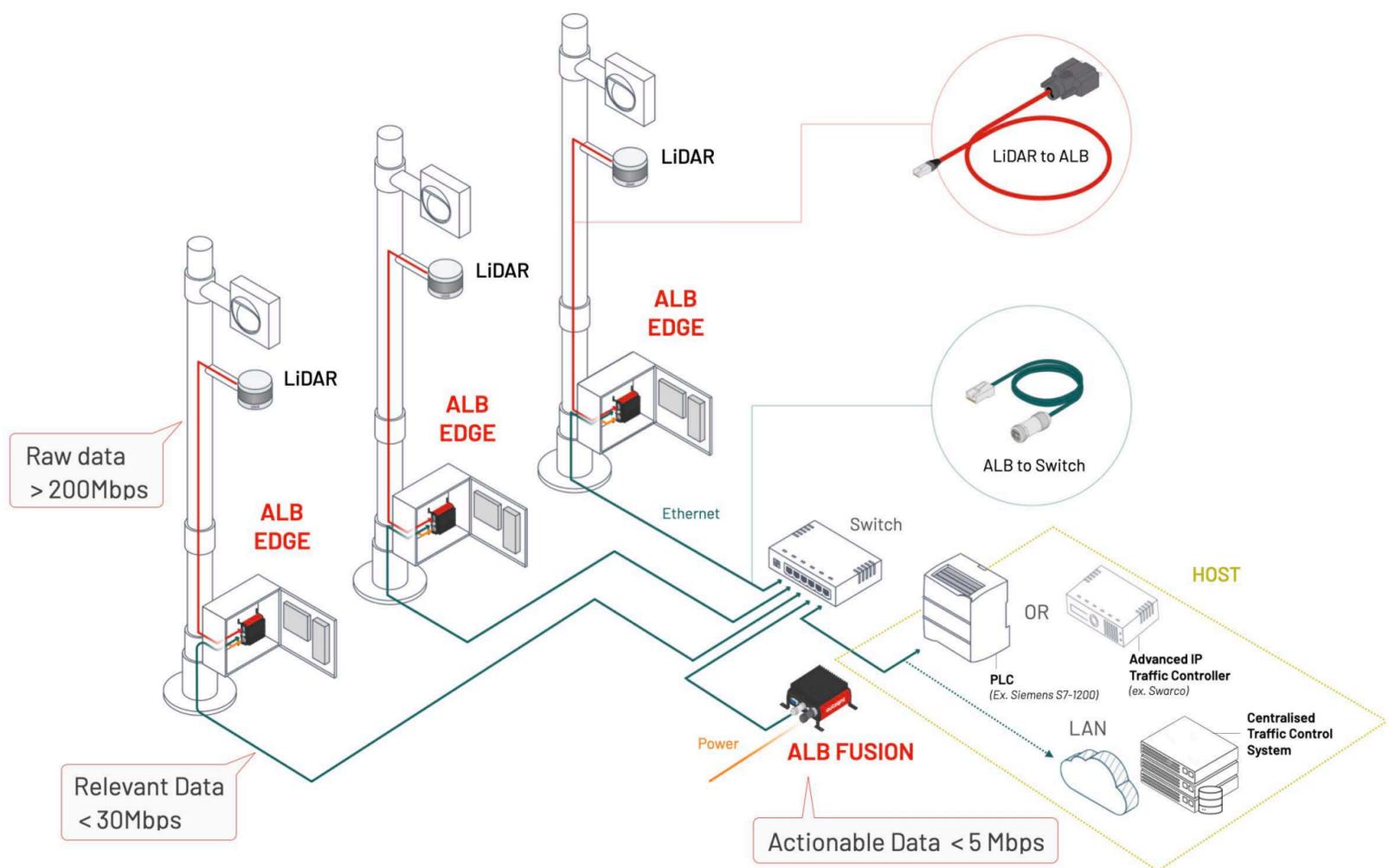
The real-time output is encoded in **O**pen **SE**rialization **F**ormat (OSEF: TLV-Based) and transmitted over TCP/IP.
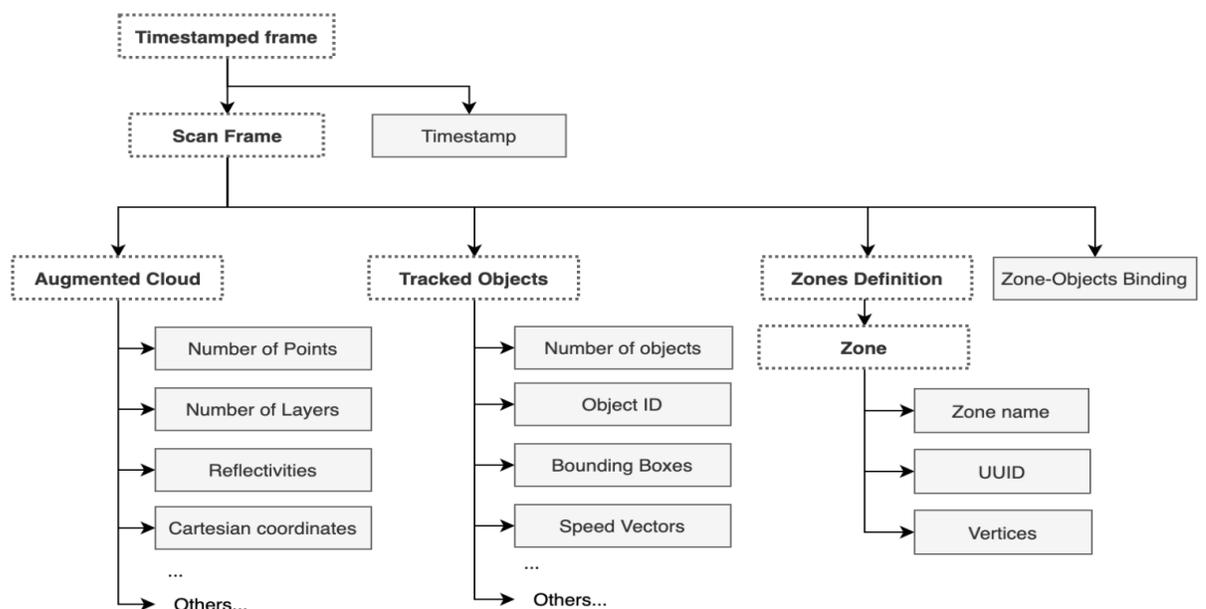
Design & Deployment tools

- ‣ Online **LiDAR coverage simulator**
- ‣ **Application software** resources
- ‣ **Complete ITS Dashboard application** example for rapid prototyping

Outsight Cloud-Hosted 3D coverage simulator

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The LiDAR Cookbook
to build your ITS application

The developer's guide to build and integrate real-time LiDAR data in ITS projects.
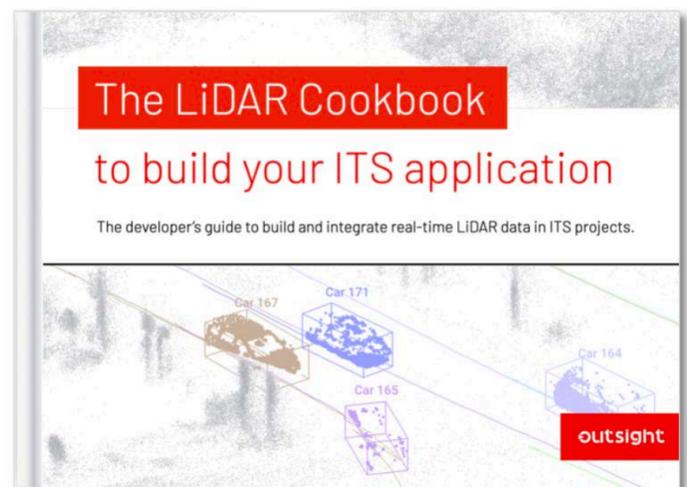
Visit alb.outsight.ai for further details, including demo videos and a complete ITS applications Cookbook

Recommended compatible LiDARs
Velodyne: VLP-16, VLP-32C, VLS-128
Ouster: OS0, OS1 and OS2 (32/64/128)
Hesai: Pandar XT-32
Robosense: RS - 32, BPearl

Product code	
ALB-ITS1	One single ALB
ALB-ITS2	Two ALB Edges and one ALB Fusion
ALB-ITS3	Three ALB Edges and one ALB Fusion
ALB-ITS4	Four ALB Edges and one ALB Fusion

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Intelligent Transportation Systems

PRODUCT SHEET

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