Rail Vision
INTELLIGENCE ON TRACK

MAIN LINE SYSTEM

Rail Vision provides an extra level of safety, security and performance with visibility at distances far beyond the reach of the human eye.

Rail Vision's Main Line System is designed to overcome the challenges of the modern train industry. By providing an extended visual range of up to 2km / 1.2mi in most weather and light conditions, it improves the safety of train operations, prevents collisions and reduces downtime.
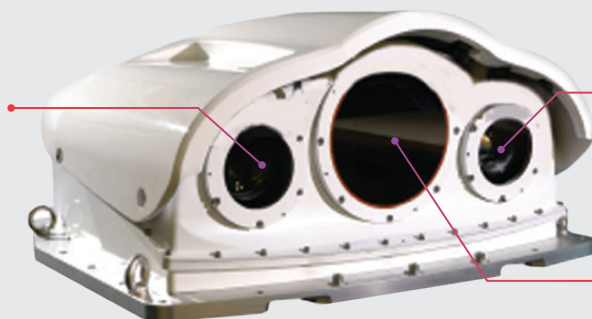
◄ Driver assistant early warning system

◄ Automatic obstacle detection & classification

◄ Detects obstacles in distances of up to 2km/1.2mi

◄ Operation in harsh weather & light conditions

◄ Customizable scalability

◄ Integrates with existing sub systems
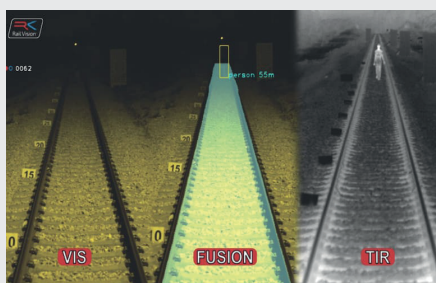
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MAIN LINE SYSTEM

WIDE FIELD OF VIEW
CAMERA (WFV)

NARROW FIELD OF
VIEW CAMERA (NFV)

THERMAL CAMERA

VIS   FUSION   TIR

Reduce railway accidents and downtime with the power of AI and deep learning

The Main Line System combines sensitive imaging sensors with artificial intelligence and deep learning technologies to detect and classify obstacles on and near the tracks within a predefined area. It then generates real-time visual and acoustic alerts for both the driver and the operator's command-and-control center.

The data that is collected and analyzed provides the basis for Rail Vision's additional features, including image-based navigation, predictive maintenance and GIS mapping.

See between the lines – our detection and classification capabilities

Rail Vision's Main Line System is specifically designed to detect and classify obstacles on and along rail tracks in distances up to 2km/1.2mi. Obstacles can include humans, animals, vehicles, signals, and infrastructure components. Operators benefit from reduced delays, downtime and damages, and from increased safety and traffic volume.

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MAIN LINE SYSTEM

KEY FEATURES AND SPECIFICATION

HUMAN DETECTION

VEHICLE DETECTION

ANIMALS

LOCOMOTIVE

WAGON

VEGETATION DETECTION

PATHFINDER

SIGNALING

AUTOMATIC EMERGENCY BREAKING

SWITCH STATE

INTERFACE TYPE	FEATURE	FIGURES & DETAILS
Mechanical	Size-sensor unit (SU)	600x670x332
	Size-computing unit (CU)	690x362x505 mm
Temperature	Operating temperature	-20° to +55°C
Electrical	Input voltage	72VDC (adaptation to platform)
	Power	<800W
	Monitor	HDMI
	Audio	Embedded in video
Electrical	Network	Ethernet
		CAN
		3G, LTE
Detection range	Pathfinder	Up to 900m
	Switch state	Up to 300m
	Human	Up to 1500m
	Vehicle	Up to 2000m
	End of rail	Up to 600m
Standards	Environmental opretaing conditions	Designed to meet EN 50155, EN 61373, EN 60529
	Safety Standard	Designed to meet EN 50126, EN 50657
	Fire Protection	Designed to meet EN 45545
	Electromagnetic compatibility	Designed to meet EN 50121
	10 - 95% RH, Non-condensing	

About Rail Vision

In today's increasingly complex rail industry, Rail Vision provides an extra level of safety, security and performance with visibility at distances far beyond the reach of the human eye. Using advanced obstacle detection & classification technology, Rail Vision detects objects on and along the tracks from a distance in real time and under most weather and light conditions – paving the way to a safer, more efficient rail future.