The industry's most complete rail safety solution for MOW vehicles and grade crossings

Rail collisions continue to be a major issue in the U.S., costing at least $10M per year[1]. These include Train to MOW vehicle collisions, MOW to MOW vehicle collisions, train to personal vehicle collisions at grade crossings, and train or MOW vehicle collisions with pedestrians.

For MOW Vehicles, SafeRail™ alerts the vehicle operators and the back office of a potential MOW collision on the track or on the road. It also alerts operators and the back office of any MOW limits compliance concerns – work zone authority limits and speed limit restrictions.

For Grade Crossings, the SafeRail™ back office gets an alert when the gates are activated and any potential hazards are detected within the crossing. The back office can then send a TSR (Temporary Speed Restriction) to any oncoming locomotive operator or MOW vehicle to slow down or stop.

The SafeRail™ back office is a centralized management platform that adds an extra layer of safety by providing remote monitoring and alerting of unsafe conditions in the field.
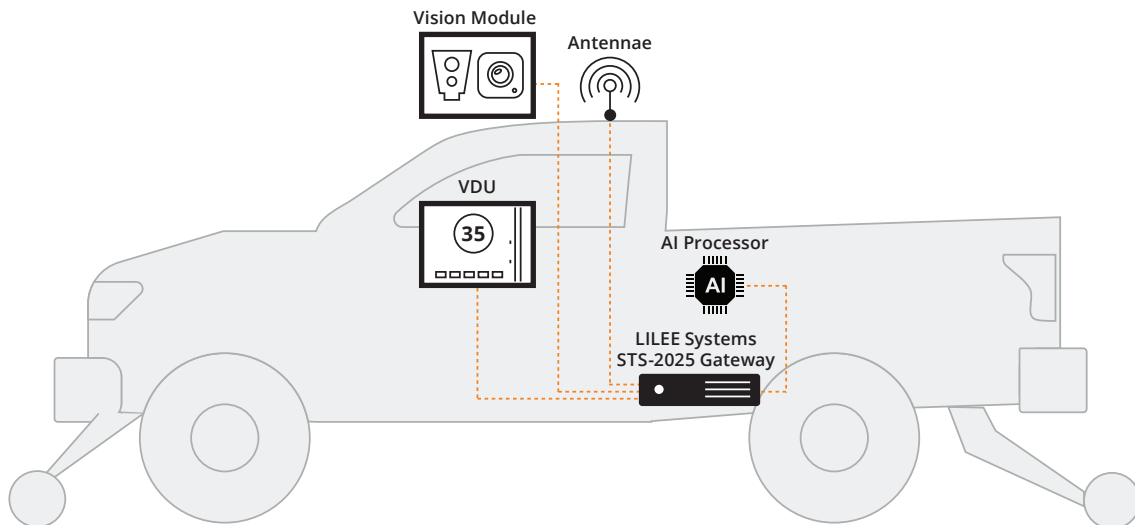
LILEE SafeRail™ is an AI sensor-fusion based system that detects and classifies objects in the path of MOW vehicles and within grade crossings.

When combined with an existing PTC system, SafeRail™ can help railways reduce MOW, Train, and Grade Crossing accidents.

1   FRA Office of Railroad Safety's Train Accident data

LILEE SafeRail™ for MOW Vehicles

LILEE SafeRail™ Features and Benefits

- **ADAS (Advanced Driver Assistance Systems) for MOW vehicles**
  For MOW operations, SafeRail™ is a collision avoidance system with ADAS functionality. Its AI and sensor fusion technology coupled with visual and audio alerts can help reduce collisions with objects within the safety zone of the MOW vehicle and help MOW vehicle operators comply with work zone limits and speed limits more effectively.

- **Automatic warning of vehicle proximity**
  Precise position, velocity and heading information are reported and shared by each SafeRail™ equipped MOW vehicle in real time. Vehicle proximity alerts are automatically generated to reduce vehicle-to-vehicle collisions, even if an adjacent vehicle is outside the detection range of the MOW vehicle's cameras and LiDAR. Integration with a dispatch system would extend this MOW positioning to and from PTC equipped locomotives.

- **AI-based object detection and classification on the track and at grade crossings**
  SafeRail™ combines cameras, LiDAR, an AI processor, and an onboard computing appliance to enable object detection and classification on the track and at grade crossings. Alerting of a potential collision is provided when there is an object in the MOW vehicle's path such as a piece of equipment or a track worker. Similarly, if there is a car or pedestrian at the grade crossing, the back office will be informed of the risks ahead of time and can take appropriate action to avoid a collision.

- **Automatic warning of limits violation**
  The SafeRail™ solution can be integrated with the dispatch/PTC system in the back office to streamline limits compliance and reduce human error. Alerts are provided to both the MOW vehicle operator and the back office when the vehicle approaches, exceeds, or violates its work zone limits or speed limits.

- **Continuous monitoring of safety operations**
  SafeRail™ provides a centralized, web-based management platform to enable vehicle tracking and remote monitoring from the back office as an extra layer of safety. Whenever a safety violation occurs, SafeRail™ alerts the back office for real-time supervision and automatically records videos for post-event review.
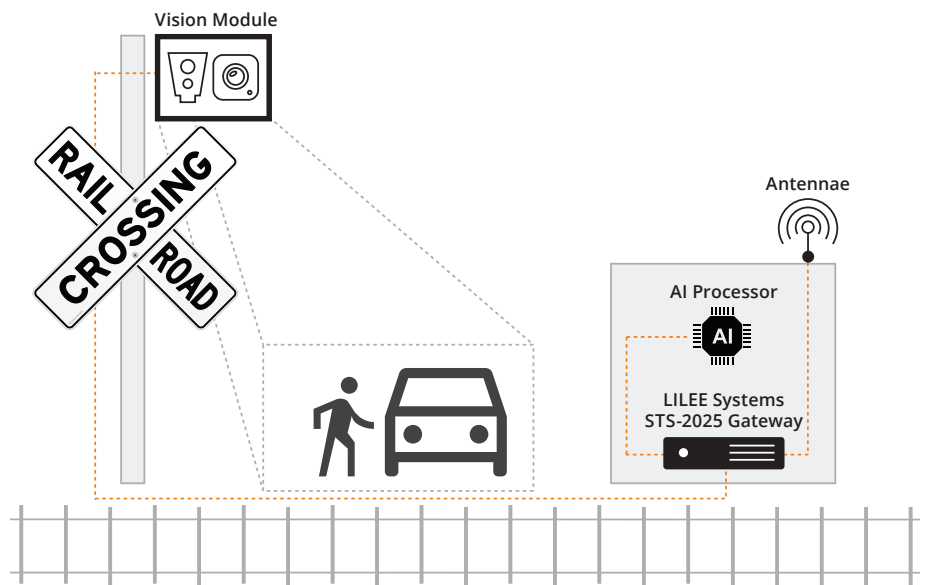
To learn more about how to integrate LILEE SafeRail™ into your existing rail safety systems and increase safety and efficiency for MOW vehicles and grade crossings, please contact our industry experts at **info@lileesystems.com.**

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