



LiDAR-Based ITS Management Platform

Seyond's ITS Management Platform (SIMPL) uses advanced LiDAR technology and artificial intelligence to manage traffic, improve safety, optimize tolling and plan for infrastructure maintenance.

- Multimodal traffic detection and actuation lane-by-lane
- Customizable detection zones/virtual loops
- Contact closure and NTCIP + SDLC connectivity options



SIMPL-Intersection

SIMPL-Intersection is a comprehensive LiDAR-based solution that detects all road users to ensure a safer and more efficient traffic flow through the intersection, all while providing cities with real-time multimodal data and analytics.



SIMPL-Highway

SIMPL-Highway is designed to detect events, enhance safety and optimize traffic flow across highways and interchanges, addressing high-speed environments with precision and reliability.

A Reliable Traffic Management System



Reliable real-time multimodal data and analytics



Reliable in adverse weather and lighting



98% accuracy rate



NEMA TS2 Certified



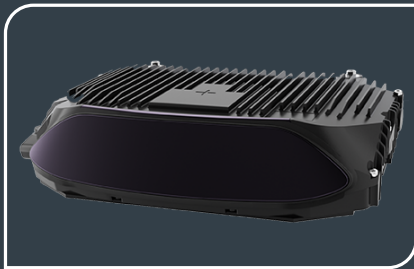
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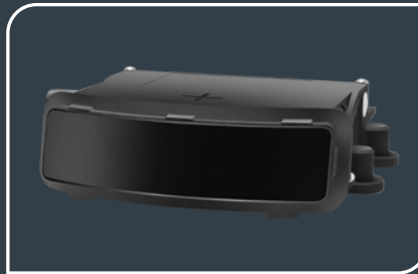
Cost-effective installation and maintenance

SIMPL Hardware Components

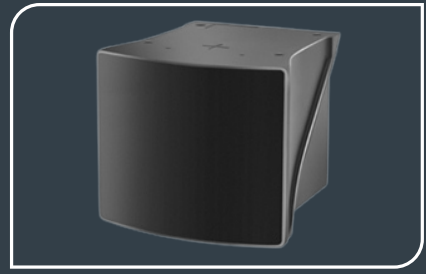
SIMPL offers three LiDAR sensor options to fit different deployment needs, all powered by our advanced AI-based perception software running directly at the edge on Seyond's EP1 edge box for fast, reliable performance.



Falcon K Ultra-long
Range LiDAR



Robin E1X Long
Range LiDAR



Robin W High-Performance
Wide FOV LiDAR



SIMPL-EP1 Edge Device

seyond.com



Seyond's Perception and Detection Software

Object and classification detection range*	Falcon LiDAR: 698 feet Robin E1X LiDAR: 393 feet Robin W LiDAR: 220 feet	
Multimodal classification types	Cars, trucks, buses, pedestrians, cyclists	
Reliable in all conditions	Lighting: Day, night, sun glare Weather: rain, snow, fog, dust Object movement: moving and stationary	
Configurable virtual loops/zones	Users can create virtual loops/zones anywhere inside the AI perception area, including: • Stop-bar • Advance detection • Crosswalk • Sidewalk • Midblock crossing • Highway Thoroughfare, Ramp and Tunnels	
Traffic light controller compatible	Yes (IP & i/o)	
Analytics output (accessible with Seyond's Data & Analytics add-on module)	SIMPL-Intersection: Vehicle classification Vehicle count Vehicle speed Vehicle trajectory Vehicle dimensions Vulnerable Road User classification Vulnerable Road User count Turning movement counts	SIMPL-Highway Automated Incident Detection (AID): stopped vehicle, pedestrian on shoulder, wrong-way driving, congestion, over height and speeding/under-speeding detection Data Collection: Lane by lane volume, object speed, object occupancy (space & time) and object classification All lane volume, object speed, object occupancy (space & time), object classification Object dimensions: height, width, length Object trajectory, heading and GPS coordinates Queue Length (vehicle Count) Axels counts Bin data

*Reported ranges represent optimized distances at which SIMPL maintains over 95% accuracy levels under standard traffic conditions. While longer detection distances may be achievable, accuracy may fall below 95%. Detection range may vary based on LiDAR's positioning, and the number of lanes/approaches covered.

What SIMPL Delivers

Object-Level Data (Per Vehicle)

- Vehicle classification (car, truck, bus)
- Speed and heading
- Full trajectory tracking
- Dimensions: height, width, length
- Axle count

Lane-Based Zone Data

- Traffic volume per lane
- Time mean speed
- 85th and 15th percentile speeds
- Space and time occupancy
- Over-speeding events

Custom Zone Configuration

- Define and manage zones directly within SIMPL's intuitive interface
- Configure lane-level or custom audit zones
- Update configurations without disrupting operations

LIDAR Portfolio

Specifications	 Falcon K2	 Robin E1X	 Robin W
Distance Range (10% Reflectance) *	820 feet under 100 klux sunlight	656 feet @ 10 Hz	230 feet, POD>90%
Min ~ Max Range *	5 ~ 1640 feet	5 ~ 820 feet	0.3 ~ 490 feet
Detection Range Accuracy	± 1.97 in	± 0.79 in	± 0.79 in
Field of View (HxV) *	120° x 25°	120° x 19.2°	120° x 70°
Vertical Scanning Lines	1,500 lines/sec	1920 lines/sec	960 lines/sec
Power Consumption	35 W 1 LiDAR +1 Edgebox ~80 watts 2 LiDAR+ 1 Edgebox ~ 110 watts	6.3 W	7.2 W (@ 68°F)
Input Voltage	9–32 V DC	9–32 V DC	9–28 V DC
Dimensions (H x W x D)	.32 x 8.98 x 5.89 in	1.18 x 4.17 x 3.98 in	3.35 x 4.13 x 4.20 in
Weight	5 lbs	1 lb	1.8 lbs
Operating Temperature	–40°F to +185°F	–40°F to +185°F	–40°F to +185°F
Laser Wavelength	1550 nm	940 nm	905 nm



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