Track inspection techniques

Ten suppliers provide information on the latest equipment and services they offer to inspect rail and track components

[...]

MERMEC

In 2010, 619 level crossing (LC) accidents in the European Union caused 359 fatalities and 327 serious injuries. LC accidents represent 27 percent of all rail accidents, while 28 percent of rail fatalities are caused mainly by human error, MERMEC officials said.

A Level Crossing Obstacle Detection System (LOD) designed and manufactured by MERMEC targets LC accident prevention. Marketed to railways and rapid transit systems, the LOD could also be applied to monitor other possible safety risks, such as by continuously scanning track near station platforms to detect any people and/or falling objects.

MERMEC began developing LOD technology with the Italian Railways to improve operational performance, reduce wait times for pedestrians and vehicles, and — most important — prevent crossing-related accidents, company officials said.

Detection is based on infrared laser technology and involves one or more sensing units, depending on the size of the area to be monitored. A wayside control unit collects the information received by the sensing units and generates alarms based on high-level thresholds. The LOD is also able to integrate with traditional LC protection systems with complete barriers and drives, and communicate with an interlocking system through interfaces based on safety-critical standards.

The LOD is highly reliable and accurate, even when operating in severe weather conditions, MERMEC officials said. Several LOD trial applications have been performed in Europe and the response from railways is "very positive," they said. The LOD not only can help improve safety, but seamlessly integrate with existing signaling systems to provide more value to railroads, MERMEC officials said.

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The Level Crossing Obstacle Detection System is designed to help prevent accidents at crossings.

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