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Smart Railway Solution

Based on High-performance Image-grade LiDAR

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- Traditional rail transit safety measures mainly rely on physical barriers and security personnel. In recent years, emerging monitoring methods such as electronic fences and intelligent video surveillance still have limitations such as short monitoring distance and high false alarm/missed detection rates.
- In future, "automated driving" has become a new trend in rail transit, placing higher demands on train active detection systems.
- Seyond's smart railway solution is based on high-performance image-grade LiDAR. It provides long-range, high-precision, all-weather, stable, and reliable monitoring. It supports deep learning algorithms for fast and accurate target perception, ensuring higher detection rates, lower false alarm rates, thus strengthening the lifeline of rail transit operations.

Competitive Advantages

500m Ultra-long-range Detection	250m@10%(POD>90%) Continuous and Stable Detection		120°H×25°V Ultra-wide Field of View		0.09°H×0.08°V 1550nm Ultra-high Resolution Superb Anti-interference Capability		
7×24H Accurate Monit	oring	ASIL B Automotive Safety Leve	ls	Automotiv High Stability a		Fully In	Production dustrialized ction Line

| Application Scenarios

Proactive Detection

Installed on the train, the LiDAR can monitor of the track in front and surrounding area, ensuring the detection and recognition of objects and people infringing the safe braking range etc.; It differentiates the warning levels for sudden deceleration of the vehicle ahead and safe distance, assisting the driver or autonomous driving train to brake for safety.



Functions





Technical Highlights

Within 100ms through The Front Windshield:

377m

266m

170cm Pedestrian
Stable 10 Points

200m

50cm*50cm Box
Stable 10 Points

124m

124m

124m

2cm Diameter Thin Rope
Stable 10 Points

Trackside Boundary Intrusion Monitoring

Deployed on high-risk areas (mountain roads, public-rail overpasses, tunnel entrances, etc.), the LiDAR can identify obstacles threatening driving safety within the track limit, including geological disasters (landslides, falling rocks, landslides, etc.) or man-made reasons (throwing objects, abnormal human/animal stay on tracks, etc.) and natural causes (wind rolling large debris, etc.), assisting operation safety.



Functions



Technical Highlights

20cm x 20cm Box at 110m (100ms)

20cm x 20cm Box at 110m (1s)





Gap Detection between Metro Train and Platform Screen Door —

Deployed above the platform screen doors in subway stations, the LiDAR can detect people and foreign objects in the gap between the platform screen door and the metro train, timely trigger alarms, effectively preventing incidents such as passengers' belongings getting caught or passengers being pinched, ensuring efficient and safe operation of the subway.



Functions



Technical Highlights

Gap Detection between Metro Train and Platform Screen Door





